

# FIRST TERM WEEKLY LESSON NOTES WEEK 1

| <b>Week Ending:</b> 13-01-2023                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>DAY:</b>                                                                                                                       | <b>Subject:</b> Mathematics                                                                                  |          |         |      |      |   |   |   |   |  |   |   |   |   |  |                                                                         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|----------|---------|------|------|---|---|---|---|--|---|---|---|---|--|-------------------------------------------------------------------------|
| <b>Duration:</b> 60MINS                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                   | <b>Strand:</b> Number                                                                                        |          |         |      |      |   |   |   |   |  |   |   |   |   |  |                                                                         |
| <b>Class:</b> B8                                                                                                                                           | <b>Class Size:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                   | <b>Sub Strand:</b> Read And Write In Number Quantities                                                       |          |         |      |      |   |   |   |   |  |   |   |   |   |  |                                                                         |
| <b>Content Standard:</b><br>B8.1.1.1 Demonstrate understanding and the use of place value for expressing quantities in standard form and rounding numbers. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Indicator:</b><br>B8.1.1.1.1 Apply the understanding of place value to read and write in number quantities over 1,000,000,000. | <b>Lesson:</b><br><br>1 of 1                                                                                 |          |         |      |      |   |   |   |   |  |   |   |   |   |  |                                                                         |
| <b>Performance Indicator:</b><br>Learners can read and write in number quantities over 1,000,000,000.                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                   | <b>Core Competencies:</b><br>Communication and Collaboration (CC) Critical Thinking and Problem solving (CP) |          |         |      |      |   |   |   |   |  |   |   |   |   |  |                                                                         |
| <b>References:</b> Mathematics Curriculum Pg. 90                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                   |                                                                                                              |          |         |      |      |   |   |   |   |  |   |   |   |   |  |                                                                         |
|                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                   |                                                                                                              |          |         |      |      |   |   |   |   |  |   |   |   |   |  |                                                                         |
| Phase/Duration                                                                                                                                             | Learners Activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                   | Resources                                                                                                    |          |         |      |      |   |   |   |   |  |   |   |   |   |  |                                                                         |
| PHASE 1: <b>STARTER</b>                                                                                                                                    | <p>Play:"I more than". Mention a number and learners add 1 to it and call out the number</p> <p>e.g. 1) 6 →7</p> <p>2) 15 → 16</p> <p>3) 30 → 31</p> <p>4) 88 → 89</p> <p>• Did you have fun playing the game?</p> <p>• What set of numbers did you hear in the song?</p> <p>• Write 1 to 20 in your books.</p> <p>Share performance indicators and introduce the lesson.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                   |                                                                                                              |          |         |      |      |   |   |   |   |  |   |   |   |   |  |                                                                         |
| PHASE 2: <b>NEW LEARNING</b>                                                                                                                               | <p>Have learners look at the multi-based block and write the number name for each.</p> <p>1) One thousand      2) Five thousand</p> <p>3) Sixty                4) Four</p> <p>Draw the Place Value Chart on the board</p> <table><tr><th>Ten thousand</th><th>Thousand</th><th>Hundred</th><th>Tens</th><th>Ones</th></tr><tr><td>1</td><td>2</td><td>4</td><td>6</td><td></td></tr><tr><td>3</td><td>6</td><td>0</td><td>4</td><td></td></tr></table> <p>Have learners be in groups of five. Write these numbers on the board. Learners read it and write the numerals under the appropriate columns: 1, 2 4 6. And 3, 6 0 4</p> <p>Give out the place value chart to learners. They write numeral on their own and write it under the appropriate column in the place value chart.</p> <p>In pairs, let learners write the number name for these numerals.</p> <p>1) 645 2) 1,332 3) 2,408,321</p> |                                                                                                                                   | Ten thousand                                                                                                 | Thousand | Hundred | Tens | Ones | 1 | 2 | 4 | 6 |  | 3 | 6 | 0 | 4 |  | Counters, bundle and loose straws base ten cut square, Bundle of sticks |
| Ten thousand                                                                                                                                               | Thousand                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Hundred                                                                                                                           | Tens                                                                                                         | Ones     |         |      |      |   |   |   |   |  |   |   |   |   |  |                                                                         |
| 1                                                                                                                                                          | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 4                                                                                                                                 | 6                                                                                                            |          |         |      |      |   |   |   |   |  |   |   |   |   |  |                                                                         |
| 3                                                                                                                                                          | 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0                                                                                                                                 | 4                                                                                                            |          |         |      |      |   |   |   |   |  |   |   |   |   |  |                                                                         |

|                                                 | <p>In groups of five, give out the Place Value Chart.</p> <p>Write these numerals on the board for learners to write them in the chart.</p> <p>1) 5,896      2) 6,035      3) 10,000</p> <table border="1"><thead><tr><th>Ten thousand</th><th>Thousand</th><th>Hundred</th><th>Tens</th><th>Ones</th></tr></thead><tbody><tr><td></td><td>5</td><td>8</td><td>9</td><td>6</td></tr><tr><td></td><td>6</td><td>0</td><td>3</td><td>5</td></tr><tr><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td></tr></tbody></table> <p>Repeat this exercise. Learners write their own numerals and write number names for them. They should move round other groups and compare their work.</p> <p>Engage learners to work in pairs. Write number names for these numerals.</p> <p>1) 5,648      2) 6,099</p> <p><u>Assessment</u></p> <p>Write number names for these numerals.</p> <p>1) 9,804      2) 10,024      3) 9,999      4) 1,567,451</p> <p>Write the number names for these numerals. 1) 4,999 2) 4,005 3) 3,079 4) 1,567,451</p> | Ten thousand | Thousand | Hundred | Tens | Ones |  | 5 | 8 | 9 | 6 |  | 6 | 0 | 3 | 5 | 1 | 0 | 0 | 0 | 0 |  |
|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|----------|---------|------|------|--|---|---|---|---|--|---|---|---|---|---|---|---|---|---|--|
| Ten thousand                                    | Thousand                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Hundred      | Tens     | Ones    |      |      |  |   |   |   |   |  |   |   |   |   |   |   |   |   |   |  |
|                                                 | 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 8            | 9        | 6       |      |      |  |   |   |   |   |  |   |   |   |   |   |   |   |   |   |  |
|                                                 | 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 0            | 3        | 5       |      |      |  |   |   |   |   |  |   |   |   |   |   |   |   |   |   |  |
| 1                                               | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 0            | 0        | 0       |      |      |  |   |   |   |   |  |   |   |   |   |   |   |   |   |   |  |
| <p><b>PHASE 3:</b></p> <p><b>REFLECTION</b></p> | <p>Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson.</p> <p>Take feedback from learners and summarize the lesson.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |          |         |      |      |  |   |   |   |   |  |   |   |   |   |   |   |   |   |   |  |

|                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                       |                                                                                                              |                                                                         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| <b>Week Ending:</b> 13-01-2023                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>DAY:</b>                                                                                           | <b>Subject:</b> Mathematics                                                                                  |                                                                         |
| <b>Duration:</b> 60MINS                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                       | <b>Strand:</b> Number                                                                                        |                                                                         |
| <b>Class:</b> B8                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>Class Size:</b>                                                                                    | <b>Sub Strand:</b> Read And Write In Number Quantities                                                       |                                                                         |
| <b>Content Standard:</b><br>B8.1.1.1 Demonstrate understanding and the use of place value for expressing quantities in standard form and rounding numbers and decimals to significant figures and a given number of decimal places |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>Indicator:</b><br>B8.1.1.2. Skip count forwards and backwards in 10,000s, 100,000s, 500,000s, etc. |                                                                                                              | <b>Lesson:</b><br>2 of 2                                                |
| <b>Performance Indicator:</b><br>Learners can skip count forwards and backwards in 10,000s, 100,000s, 500,000s                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                       | <b>Core Competencies:</b><br>Communication and Collaboration (CC) Critical Thinking and Problem solving (CP) |                                                                         |
| <b>References:</b> Mathematics Curriculum Pg. 90                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                       |                                                                                                              |                                                                         |
|                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                       |                                                                                                              |                                                                         |
| Phase/Duration                                                                                                                                                                                                                     | Learners Activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                       |                                                                                                              | Resources                                                               |
| PHASE 1:<br><b>STARTER</b>                                                                                                                                                                                                         | Play: “How Many fingers up” and “How Many” fingers down?<br><br>Hold up fingers on two hands. Say “How Many fingers up” and “How Many fingers down”?<br><br>Learners call out the fingers they see up and the number of fingers they see down                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                                                                                                              |                                                                         |
| PHASE 2:<br><b>NEW LEARNING</b>                                                                                                                                                                                                    | Revise counting forwards and backwards by 1000s and 10000s with the class.<br><br>Put learners into groups of five. Give them 100000 number charts. Learners skip count in columns in 100000s starting on 200000,300000,400000,500000.<br><br>The group leaders should identify errors or omissions and correct them.<br><br>Give 1000 numeral cards to learners in their groups. They play counting forwards in 10s starting on 200000, 400000, 500000 etc.<br><br>Deduce from learners a pattern or trend that they have identified when they were counting forwards in 10000’s.<br><br>Have learners work in pairs. Give them 10000 numeral charts. They skip count forwards in 10s starting from any number.<br><br>Call out 10 learners to the front of the class. Make sure you cater for gender and social inclusiveness.<br><br>Give each of them multiples of 10000 numeral cards. They hold from 100 – 10. Each learner reads his/her number. 100 90 80 70 60 50 40 30 20 10 |                                                                                                       |                                                                                                              | Counters, bundle and loose straws base ten cut square, Bundle of sticks |

|                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|                                              | <p>Give out the 100 numeral chart to learners in their groups. They skip count backwards by 10s starting from different numbers. Give them the 1000 numeral cards to repeat the same above.</p> <p>Give out 1000 numeral charts to learners, they skip count backwards by 100s from any number. Count backwards in 100,500s up to the fifth number.<br/>(1) 1,800,000, 1699500, 1599000, ...</p> <p><u>Assessment</u><br/>Give out 10000 numeral charts to learners. They skip count backwards from these numbers<br/>1) 520 2) 802 3) 905</p> <p>Give them 10000 numeral cards. They skip count forwards by 10000's starting from any number.</p> |  |
| <p><b>PHASE 3:</b><br/><b>REFLECTION</b></p> | <p>Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson.</p> <p>Take feedback from learners and summarize the lesson.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |

# FIRST TERM

## WEEKLY LESSON NOTES

### WEEK 2

|                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                    |                                                                                      |                                                                                                                 |                                                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| <b>Week Ending:</b> 20-01-2023                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>DAY:</b>        |                                                                                      | <b>Subject:</b> Mathematics                                                                                     |                                                                            |
| <b>Duration:</b> 60MINS                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                    |                                                                                      | <b>Strand:</b> Number                                                                                           |                                                                            |
| <b>Class:</b> B8                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Class Size:</b> |                                                                                      | <b>Sub Strand:</b> Compare & Order Whole Numbers                                                                |                                                                            |
| <b>Content Standard:</b><br>B8.1.1.1 Demonstrate understanding and the use of place value for expressing quantities in standard form and rounding numbers. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                    | <b>Indicator:</b><br>B8.1.1.1.3. Compare and order whole numbers using “>, <, and =” |                                                                                                                 | <b>Lesson:</b><br><br>1 of 1                                               |
| <b>Performance Indicator:</b><br>Learners can compare and order whole numbers using “>, <, and =”                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                    |                                                                                      | <b>Core Competencies:</b><br>Communication and Collaboration (CC)<br>Critical Thinking and Problem solving (CP) |                                                                            |
| <b>References:</b> Mathematics Curriculum Pg. 90                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                    |                                                                                      |                                                                                                                 |                                                                            |
|                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                    |                                                                                      |                                                                                                                 |                                                                            |
| Phase/Duration                                                                                                                                             | Learners Activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |                                                                                      |                                                                                                                 | Resources                                                                  |
| PHASE 1:<br><b>STARTER</b>                                                                                                                                 | Play: “10 more than”. Mention a number and learners add 10 to it and call out the number.<br>E.g. 1) 13 → 23<br>2) 40 → 50<br>3) 50 → 60<br>4) 90 → 100<br><br>Share performance indicators and introduce the lesson.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                    |                                                                                      |                                                                                                                 |                                                                            |
| PHASE 2: <b>NEW LEARNING</b>                                                                                                                               | E.g. 1 Identify numbers which are 100,000, 1500,000, etc. more or less than given 8 to 9-digit number.<br><br>Put learners into groups of five. Write these numbers on the board and let them describe the relationship between them. 126,000 and 526,000.<br><br>Have learners use the place values to determine the difference. Both numbers have numbers at the hundred thousand columns but 500,000 is a lot bigger than 100,000.<br><br>So, 526,000 is a lot bigger than 126,000, and 126,000 is a lot smaller than 526,000.<br><br>In their groups learners describe the relationship between these numbers<br>1) 648,000 and 230,000    2) 136,000 and 128,000. Justify your answers.<br><br>Put leaners into groups of five. Write these numbers on the board 268,000 and 320,000. |                    |                                                                                      |                                                                                                                 | Counters, bundle and loose straws<br>base ten cut square, Bundle of sticks |

|                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|                                              | <p>Have learners find the values of each digit. i.e. looking at the 2 numbers, 300,000 is greater than 200,000 so, 320,000 is greater than 268,000.</p> <p>Encourage learners to use the symbols.<br/>So, <math>320,000 &gt; 268,000</math> and <math>268,000 &lt; 320,000</math>.</p> <p><u>Assessment</u><br/>Have learners work in pairs. Use the symbols <math>&gt;</math>, <math>=</math> and <math>&lt;</math> to compare these numbers.<br/>1) 789,600 ____ 786900<br/>2) 998900 ____ 999800<br/>3) 765000 ____ 765000</p> |  |
| <p><b>PHASE 3:</b><br/><b>REFLECTION</b></p> | <p>Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson.</p> <p>Take feedback from learners and summarize the lesson.</p> <p><u>Home Work</u><br/>Use the symbols <math>&gt;</math>, <math>=</math>, <math>&lt;</math> to compare these numbers<br/>1) 885600 ____ 885600<br/>2) 640000 ____ 642000<br/>3) 987200 ____ 897200<br/>4) 845600 ____ 854600</p>                                                                                                            |  |

| <b>Week Ending:</b> 20-01-2023                                                                                                                                                                                                     | <b>DAY:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Subject:</b> Mathematics                                                                                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| <b>Duration:</b> 60MINS                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Strand:</b> Number                                                                                        |
| <b>Class:</b> B8                                                                                                                                                                                                                   | <b>Class Size:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Sub Strand:</b> Standard Form                                                                             |
| <b>Content Standard:</b><br>B8.1.1.1 Demonstrate understanding and the use of place value for expressing quantities in standard form and rounding numbers and decimals to significant figures and a given number of decimal places |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Indicator:</b><br>B8.1.1.1.4 Express integers of any size into standard form.                             |
| <b>Performance Indicator:</b><br>Learners can express integers of any size into standard form                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Lesson:</b><br>2 of 2                                                                                     |
| <b>Performance Indicator:</b><br>Learners can express integers of any size into standard form                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Core Competencies:</b><br>Communication and Collaboration (CC) Critical Thinking and Problem solving (CP) |
| <b>References:</b> Mathematics Curriculum Pg. 91                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                              |
| Phase/Duration                                                                                                                                                                                                                     | Learners Activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Resources                                                                                                    |
| <b>PHASE 1:</b><br><b>STARTER</b>                                                                                                                                                                                                  | Revise with learners on the previous lesson.<br><br>Share performance indicators with learners and introduce the lesson.                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                              |
| <b>PHASE 2:</b><br><b>NEW LEARNING</b>                                                                                                                                                                                             | Guide learners to write integers as a power of 10:<br>$1 = 10^0$<br>$10 = 10^1$<br>$100 = 10^2$<br>$1000 = 10^3$<br><br>Guide learners to write multiples of 10 in standard form:<br>(I) $10 = 1 \times 10$<br>(II) $100 = 1 \times 10^1$<br>(III) $1000 = 1 \times 10^3$ etc.<br><br>Guide learners to write integers in standard form:<br>(i) $26 = 2.6 \times 10$<br>(ii) $375 = 3.75 \times 10^2$<br>(iii) $8,765,049 = 8.765049 \times 10^6$<br><br><u>Assessment</u><br>Write these integers in standard form<br>1. 234<br>2. 3456778<br>3. 97864064<br>4. 1234787 | Counters, bundle and loose straws<br>base ten cut square, Bundle of sticks                                   |
| <b>PHASE 3:</b><br><b>REFLECTION</b>                                                                                                                                                                                               | Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson.<br><br>Take feedback from learners and summarize the lesson.                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                              |

# FIRST TERM WEEKLY LESSON NOTES WEEK 3

| <b>Week Ending:</b> 27-01-2023                                                                                                                             | <b>DAY:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Subject:</b> Mathematics                                                                                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| <b>Duration:</b> 60MINS                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Strand:</b> Number                                                                                           |
| <b>Class:</b> B8                                                                                                                                           | <b>Class Size:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Sub Strand:</b> Significant Figures                                                                          |
| <b>Content Standard:</b><br>B8.1.1.1 Demonstrate understanding and the use of place value for expressing quantities in standard form and rounding numbers. | <b>Indicator:</b><br>8.1.1.1.5 Express integers in a given number of significant and decimal places                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Lesson:</b><br>1 of 1                                                                                        |
| <b>Performance Indicator:</b><br>Learners can express integers in a given number of significant and decimal places                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Core Competencies:</b><br>Communication and Collaboration (CC)<br>Critical Thinking and Problem solving (CP) |
| <b>References:</b> Mathematics Curriculum Pg. 90                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                 |
| Phase/Duration                                                                                                                                             | Learners Activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Resources                                                                                                       |
| <b>PHASE 1: STARTER</b>                                                                                                                                    | <p>Revise with learners on the previous lesson.</p> <p>Share performance indicators with learners and introduce the lesson.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                 |
| <b>PHASE 2: NEW LEARNING</b>                                                                                                                               | <p>Revise with learners on place value of numbers.</p> <p>Guide learners to explain what a significant figure is.<br/>As you read a figure from left to right, the first value you come to that is not zero has the highest place value, so it is called the first significant figure (s.f.), For example, in the number 4078; 4 is the first significant figure, 0 is the second significant figure and so on...</p> <p>Also, in the number 0.00507; 5 is the first significant figure since it is the first non-zero figure reading from left to right. The 0 after 5 is the 2 significant figure and 7 is the 3<sup>rd</sup> significant figure.</p> <p>To correct a number to a stated number of significant figures</p> <ul style="list-style-type: none"> <li>• find the last significant figure you want</li> <li>• then look at the next significant figure (to the right)</li> <li>• If this figure is less than 5 leave the last significant figure you want as it is If this figure is 5 or more add 1 to the last significant figure you want.</li> </ul> <p>Guide learners to express any given integer to a given number of significant figures.</p> <p>(i) Express 56734 correct to two significant figures.<br/>Solution</p> <p>a) The 2<sup>nd</sup> significant figure is 6 but the figure after it (i.e. the 3<sup>rd</sup> significant figure) is 7 which is more than 5. Therefore we add 1 to 6 to give 7 as the 2<sup>nd</sup> significant figure.<br/>56734 = 57000 (to 2 significant figures)</p> <p><u>Assessment</u></p> | <p>Counters, bundle and loose straws<br/>base ten cut square, Bundle of sticks</p>                              |

|                               |                                                                                                                                                                                                                                                                                                                  |  |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|                               | Express 975.8674, correct to<br>(i) two decimal places; (ii) three decimal places                                                                                                                                                                                                                                |  |
| PHASE 3:<br><b>REFLECTION</b> | <p>Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson.</p> <p>Take feedback from learners and summarize the lesson.</p> <p><u>Home Work</u></p> <p>Correct each of the following numbers to 2 significant figures.<br/>a) 0.0496      b) 0.0996</p> |  |

|                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    |                                                                                                              |                                                                         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| <b>Week Ending:</b> 27-01-2023                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>DAY:</b>        | <b>Subject:</b> Mathematics                                                                                  |                                                                         |
| <b>Duration:</b> 60MINS                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    | <b>Strand:</b> Number                                                                                        |                                                                         |
| <b>Class:</b> B8                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Class Size:</b> | <b>Sub Strand:</b> Standard Form                                                                             |                                                                         |
| <b>Content Standard:</b><br>B8.1.1.1 Demonstrate understanding and the use of place value for expressing quantities in standard form and rounding numbers and decimals to significant figures and a given number of decimal places |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    | <b>Indicator:</b><br>B8.1.1.1.4 Express integers of any size into standard form.                             | <b>Lesson:</b><br>2 of 2                                                |
| <b>Performance Indicator:</b><br>Learners can express integers of any size into standard form                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    | <b>Core Competencies:</b><br>Communication and Collaboration (CC) Critical Thinking and Problem solving (CP) |                                                                         |
| <b>References:</b> Mathematics Curriculum Pg. 91                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    |                                                                                                              |                                                                         |
|                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    |                                                                                                              |                                                                         |
| Phase/Duration                                                                                                                                                                                                                     | Learners Activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                    |                                                                                                              | Resources                                                               |
| PHASE 1:<br><b>STARTER</b>                                                                                                                                                                                                         | Start the lesson with a recap of the previous lesson. Allow learners to reflect on what they learnt from the previous lesson and the homework relating to significant.<br><br>Learners work these examples in groups. Correct the following to;<br>i) 4      ii) 3      iii) 2      iv) 1<br>• 17300<br>• 0.651234<br>• 782001<br>• 0.423568<br>• 20023<br>• 0.24780021<br><br>Share performance indicators with learners and introduce the lesson.                                                                                                                                                                                                                                                                         |                    |                                                                                                              |                                                                         |
| PHASE 2:<br><b>NEW LEARNING</b>                                                                                                                                                                                                    | Brainstorm learners for meaning of standard form.<br>It is a way of writing down very large or very small numbers easily.<br><br>Guide learners to write numbers in standard form.<br>$\left( \begin{smallmatrix} \text{a number between} \\ 1 \text{ and } 10 \end{smallmatrix} \right) * \left( \begin{smallmatrix} \text{an integer power} \\ \text{of } 10 \end{smallmatrix} \right)$<br>Therefore $a * 10^n$ is in the standard form, where $1 \leq a < 10$ and $n$ is an integer.<br>The value of $n$ in the standard form shows whether the number is greater than 1 or is a fraction.<br><br>Revise with learners to write integers as a power of 10:<br>$1 = 10^0$<br>$10 = 10^1$<br>$100 = 10^2$<br>$1000 = 10^3$ |                    |                                                                                                              | Counters, bundle and loose straws base ten cut square, Bundle of sticks |

|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|                               | <p>Guide learners to write multiples of 10 in standard form:</p> <p>(I) <math>10 = 1 \times 10</math><br/> (II) <math>100 = 1 \times 10^1</math><br/> (III) <math>1000 = 1 \times 10^3</math> etc.</p> <p>Guide learners to write integers in standard form:<br/> Example 1: <math>26 = 2.6 \times 10</math><br/> <math>2.6 \times 10</math> is in standard form but <math>26 \times 10</math> is not in standard form because 26 is not between 1 and 10.</p> <p>Example 2: <math>375 = 3.75 \times 10^2</math><br/> <math>3.75 \times 10^2</math> is in standard form but <math>37.5 \times 10^2</math> is not in standard form because 37.5 is not between 1 and 10.</p> <p>Have learners practice in groups to write the following integers in standard form<br/> (i) 8,765,049    (ii) 872    (iii) 460000</p> <p>Take learners through the rules of writing numbers in standard form.<br/> If n is positive, the number is 10 or more.<br/> Example <math>4.6 \times 10^6 = 460000</math><br/> if n is zero, the number is between 1 and 10<br/> example <math>5.6 \times 10^0 = 5.6</math><br/> if n is negative, the number is a fraction.<br/> Example: <math>3 \times 10^{-1} = 0.3</math></p> <p><u>Assessment</u><br/> Write these integers in standard form</p> <ol style="list-style-type: none"> <li>234</li> <li>0.03456778</li> <li>97864064</li> <li>0.0001234787</li> </ol> |  |
| PHASE 3:<br><b>REFLECTION</b> | <p>Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson.</p> <p>Take feedback from learners and summarize the lesson.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |

# FIRST TERM WEEKLY LESSON NOTES WEEK 4

|                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |                                                                                             |                                                                                                                 |                          |       |       |       |       |       |       |       |       |       |       |       |      |         |         |         |                                                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|---------|---------|---------|----------------------------------------------------------------------------|
| <b>Week Ending:</b> 03-02-2023                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>DAY:</b>        |                                                                                             | <b>Subject:</b> Mathematics                                                                                     |                          |       |       |       |       |       |       |       |       |       |       |       |      |         |         |         |                                                                            |
| <b>Duration:</b> 60MINS                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |                                                                                             | <b>Strand:</b> Number                                                                                           |                          |       |       |       |       |       |       |       |       |       |       |       |      |         |         |         |                                                                            |
| <b>Class:</b> B8                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>Class Size:</b> |                                                                                             | <b>Sub Strand:</b> Word Problems On Place Values                                                                |                          |       |       |       |       |       |       |       |       |       |       |       |      |         |         |         |                                                                            |
| <b>Content Standard:</b><br>B8.1.1.1 Demonstrate understanding and the use of place value for expressing quantities in standard form and rounding numbers and decimals to significant figures and a given number of decimal places |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                    | <b>Indicator:</b><br>B8.1.1.1.6 Create and solve word or real-life problems on place values |                                                                                                                 | <b>Lesson:</b><br>1 of 1 |       |       |       |       |       |       |       |       |       |       |       |      |         |         |         |                                                                            |
| <b>Performance Indicator:</b><br>Learners can solve word or real-life problems on place values                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |                                                                                             | <b>Core Competencies:</b><br>Communication and Collaboration (CC)<br>Critical Thinking and Problem solving (CP) |                          |       |       |       |       |       |       |       |       |       |       |       |      |         |         |         |                                                                            |
| <b>References:</b> Mathematics Curriculum Pg. 90                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |                                                                                             |                                                                                                                 |                          |       |       |       |       |       |       |       |       |       |       |       |      |         |         |         |                                                                            |
|                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |                                                                                             |                                                                                                                 |                          |       |       |       |       |       |       |       |       |       |       |       |      |         |         |         |                                                                            |
| Phase/Duration                                                                                                                                                                                                                     | Learners Activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                    |                                                                                             |                                                                                                                 | Resources                |       |       |       |       |       |       |       |       |       |       |       |      |         |         |         |                                                                            |
| PHASE 1:<br><b>STARTER</b>                                                                                                                                                                                                         | Revise with learners on the previous lesson.<br><br>Share performance indicators with learners and introduce the lesson.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                                                                                             |                                                                                                                 |                          |       |       |       |       |       |       |       |       |       |       |       |      |         |         |         |                                                                            |
| PHASE 2: <b>NEW LEARNING</b>                                                                                                                                                                                                       | Revise with learners on the basic operations used in mathematics. That is Addition, Subtraction, Multiplication and Division.<br><br>Explain these basic operation with scenarios to aid learners understanding.<br><br>Example 1: Last summer Jane earned GHc75.50 mowing lawns. From these earnings, she saved GHc2.50 more than she spent. How much money did Jane save?<br><br><u>Solution</u><br>Since Jane made GHc75.50, choose a reasonable guess for the amount of money spent, such as GHc30.00. Make a table and compute the amount saved. Find the total to test your guess.<br><table border="1"><tr><td>Spent</td><td>30.00</td><td>37.00</td><td>36.50</td></tr><tr><td>Saved</td><td>32.50</td><td>39.50</td><td>39.00</td></tr><tr><td>Total</td><td>62.50</td><td>76.50</td><td>75.50</td></tr><tr><td>Test</td><td>Too low</td><td>Too low</td><td>Correct</td></tr></table><br>Jane saved GHc39.00.<br><br>Subtract the amount saved from the amount earned to see if GHc36.50 was spent.<br>GHc75.50 - GHc39.00 = GHc36.50<br>GHc39.00 – GHc36.50 = GHc2.50<br>The answer checks. |                    |                                                                                             |                                                                                                                 | Spent                    | 30.00 | 37.00 | 36.50 | Saved | 32.50 | 39.50 | 39.00 | Total | 62.50 | 76.50 | 75.50 | Test | Too low | Too low | Correct | Counters, bundle and loose straws<br>base ten cut square, Bundle of sticks |
| Spent                                                                                                                                                                                                                              | 30.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 37.00              | 36.50                                                                                       |                                                                                                                 |                          |       |       |       |       |       |       |       |       |       |       |       |      |         |         |         |                                                                            |
| Saved                                                                                                                                                                                                                              | 32.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 39.50              | 39.00                                                                                       |                                                                                                                 |                          |       |       |       |       |       |       |       |       |       |       |       |      |         |         |         |                                                                            |
| Total                                                                                                                                                                                                                              | 62.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 76.50              | 75.50                                                                                       |                                                                                                                 |                          |       |       |       |       |       |       |       |       |       |       |       |      |         |         |         |                                                                            |
| Test                                                                                                                                                                                                                               | Too low                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Too low            | Correct                                                                                     |                                                                                                                 |                          |       |       |       |       |       |       |       |       |       |       |       |      |         |         |         |                                                                            |

|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|                                       | <p>Example 2: In a typical week, a chicken farmer collects about 1164 eggs each day. If all of the eggs are sent to the market, how many dozen eggs are sent each week?</p> <p><u>Solution</u></p> <p>First, to find how many eggs are collected in one week, multiply</p> $7 \text{ days} \times 1164 \text{ eggs per day} = \frac{?}{\text{eggs in one week}}$ <p>Then, to find how many dozen eggs are sent to the market each week, divide:</p> $\frac{\text{Eggs collected in one week}}{12 \text{ eggs}} = \text{number of dozens sent to the market}$ <div><div><math display="block">\begin{array}{r} 1164 \\ \times 7 \\ \hline 8148 \end{array}</math><p>eggs collected each week</p></div><div><math display="block">\begin{array}{r} 679 \\ 12 \overline{)8148} \\ \underline{-72} \phantom{00} \\ 94 \\ \underline{-84} \phantom{00} \\ 108 \\ \underline{-108} \\ 0 \end{array}</math><p>dozen eggs sent to the market</p></div></div> <p>Each week 679 dozen eggs are sent to the market.</p> <p>Check your computations by using inverse operations.</p> <p><math>8148 \div 7 \stackrel{?}{=} 1164</math> Yes.      <math>12 \times 679 \stackrel{?}{=} 8148</math> Yes.</p> <p><u>Assessment</u></p> <p>Adom earns Gh¢2500 a month after tax and his elder brother Arko earns three times as much. How much is their total income after five years if there are no increases in their earnings?</p> |  |
| <p>PHASE 3:<br/><b>REFLECTION</b></p> | <p>Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson.</p> <p>Take feedback from learners and summarize the lesson.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |

|                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                      |                                                                                                              |                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| <b>Week Ending:</b> 27-01-2023                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>DAY:</b>                                                                                                          | <b>Subject:</b> Mathematics                                                                                  |                                                                            |
| <b>Duration:</b> 60MINS                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                      | <b>Strand:</b> Number                                                                                        |                                                                            |
| <b>Class:</b> B8                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Class Size:</b>                                                                                                   | <b>Sub Strand:</b> Sets                                                                                      |                                                                            |
| <b>Content Standard:</b><br>B8.1.1.2 Identify perfect squares, determine their square root and solve real life problems involving union and intersection of two sets |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Indicator:</b><br>B8.1.1.2.1. Use the concept of sets to identify perfect squares and determine the square roots. |                                                                                                              | <b>Lesson:</b><br>1 of 1                                                   |
| <b>Performance Indicator:</b><br>Learners can identify perfect squares and determine the square roots                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                      | <b>Core Competencies:</b><br>Communication and Collaboration (CC) Critical Thinking and Problem solving (CP) |                                                                            |
| <b>References:</b> Mathematics Curriculum Pg. 91                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                      |                                                                                                              |                                                                            |
|                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                      |                                                                                                              |                                                                            |
| Phase/Duration                                                                                                                                                       | Learners Activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                      |                                                                                                              | Resources                                                                  |
| PHASE 1:<br><b>STARTER</b>                                                                                                                                           | Revise with learners on the previous lesson.<br><br>Share performance indicators with learners and introduce the lesson.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                      |                                                                                                              |                                                                            |
| PHASE 2:<br><b>NEW<br/>LEARNING</b>                                                                                                                                  | <p>Guide learners to identify perfect squares or perfect numbers.</p> <p>Engage learners to list sets of multiples of numbers and identify a set of perfect numbers among them.</p> <p>In groups, learners list the first twelve multiples of the following<br/>(1) 5    (2) 2    (3) 4</p> <p>5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, ...<br/>2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24 ...<br/>4, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44, 48...</p> <p>Guide learners on how to determine if a number is a perfect square.</p> <p>- By using repeated division of prime factors.</p> <p>Therefore the Perfect squares 4, 9, 16, 25, 36</p> <p>Guide learners to use the knowledge on odd numbers to determine the square root of perfect numbers.</p> <p>(i) Determine the square root of 49.</p> <p><u>Assessment</u><br/>Which of the following numbers are perfect square?<br/>40   64   676   50   4   36   73</p> |                                                                                                                      |                                                                                                              | Counters, bundle and loose straws<br>base ten cut square, Bundle of sticks |
| PHASE 3:<br><b>REFLECTION</b>                                                                                                                                        | Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson.<br><br>Take feedback from learners and summarize the lesson.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                      |                                                                                                              |                                                                            |

# FIRST TERM

## WEEKLY LESSON NOTES

### WEEK 5

| <b>Week Ending:</b> 10-02-2023                                                                                                                                       | <b>DAY:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Subject:</b> Mathematics                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Duration:</b> 60MINS                                                                                                                                              | <b>Strand:</b> Number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                        |
| <b>Class:</b> B8                                                                                                                                                     | <b>Class Size:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Sub Strand:</b> Union & Intersection Of Sets                                                                                                        |
| <b>Content Standard:</b><br>B8.1.1.2 Identify perfect squares, determine their square root and solve real life problems involving union and intersection of two sets |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Indicator:</b><br>B8.1.1.2.2. Use the knowledge on sets and sets of factors of numbers to solve real life problems involving union and intersection |
| <b>Performance Indicator:</b><br>Learners can use sets of factors of numbers to solve real life problems                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Lesson:</b><br>1 of 1                                                                                                                               |
| <b>Core Competencies:</b><br>Communication and Collaboration (CC)<br>Critical Thinking and Problem solving (CP)                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                        |
| <b>References:</b> Mathematics Curriculum Pg. 93                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                        |
| Phase/Duration                                                                                                                                                       | Learners Activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Resources                                                                                                                                              |
| <b>PHASE 1: STARTER</b>                                                                                                                                              | Revise with learners on the previous lesson.<br><br>Share performance indicators with learners and introduce the lesson.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                        |
| <b>PHASE 2: NEW LEARNING</b>                                                                                                                                         | Revise with learners on the meaning of factors of numbers.<br><i>A factor is a number that divides into another number exactly and without leaving a remainder.</i><br><br>Write this on the board. $2 \times 3 = 6$<br>Guide learners to identify 2 and 3 as factors and 6 as the product.<br><br>Let learners understand that factors are also numbers that multiply together to get another number (product).<br><br>In groups, learners list the factors of these numbers.<br>1) 6     2) 8     3) 10<br><br>Engage learners in different activities to find common factors of numbers. Example: 12 and 15<br>$12 = \{1,2,3,4,6,12\}$ and $15 = \{1,3,5,15\}$<br>Common factors = $\{1,3\}$<br><br>Guide learners to explain and understand the concept of union and intersection of sets.<br>The union of two sets is a set containing all the elements that are in A or in B. it has the symbol U.<br>For example: $A = \{1,2\}$ and $B = \{2,3\}$ So $A \cup B = \{1,2,3\}$<br><br>Have learners note that, in writing the members for the union sets, numbers which are common in both sets are written once.<br><br>Engage learners in different activities to introduce learners to intersection of sets. | Counters, bundle and loose straws<br>base ten cut square, Bundle of sticks                                                                             |

|                               |                                                                                                                                                                                                                                                                                                                                                                                                   |  |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|                               | <u>Assessment</u><br>Guide learners to solve story and real-life problems involving union and intersection of sets<br>(i) There are 80 farmers in a certain village who grow maize and rice or both. Out of the 80 farmers, 50 grow maize and 60 grow rice.<br>(a) Represent the information on a Venn diagram.<br>(b) If $x$ of them grows both crops, write an equation in $x$ and solve for it |  |
| PHASE 3:<br><b>REFLECTION</b> | Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson.<br><br>Take feedback from learners and summarize the lesson.                                                                                                                                                                                                                     |  |

|                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                   |                                                                         |
|-----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| <b>Week Ending:</b> 10-02-2023                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>DAY:</b>                                                                                                       | <b>Subject:</b> Mathematics                                             |
| <b>Duration:</b> 60MINS                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                   | <b>Strand:</b> Number                                                   |
| <b>Class:</b> B8                                                                                                      | <b>Class Size:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                   | <b>Sub Strand:</b> Decimals                                             |
| <b>Content Standard:</b><br>B8.1.2.1 Apply mental mathematics strategies and number properties used to solve problems |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Indicator:</b><br>B8.1.2.1.1 Multiply and divide by power of 10 including decimals and the benchmark fractions | <b>Lesson:</b><br>1 of 1                                                |
| <b>Performance Indicator:</b><br>Learners can multiply and divide by power of 10                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Core Competencies:</b><br>Communication and Collaboration (CC)<br>Critical Thinking and Problem solving (CP)   |                                                                         |
| <b>References:</b> Mathematics Curriculum Pg. 94                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                   |                                                                         |
|                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                   |                                                                         |
| Phase/Duration                                                                                                        | Learners Activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                   | Resources                                                               |
| PHASE 1:<br><b>STARTER</b>                                                                                            | Revise with learners on the previous lesson.<br><br>Share performance indicators with learners and introduce the lesson.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                   |                                                                         |
| PHASE 2:<br><b>NEW LEARNING</b>                                                                                       | In turns let learners recall multiplication facts up to 144 and related division facts.<br><br>Recall decimal names of the benchmark fractions converted to decimals or percentages (and vice versa).<br><br>Learners determine a product when a decimal number is a multiple by 10<br><br><u>Assessment</u><br>Convert each of the following fractions to percentage.<br>1. $\frac{2}{5}$ 4. If $6 \times 12 = \underline{\hspace{1cm}}$ then $\underline{\hspace{1cm}} \div 12 = 6$<br>2. $\frac{9}{10}$ 5. If $11 \times 7 = \underline{\hspace{1cm}}$ then $\underline{\hspace{1cm}} \div 7 = 11$<br>3. $\frac{7}{25}$ 6. If $8 \times \underline{\hspace{1cm}} = 72$ then $72 \div \underline{\hspace{1cm}} = 8$ |                                                                                                                   | Counters, bundle and loose straws base ten cut square, Bundle of sticks |
| PHASE 3:<br><b>REFLECTION</b>                                                                                         | Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson.<br><br>Take feedback from learners and summarize the lesson.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                   |                                                                         |

**FIRST TERM**  
**WEEKLY LESSON NOTES**  
**WEEK 6**

|                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                 |
|---------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| <b>Week Ending:</b> 17-02-2023                                                                                            | <b>DAY:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Subject:</b> Mathematics                                                                                     |
| <b>Duration:</b> 60MINS                                                                                                   | <b>Strand:</b> Number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                 |
| <b>Class:</b> B8                                                                                                          | <b>Class Size:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Sub Strand:</b> Mental Mathematics Strategies                                                                |
| <b>Content Standard:</b><br>B8.1.2.1 Apply mental mathematics strategies and number properties used to solve problems     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Indicator:</b><br>B8.1.2.1.2 Apply mental mathematics strategies and number properties to do calculation     |
|                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Lesson:</b><br>1 of 2                                                                                        |
| <b>Performance Indicator:</b><br>Learners can apply mental mathematics strategies and number properties to do calculation |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Core Competencies:</b><br>Communication and Collaboration (CC)<br>Critical Thinking and Problem solving (CP) |
| <b>References:</b> Mathematics Curriculum Pg. 93                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                 |
| <b>Phase/Duration</b>                                                                                                     | <b>Learners Activities</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Resources</b>                                                                                                |
| <b>PHASE 1: STARTER</b>                                                                                                   | Revise with learners on the previous lesson.<br><br>Play; "making Doubles". Call out a number and learners multiply it by 2 and call out the number.<br>E.g. 1) $2 \rightarrow 4$<br>2) $10 \rightarrow 20$<br>3) $30 \rightarrow 60$<br>4) $100 \rightarrow 200$<br><br>Share performance indicators with learners and introduce the lesson.                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                 |
| <b>PHASE 2: NEW LEARNING</b>                                                                                              | Guide learners to apply halving and doubling to determine the product given product of two given numbers.<br><i>In this strategy, we double one of the numbers to be multiplied and halve the other.</i><br><br>Write this sentence on the board. $84 \times 5 = ?$<br>Brainstorm learners to think of different strategies to solve the problem.<br><br>Use the halving and doubling to determine the answer.<br>$1. 84 \times 5$<br>$= 24 \times 10$<br>$= 240$<br>So $84 \times 5 = 240$<br><br>Put learners into groups of five, write this sentence on the board<br>$95 \times 8 = ?$<br>Double 95 as 190, and halve 8 as 4. Now multiply<br>$190 \times 4 = 760$<br><br>Explain to learners that it easier to double odd numbers and halve even numbers.<br>E.g. 1) $125 \times 20 \rightarrow 250 \times 10$ | Counters, bundle and loose straws<br>base ten cut square, Bundle of sticks                                      |

|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|                                       | <p>2) <math>84 \times 5 \rightarrow 24 \times 10</math></p> <p>Put learners into groups of five. Use the halving and doubling to solve the following</p> <p>1. <math>78 \times 5 = ?</math>                      3. <math>200 \times 14 = ?</math><br/> 2. <math>124 \times 3 = ?</math>                      4. <math>188 \times 15 = ?</math></p> <p><u>Assessment</u></p> <p>Apply halving and doubling to solve each of the following</p> <p>1. <math>39 \times 20</math>                      6. <math>266 \times 5</math><br/> 2. <math>75 \times 20</math>                      7. <math>300 \times 5</math><br/> 3. <math>131 \times 20</math>                      8. <math>226 \times 15</math><br/> 4. <math>157 \times 20</math>                      9. <math>250 \times 13</math><br/> 5. <math>220 \times 5</math>                      10. <math>420 \times 20</math></p> |  |
| <p>PHASE 3:<br/><b>REFLECTION</b></p> | <p>Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson.</p> <p>Take feedback from learners and summarize the lesson.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |

|                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                 |
|---------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| <b>Week Ending:</b> 17-02-2023                                                                                            | <b>DAY:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Subject:</b> Mathematics                                                                                     |
| <b>Duration:</b> 60MINS                                                                                                   | <b>Strand:</b> Number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                 |
| <b>Class:</b> B8                                                                                                          | <b>Class Size:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Sub Strand:</b> Mental Mathematics Strategies                                                                |
| <b>Content Standard:</b><br>B8.1.2.1 Apply mental mathematics strategies and number properties used to solve problems     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Indicator:</b><br>B8.1.2.1.3 Apply mental mathematics strategies to solve word problems                      |
|                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Lesson:</b><br>2 of 2                                                                                        |
| <b>Performance Indicator:</b><br>Learners can apply mental mathematics strategies and number properties to do calculation |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Core Competencies:</b><br>Communication and Collaboration (CC)<br>Critical Thinking and Problem solving (CP) |
| <b>References:</b> Mathematics Curriculum Pg. 93                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                 |
|                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                 |
| <b>Phase/Duration</b>                                                                                                     | <b>Learners Activities</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Resources</b>                                                                                                |
| <b>PHASE 1: STARTER</b>                                                                                                   | <p>Revise with learners on the previous lesson.</p> <p>Share performance indicators with learners and introduce the lesson.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                 |
| <b>PHASE 2: NEW LEARNING</b>                                                                                              | <p>Revise with learners the four basic operations.</p> <ol style="list-style-type: none"> <li>Addition: <i>Plus, add, find the sum, total, altogether.</i></li> <li>Subtraction: <i>minus, subtract, take away, reduce, difference, decrease, deduct, etc.</i></li> <li>Multiplication: <i>multiply, times, product, groups of, etc.</i></li> <li>Division: <i>shared equally, divide, average, out of, etc.</i></li> </ol> <p>Guide learners to apply the various mental strategies to solve some word problems.</p> <p>Put learners into groups of five, write this sentence on the board, what is 800g out of 1kg?</p> <p><u>Solution</u><br/> <math>1\text{kg} = 1000\text{g}</math><br/>         So, <math>800\text{g out of } 1000\text{g} = \frac{800\text{g}}{1000\text{g}} = \frac{4}{5}</math><br/>         Therefore, 800g out of 1kg is <math>\frac{4}{5}</math></p> <p>Dean bought a birthday card for \$2.95. There was an additional \$0.18 tax. Dean paid for his purchase using a \$10 bill. How much change should Dean receive?</p> <p><u>Solution</u><br/>         Birthday card for \$2.95<br/>         Tax <u>\$0.18</u><br/>         Total cost \$3.13<br/>         Amount paid – Total cost = change<br/> <math>\\$10.00 - \\$3.13 = \\$6.87</math><br/>         Hence, Dean should receive a change of \$6.87</p> <p>On Thursday, 30,861 people attended the baseball game. On Friday, 60,192 people attended. On Saturday 30,100 more people</p> | Counters, bundle and loose straws base ten cut square, Bundle of sticks                                         |

|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|                               | <p>attended the game than on Thursday. On which day did more people attend the baseball game: Friday or Saturday? Explain.</p> <p><u>Solution</u></p> <p>Thursday = 30,861</p> <p>Saturday = 30,861 + 30,100 = 60,961</p> <p>Friday = 60,192.</p> <p>Which is greater = 60,961 &gt; 60,192</p> <p>Therefore, more people (60,961) attended the baseball game on Saturday than on Friday (60,192)</p> <p>Provide more opportunities for learners to use mental strategies, short methods and sundry tables to develop fluency in solving problems.</p> <p><u>Assessment</u></p> <ul style="list-style-type: none"> <li>• Henry has 898 pegs in each box. If there are 7 boxes, how many pegs does he have in total?</li> <li>• Dana worked for 7 hours on Thursday, 8 hours on Friday, and 4 hours on Saturday. She is scheduled to work 20 hours next week. How many hours did she work this week?</li> <li>• There are 375 audience tickets available for each taping of the Win It All game show. If 204 shows are taped each year, how many tickets are there in all?</li> </ul> |  |
| PHASE 3:<br><b>REFLECTION</b> | <p>Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson.</p> <p>Take feedback from learners and summarize the lesson.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |

# FIRST TERM WEEKLY LESSON NOTES WEEK 7

| <b>Week Ending:</b> 24-02-2023                                                                                                                            | <b>DAY:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Subject:</b> Mathematics                                                                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| <b>Duration:</b> 60MINS                                                                                                                                   | <b>Strand:</b> Number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                 |
| <b>Class:</b> B8                                                                                                                                          | <b>Class Size:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>Sub Strand:</b> Addition & Subtraction                                                                       |
| <b>Content Standard:</b><br>B8.1.2.2 Apply the understanding of the addition and subtraction to solve problems and round answers to given decimal places. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Indicator:</b><br>B8.1.2.2.1 Add and subtract more than four-digit numbers.                                  |
|                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Lesson:</b><br>1 of 2                                                                                        |
| <b>Performance Indicator:</b><br>Learners can add and subtract more than four-digit numbers.                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Core Competencies:</b><br>Communication and Collaboration (CC)<br>Critical Thinking and Problem solving (CP) |
| <b>References:</b> Mathematics Curriculum Pg. 93                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                 |
| Phase/Duration                                                                                                                                            | Learners Activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Resources                                                                                                       |
| <b>PHASE 1: STARTER</b>                                                                                                                                   | Revise with learners on the previous lesson.<br><br>Share performance indicators with learners and introduce the lesson.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                 |
| <b>PHASE 2: NEW LEARNING</b>                                                                                                                              | Guide learners to use the partitioning (or expanded form) and place value system to add and subtract whole and decimal numbers.<br>(i) Add 896854 and 76329<br><br>$\begin{array}{r} 896854 = 800,000 + 90,000 + 6,000 + 800 + 50 + 4 \\ + 76329 = \quad \quad 70,000 + 6,000 + 300 + 20 + 9 \\ \hline 973183 = 900,000 + 70,000 + 3,000 + 100 + 80 + 3 \end{array}$<br><br>(ii) Add 3627.6 and 854.13<br>$\begin{array}{r} 3627.60 = 3000 + 600 + 20 + 7 + \frac{60}{100} \\ + \\ 854.13 = 800 + 50 + 4 + \frac{1}{10} + \frac{3}{100} \\ \hline 3000 + 800 + 600 + 20 + 50 + 7 + 4 + \frac{60}{100} + \frac{1}{10} + \frac{3}{100} \\ = 3000 + 1400 + 70 + 11 + \frac{7}{10} + \frac{3}{100} \\ = 3000 + (1000 + 400) + 70 + (10 + 1) + \frac{70}{100} + \frac{3}{100} \\ 4481.73 = 4000 + 400 + 80 + 1 + \frac{70}{100} \end{array}$<br>(iii) Subtract 37.85 from 193.6<br><br>$\begin{array}{r} 193.60 \\ - 37.85 \\ \hline \end{array}$ | Counters, bundle and loose straws<br>base ten cut square, Bundle of sticks                                      |

|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|                               | $  \begin{aligned}  &= \frac{37.85}{100} - (30 + 7 + 85 + 100) \\  &= 100 + 90 + 3 + \frac{60}{100} - 30 - 7 - \frac{85}{100} \\  &= 100 + 90 - 30 + 3 - 7 + \frac{60}{100} - \frac{85}{100} \\  &= 100 + 60 - 7 + 3 + \frac{60}{100} - \frac{85}{100} \\  &= 100 + 53 + 2 + \frac{160}{100} - \frac{85}{100} \\  &155.75 = 155 + 75  \end{aligned}  $ <p><u>Assessment</u></p> <p>Use the partitioning and place system to add the following</p> <ol style="list-style-type: none"> <li>1. 44362 and 53211</li> <li>2. 54217 and 33521</li> <li>3. 23888 and 46111</li> <li>4. 634536 and 552124</li> <li>5. 702702 and 282282</li> </ol> <p>Apply the expanding and place system to add the following</p> <ol style="list-style-type: none"> <li>1. 50342 + 643224</li> <li>2. 48325 + 115037</li> <li>3. 305306 + 420430</li> <li>4. 511325 + 166341</li> <li>5. 834256 + 221003</li> </ol> |  |
| PHASE 3:<br><b>REFLECTION</b> | <p>Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson.</p> <p>Take feedback from learners and summarize the lesson.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |

|                                                                                                                                                            |                    |                                                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------------------------------------------------------------------------------------------|
| <b>Week Ending:</b> 24-02-2023                                                                                                                             | <b>DAY:</b>        | <b>Subject:</b> Mathematics                                                                       |
| <b>Duration:</b> 60MINS                                                                                                                                    |                    | <b>Strand:</b> Number                                                                             |
| <b>Class:</b> B8                                                                                                                                           | <b>Class Size:</b> | <b>Sub Strand:</b> Multiplication & Division                                                      |
| <b>Content Standard:</b><br>B8.1.2.2 Apply the understanding of the Multiplication & Division to solve problems and round answers to given decimal places. |                    | <b>Indicator:</b><br>B8.1.2.2.2 Multiply or divide multi-digit numbers by 2- and 3-digit numbers. |
| <b>Performance Indicator:</b><br>Learners can apply mental mathematics strategies and number properties to do calculation                                  |                    | <b>Lesson:</b><br>2 of 2                                                                          |
| <b>Core Competencies:</b><br>Communication and Collaboration (CC)<br>Critical Thinking and Problem solving (CP)                                            |                    |                                                                                                   |
| <b>References:</b> Mathematics Curriculum Pg. 95                                                                                                           |                    |                                                                                                   |

| Phase/Duration                                          | Learners Activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Resources                                               |                                                      |                                                   |                   |                                 |                              |                             |                  |  |                  |                  |                  |  |  |                  |                  |                  |  |                  |        |        |        |                  |                  |        |        |        |                  |                  |        |        |        |                  |                                                                            |
|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|------------------------------------------------------|---------------------------------------------------|-------------------|---------------------------------|------------------------------|-----------------------------|------------------|--|------------------|------------------|------------------|--|--|------------------|------------------|------------------|--|------------------|--------|--------|--------|------------------|------------------|--------|--------|--------|------------------|------------------|--------|--------|--------|------------------|----------------------------------------------------------------------------|
| PHASE 1:<br><b>STARTER</b>                              | Revise with learners on the previous lesson.<br><br>Share performance indicators with learners and introduce the lesson.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                         |                                                      |                                                   |                   |                                 |                              |                             |                  |  |                  |                  |                  |  |  |                  |                  |                  |  |                  |        |        |        |                  |                  |        |        |        |                  |                  |        |        |        |                  |                                                                            |
| PHASE 2: <b>NEW LEARNING</b>                            | <p>Guide learners to use the area model (Expand and Box method) to multiply and divide efficiently.</p> <div style="text-align: center;"><math>526 \times 54 =</math><table border="1" style="margin: auto;"><tr><td style="text-align: center;"><small>500</small><br/><math>500 \times 50</math><br/><b>= 25000</b></td><td style="text-align: center;"><small>20</small><br/><math>20 \times 50</math><br/><b>= 1000</b></td><td style="text-align: center;"><small>6</small><br/><math>6 \times 50</math><br/><b>= 300</b></td><td style="text-align: center; vertical-align: middle;"><small>50</small></td></tr><tr><td style="text-align: center;"><math>500 \times 4</math><br/><b>= 2000</b></td><td style="text-align: center;"><math>20 \times 4</math><br/><b>= 80</b></td><td style="text-align: center;"><math>6 \times 4</math><br/><b>= 24</b></td><td style="text-align: center; vertical-align: middle;"><small>4</small></td></tr></table><br/><math>\therefore 526 \times 54 = 25,000 + 2,000 + 1,000 + 300 + 80 + 24</math><br/><math>= 28,404</math></div> <p>Guide learners to multiply whole numbers using the vertical place value method: (i.e. <math>657 \times 27 =</math>)</p> <div style="text-align: center;"><math display="block">\begin{array}{r} 657 \\ \times 27 \\ \hline 4599 \\ + 1314 \\ \hline 17739 \end{array}</math></div> <p>Guide learners to multiply whole numbers using the lattice method. That is to solve <math>382 \times 856</math>:</p> <p>Make a 3 by 3 lattice and set up the solution as follows:</p> <div style="text-align: center;"><table style="margin: auto;"><tr><td></td><td style="text-align: center;"><small>3</small></td><td style="text-align: center;"><small>8</small></td><td style="text-align: center;"><small>2</small></td><td></td></tr><tr><td></td><td style="text-align: center;"><small>1</small></td><td style="text-align: center;"><small>1</small></td><td style="text-align: center;"><small>1</small></td><td></td></tr><tr><td style="text-align: center;"><small>8</small></td><td style="text-align: center;">2<br/>3</td><td style="text-align: center;">6<br/>4</td><td style="text-align: center;">1<br/>6</td><td style="text-align: center;"><small>8</small></td></tr><tr><td style="text-align: center;"><small>5</small></td><td style="text-align: center;">1<br/>2</td><td style="text-align: center;">4<br/>5</td><td style="text-align: center;">1<br/>0</td><td style="text-align: center;"><small>5</small></td></tr><tr><td style="text-align: center;"><small>6</small></td><td style="text-align: center;">1<br/>6</td><td style="text-align: center;">4<br/>8</td><td style="text-align: center;">1<br/>2</td><td style="text-align: center;"><small>6</small></td></tr></table></div> | <small>500</small><br>$500 \times 50$<br><b>= 25000</b> | <small>20</small><br>$20 \times 50$<br><b>= 1000</b> | <small>6</small><br>$6 \times 50$<br><b>= 300</b> | <small>50</small> | $500 \times 4$<br><b>= 2000</b> | $20 \times 4$<br><b>= 80</b> | $6 \times 4$<br><b>= 24</b> | <small>4</small> |  | <small>3</small> | <small>8</small> | <small>2</small> |  |  | <small>1</small> | <small>1</small> | <small>1</small> |  | <small>8</small> | 2<br>3 | 6<br>4 | 1<br>6 | <small>8</small> | <small>5</small> | 1<br>2 | 4<br>5 | 1<br>0 | <small>5</small> | <small>6</small> | 1<br>6 | 4<br>8 | 1<br>2 | <small>6</small> | Counters, bundle and loose straws<br>base ten cut square, Bundle of sticks |
| <small>500</small><br>$500 \times 50$<br><b>= 25000</b> | <small>20</small><br>$20 \times 50$<br><b>= 1000</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <small>6</small><br>$6 \times 50$<br><b>= 300</b>       | <small>50</small>                                    |                                                   |                   |                                 |                              |                             |                  |  |                  |                  |                  |  |  |                  |                  |                  |  |                  |        |        |        |                  |                  |        |        |        |                  |                  |        |        |        |                  |                                                                            |
| $500 \times 4$<br><b>= 2000</b>                         | $20 \times 4$<br><b>= 80</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | $6 \times 4$<br><b>= 24</b>                             | <small>4</small>                                     |                                                   |                   |                                 |                              |                             |                  |  |                  |                  |                  |  |  |                  |                  |                  |  |                  |        |        |        |                  |                  |        |        |        |                  |                  |        |        |        |                  |                                                                            |
|                                                         | <small>3</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <small>8</small>                                        | <small>2</small>                                     |                                                   |                   |                                 |                              |                             |                  |  |                  |                  |                  |  |  |                  |                  |                  |  |                  |        |        |        |                  |                  |        |        |        |                  |                  |        |        |        |                  |                                                                            |
|                                                         | <small>1</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <small>1</small>                                        | <small>1</small>                                     |                                                   |                   |                                 |                              |                             |                  |  |                  |                  |                  |  |  |                  |                  |                  |  |                  |        |        |        |                  |                  |        |        |        |                  |                  |        |        |        |                  |                                                                            |
| <small>8</small>                                        | 2<br>3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 6<br>4                                                  | 1<br>6                                               | <small>8</small>                                  |                   |                                 |                              |                             |                  |  |                  |                  |                  |  |  |                  |                  |                  |  |                  |        |        |        |                  |                  |        |        |        |                  |                  |        |        |        |                  |                                                                            |
| <small>5</small>                                        | 1<br>2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 4<br>5                                                  | 1<br>0                                               | <small>5</small>                                  |                   |                                 |                              |                             |                  |  |                  |                  |                  |  |  |                  |                  |                  |  |                  |        |        |        |                  |                  |        |        |        |                  |                  |        |        |        |                  |                                                                            |
| <small>6</small>                                        | 1<br>6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 4<br>8                                                  | 1<br>2                                               | <small>6</small>                                  |                   |                                 |                              |                             |                  |  |                  |                  |                  |  |  |                  |                  |                  |  |                  |        |        |        |                  |                  |        |        |        |                  |                  |        |        |        |                  |                                                                            |

|                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |
|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|                                               | <p><math>382 \times 856 = 326,992</math></p> <p>Guide learners to use the distributive property to multiply <math>325 \times 15</math><br/> <math>= 325 \times (10 + 5) = (325 \times 10) + (325 \times 5)</math><br/> <math>= 3,250 + 1,625</math><br/> <math>= 4,875</math></p> <p>Guide learners to investigate and determine basic division facts including divisibility test</p> <p>Guide learners to determine how a given number is divisible by 3,4,5, 6, 7, 8,9,10, etc.</p> <p><u>Assessment</u><br/> Multiply each of the following using the 'expand and box' method.</p> <ol style="list-style-type: none"> <li>1. <math>4211 \times 342</math></li> <li>2. <math>3882 \times 217</math></li> <li>3. <math>5034 \times 223</math></li> <li>4. <math>5478 \times 155</math></li> <li>5. <math>6431 \times 144</math></li> </ol> <p>Solve the following using the vertical place value method</p> <ol style="list-style-type: none"> <li>1. <math>442 \times 42</math></li> <li>2. <math>468 \times 56</math></li> <li>3. <math>356 \times 37</math></li> <li>4. <math>403 \times 43</math></li> <li>5. <math>650 \times 29</math></li> </ol> |  |
| <p><b>PHASE 3:</b><br/> <b>REFLECTION</b></p> | <p>Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson.</p> <p>Take feedback from learners and summarize the lesson.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |

# FIRST TERM WEEKLY LESSON NOTES WEEK 8

| <b>Week Ending:</b> 03-03-2023                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>DAY:</b>                                                                                                      | <b>Subject:</b> Mathematics                                                                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| <b>Duration:</b> 60MINS                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Strand:</b> Number                                                                                            |                                                                                                                 |
| <b>Class:</b> B8                                                                                                                                          | <b>Class Size:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                  | <b>Sub Strand:</b> Decimals                                                                                     |
| <b>Content Standard:</b><br>B8.1.2.2 Apply the understanding of the addition and subtraction to solve problems and round answers to given decimal places. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Indicator:</b><br>B8.1.2.2.3. Create and solve story problems involving decimals on the four basic operations | <b>Lesson:</b><br>1 of 2                                                                                        |
| <b>Performance Indicator:</b><br>Learners can solve story problems involving decimals on the four basic operations.                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                  | <b>Core Competencies:</b><br>Communication and Collaboration (CC)<br>Critical Thinking and Problem solving (CP) |
| <b>References:</b> Mathematics Curriculum Pg. 98                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                  |                                                                                                                 |
| Phase/Duration                                                                                                                                            | Learners Activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                  | Resources                                                                                                       |
| PHASE 1:<br><b>STARTER</b>                                                                                                                                | Revise with learners on the previous lesson.<br><br>Share performance indicators with learners and introduce the lesson.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                  |                                                                                                                 |
| PHASE 2: <b>NEW LEARNING</b>                                                                                                                              | Guide learners to create and solve story problems involving decimals on the four basic operations using the following steps.<br>1. Read the problem carefully: Make sure you understand the problem by reading it carefully, identifying the information given, and determining what the problem is asking for.<br><br>2. Identify the operation: Determine which of the four basic operations (addition, subtraction, multiplication, or division) you need to use to solve the problem.<br><br>3. Convert the decimals: If necessary, convert any mixed numbers or fractions to decimals. You can do this by dividing the numerator by the denominator.<br><br>4. Align the decimals: When performing addition or subtraction, align the decimals so that the decimal points are lined up vertically.<br><br>5. Perform the operation: Perform the operation using the appropriate algorithm. If you're not sure, review the steps for each operation.<br><br>6. Check your answer: Check your answer by re-reading the problem and making sure it makes sense. Also, check your calculations to make sure they're correct.<br><br>Examples: (i) Kofi bought 8 notebooks at GH¢ 12.00 each. Ama bought 12 pens at GH¢ 5.00 each. How much altogether they spend on the items. |                                                                                                                  | Counters, bundle and loose straws<br>base ten cut square, Bundle of sticks                                      |

|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|                               | <p><u>Solution</u></p> <p>Kofis notebooks = <math>8 \times 12 = 96</math><br/> Amas pens = <math>12 \times 5 = 60</math><br/> Altogether = GH¢ 96 + GH¢ 60 = GH¢156.00</p> <p><u>Assessment</u></p> <p>(i) A man gave an amount of GH¢ 2477.25 to be shared equally among his three children. How much did each receive?</p> <p>(ii) On Adwoa's birthday, the father bought her a pack of chocolate containing 250 bars. If Adwoa took 90 bars of the chocolates and gave the rest to her four friends to share equally, how many bars of chocolates did each receive?</p> <p>(iii) Mrs Yaboi bought 25.25 metres of cloth for her five children. If they share the material equally, how many metres of cloth did each receive?</p> |  |
| PHASE 3:<br><b>REFLECTION</b> | <p>Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson.</p> <p>Take feedback from learners and summarize the lesson.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |

|                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Week Ending:</b> 03-03-2023                                                                                                                                                           | <b>DAY:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Subject:</b> Mathematics                                                                                                                                          |
| <b>Duration:</b> 60MINS                                                                                                                                                                  | <b>Strand:</b> Number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                      |
| <b>Class:</b> B8                                                                                                                                                                         | <b>Class Size:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Sub Strand:</b> Indices                                                                                                                                           |
| <b>Content Standard:</b><br>B8.1.2.3 Demonstrate understanding and the use of the laws of indices in solving problems (including real life problems) involving powers of natural numbers |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Indicator:</b><br>B8.1.2.3.1 Identify and explain the laws of indices and apply the laws of indices to simplify and evaluate numbers involving powers of numbers. |
| <b>Performance Indicator:</b><br>Learners can identify and explain the laws of indices and apply the laws of indices to simplify and evaluate numbers involving powers of numbers        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Lesson:</b><br>2 of 2                                                                                                                                             |
| <b>References:</b> Mathematics Curriculum Pg. 100                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                      |
|                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                      |
| <b>Phase/Duration</b>                                                                                                                                                                    | <b>Learners Activities</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Resources</b>                                                                                                                                                     |
| <b>PHASE 1: STARTER</b>                                                                                                                                                                  | Revise with learners on the previous lesson.<br><br>Share performance indicators with learners and introduce the lesson.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                      |
| <b>PHASE 2: NEW LEARNING</b>                                                                                                                                                             | Introduce the concept of indices: Begin by explaining what indices are and their basic properties.<br><br>Explain that indices are a way of representing repeated multiplication, where the number being multiplied is called the base and the exponent tells us how many times to multiply the base by itself.<br><br>Show students how to write a number in index form, and explain the meaning of the base and exponent.<br><br>Teach the rules of indices: Once the students have a basic understanding of indices, teach them the rules that apply to working with indices. These include:<br><br><input type="checkbox"/> Multiplying indices: When multiplying numbers with the same base, add their exponents. (first law)<br>$a^m \times a^n = a^{m+n}$<br>example: simplify $3^2 \times 3^3 = 3^{2+3} = 3^5 = 243$<br><br><input type="checkbox"/> Dividing indices: When dividing numbers with the same base, subtract their exponents. (second law)<br>$\frac{a^m}{a^n} = a^{m-n}$ or $a^m \div a^n = a^{m-n}$<br>Example: simplify $\frac{3^7}{3^3} = 3^{7-3} = 3^4 = 81$<br><br><input type="checkbox"/> Raising to a power: When raising a number to a power, multiply the exponent by the original exponent. (third law)<br>$(a^m)^n = a^{m \times n} = a^{mn}$<br>Example: simplify $(2^3)^2 = 2^{3 \times 2} = 2^6 = 64$ | Counters, bundle and loose straws<br>base ten cut square, Bundle of sticks                                                                                           |

|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|                               | <p>□ Negative indices: A number raised to a negative exponent is equal to 1 divided by the number raised to the positive exponent.<br/> <math>a^{-m} = \frac{1}{a^m}</math> or <math>\frac{1}{a^n} = a^{-n}</math><br/> Example: simplify <math>5^{-2} = \frac{1}{5^2} = \frac{1}{25}</math></p> <p><u>Assessment</u><br/> If <math>2^x = 16</math>, what is the value of x?</p> <p>Simplify <math>3^2 \times 3^4</math>.</p> <p>If <math>5^{(a-1)} = 25</math>, what is the value of a?</p> <p>Evaluate <math>4^3 \div 2^2</math>.</p> <p>Write 81 as a power of 3.</p> <p>Simplify <math>(2^3 \times 3^4) \div (2^2 \times 3^2)</math>.</p> <p>Write <math>5^4 \times 5^2</math> in index form.</p> <p>If <math>4^b = \frac{1}{64}</math>, what is the value of b?</p> <p>Evaluate <math>(10^3 \div 10^2) \times (10^5 \div 10^3)</math>.</p> <p>Write <math>\frac{1}{16}</math> as a power of 2.</p> |  |
| PHASE 3:<br><b>REFLECTION</b> | <p>Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson.</p> <p>Take feedback from learners and summarize the lesson.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |

# FIRST TERM

## WEEKLY LESSON NOTES

### WEEK 9

| <b>Week Ending:</b> 10-03-2023                                                                                                                            | <b>DAY:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>Subject:</b> Mathematics                                                                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| <b>Duration:</b> 60MINS                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Strand:</b> Number                                                                                           |
| <b>Class:</b> B8                                                                                                                                          | <b>Class Size:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Sub Strand:</b> Indices                                                                                      |
| <b>Content Standard:</b><br>B8.1.2.3 Demonstrate understanding and the use of the laws of indices in solving problems involving powers of natural numbers | <b>Indicator:</b><br>B8.1.2.3.2 Apply the laws of indices to simplify and evaluate numbers involving powers of numbers. (PEDMAS)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Lesson:</b><br>1 of 2                                                                                        |
| <b>Performance Indicator:</b><br>Learners can solve story problems involving decimals on the four basic operations.                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Core Competencies:</b><br>Communication and Collaboration (CC)<br>Critical Thinking and Problem solving (CP) |
| <b>References:</b> Mathematics Curriculum Pg. 98                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                 |
| Phase/Duration                                                                                                                                            | Learners Activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Resources                                                                                                       |
| <b>PHASE 1: STARTER</b>                                                                                                                                   | Revise with learners on the previous lesson.<br><br>Share performance indicators with learners and introduce the lesson.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                 |
| <b>PHASE 2: NEW LEARNING</b>                                                                                                                              | <p>The laws of indices are a set of rules that govern how we can manipulate expressions involving powers of numbers. These rules are:</p> <ol style="list-style-type: none"> <li>1. Product rule: <math>a^m * a^n = a^{(m+n)}</math><br/>This rule tells us that when we multiply two numbers with the same base, we can add their exponents to get the exponent of the result.<br/>Example: <math>2^3 \times 2^4 = 2^{(3+4)} = 2^7 = 128</math></li> <li>2. Quotient rule: <math>a^m / a^n = a^{(m-n)}</math><br/>This rule tells us that when we divide two numbers with the same base, we can subtract their exponents to get the exponent of the result.<br/>Example: <math>5^8 / 5^3 = 5^{(8-3)} = 5^5 = 3125</math></li> <li>3. Power rule: <math>(a^m)^n = a^{(m*n)}</math><br/>This rule tells us that when we raise a number to a power and then raise the result to another power, we can multiply the exponents to get the exponent of the final result.<br/>Example: <math>(3^4)^2 = 3^{(4*2)} = 3^8 = 6561</math></li> <li>4. Negative exponent rule: <math>a^{(-m)} = 1/a^m</math><br/>This rule tells us that when we have a negative exponent, we can flip the base and make the exponent positive to get the reciprocal of the result.<br/>Example: <math>2^{-5} = 1/2^5 = 1/32</math></li> <li>5. Zero exponent rule: <math>a^0 = 1</math><br/>This rule tells us that any number raised to the power of zero is equal to one.<br/>Example: <math>7^0 = 1</math></li> </ol> | Counters, bundle and loose straws<br>base ten cut square, Bundle of sticks                                      |

|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|                               | <p>Using these rules, have learners simplify and evaluate expressions involving powers of numbers. Here are a few examples:<br/> Example 1: Simplify <math>4^3 \times 4^5</math><br/> Using the product rule, we can add the exponents:<br/> <math>4^3 \times 4^5 = 4^{(3+5)} = 4^8 = 65536</math></p> <p><u>Assessment</u></p> <ol style="list-style-type: none"> <li>1. Using the power rule, Evaluate <math>(2^4)^3</math></li> <li>2. Using the quotient rule, Simplify <math>3^5 / 3^2</math></li> <li>3. Using the negative exponent rule, Simplify <math>5^{(-2)}</math></li> <li>4. Using the zero exponent rule, Simplify <math>2^0</math></li> </ol> |  |
| PHASE 3:<br><b>REFLECTION</b> | <p>Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson.</p> <p>Take feedback from learners and summarize the lesson.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |

|                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                |                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| <b>Week Ending:</b> 10-03-2023                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>DAY:</b>                                                                                                                    | <b>Subject:</b> Mathematics                                                                                     |
| <b>Duration:</b> 60MINS                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                | <b>Strand:</b> Number                                                                                           |
| <b>Class:</b> B8                                                                                                                                          | <b>Class Size:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                | <b>Sub Strand:</b> Indices                                                                                      |
| <b>Content Standard:</b><br>B8.1.2.3 Demonstrate understanding and the use of the laws of indices in solving problems involving powers of natural numbers |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Indicator:</b><br>B8.1.2.3.3-4 Solve exponential equations and Solve real life problems involving powers of natural numbers | <b>Lesson:</b><br>2 of 2                                                                                        |
| <b>Performance Indicator:</b><br>Learners can solve exponential equations and solve real life problems involving powers of natural numbers                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                | <b>Core Competencies:</b><br>Communication and Collaboration (CC)<br>Critical Thinking and Problem solving (CP) |
| <b>References:</b> Mathematics Curriculum Pg. 101                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                |                                                                                                                 |
|                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                |                                                                                                                 |
| Phase/Duration                                                                                                                                            | Learners Activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                | Resources                                                                                                       |
| PHASE 1:<br><b>STARTER</b>                                                                                                                                | Revise with learners on the previous lesson.<br><br>Share performance indicators with learners and introduce the lesson.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                |                                                                                                                 |
| PHASE 2: <b>NEW LEARNING</b>                                                                                                                              | <p>Guide learners to solve exponential equations and Solve real life problems involving powers of natural numbers</p> <p>1. A person has a piece of land that is 50 meters long and 30 meters wide. How many square meters is the land?<br/>Solution: The area of the land is given by the product of its length and width, so we have: <math>\text{Area} = 50 \text{ m} \times 30 \text{ m} = 1500 \text{ m}^2</math><br/>Therefore, the land has an area of 1500 square meters.</p> <p>2. A car travels at a speed of 60 km/h for 3 hours. How far does the car travel?<br/>Solution: The distance travelled by the car is given by the product of its speed and time, so we have: <math>\text{Distance} = \text{Speed} \times \text{Time} = 60 \text{ km/h} \times 3 \text{ h} = 180 \text{ km}</math><br/>Therefore, the car travels 180 kilometers.</p> <p>3. A building has 10 floors, each with a height of 3 meters. How high is the building?<br/>Solution: The total height of the building is given by the product of the height of each floor and the number of floors, so we have:<br/><math>\text{Height} = 10 \times 3 \text{ m} = 30 \text{ m}</math><br/>Therefore, the building is 30 meters high.</p> <p>4. A recipe calls for 2 cups of flour, <math>\frac{1}{2}</math> cup of sugar, and <math>\frac{1}{4}</math> cup of butter. If you want to make twice the recipe, how much flour do you need?<br/>Solution: If we want to make twice the recipe, we need to double the amount of each ingredient. So we have: <math>\text{Flour} = 2 \text{ cups} \times 2 = 4 \text{ cups}</math><br/><math>\text{Sugar} = \frac{1}{2} \text{ cup} \times 2 = 1 \text{ cup}</math><br/><math>\text{Butter} = \frac{1}{4} \text{ cup} \times 2 = \frac{1}{2} \text{ cup}</math><br/>Therefore, we need 4 cups of flour to make twice the recipe.</p> <p>5. A container of juice contains 1 liter of juice. If we pour <math>\frac{1}{4}</math> of the juice into a glass, how much juice is left in the container?</p> |                                                                                                                                | Counters, bundle and loose straws<br>base ten cut square, Bundle of sticks                                      |

|                                       |                                                                                                                                                                                                                                                                                                                                   |  |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|                                       | <p>Solution: If we pour <math>\frac{1}{4}</math> of the juice into a glass, we are left with <math>\frac{3}{4}</math> of the juice in the container. So we have: Juice left in container = <math>1 \text{ L} \times \frac{3}{4} = 0.75 \text{ L}</math></p> <p>Therefore, there is 0.75 liters of juice left in the container</p> |  |
| <p>PHASE 3:<br/><b>REFLECTION</b></p> | <p>Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson.</p> <p>Take feedback from learners and summarize the lesson.</p>                                                                                                                                              |  |

FIRST TERM  
WEEKLY LESSON NOTES  
WEEK 10

REVISION AND END OF TERM ASSESSMENT

| <b>Week Ending:</b> 17-03-2023                                                                                  | <b>DAY:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>Subject:</b> Mathematics                                                         |
|-----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <b>Duration:</b> 60MINS                                                                                         | <b>Strand:</b> Strands for the term                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                     |
| <b>Class:</b> B8                                                                                                | <b>Class Size:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Sub Strand:</b> Sub strands for the term                                         |
| <b>Content Standard:</b><br>Demonstrate knowledge and understanding in the topics treated so far.               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Indicator:</b><br>Recall and summarize all what they have learnt within the term |
| <b>Performance Indicator:</b><br>Learners can recall and summarize all what they have learnt within the term    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Lesson:</b><br>1 of 2                                                            |
| <b>Core Competencies:</b><br>Communication and Collaboration (CC)<br>Critical Thinking and Problem solving (CP) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                     |
| <b>References:</b> Mathematics Curriculum Pg. 98                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                     |
| Phase/Duration                                                                                                  | Learners Activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Resources                                                                           |
| <b>PHASE 1: STARTER</b>                                                                                         | Revise with learners on the previous lesson.<br><br>Share performance indicators with learners and introduce the lesson.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                     |
| <b>PHASE 2: NEW LEARNING</b>                                                                                    | <p>The laws of indices are a set of rules that govern how we can manipulate expressions involving powers of numbers. These rules are:</p> <p>1. Product rule: <math>a^m \times a^n = a^{(m+n)}</math><br/>This rule tells us that when we multiply two numbers with the same base, we can add their exponents to get the exponent of the result.<br/>Example: <math>2^3 \times 2^4 = 2^{(3+4)} = 2^7 = 128</math></p> <p>2. Quotient rule: <math>a^m / a^n = a^{(m-n)}</math><br/>This rule tells us that when we divide two numbers with the same base, we can subtract their exponents to get the exponent of the result.<br/>Example: <math>5^8 / 5^3 = 5^{(8-3)} = 5^5 = 3125</math></p> <p>3. Power rule: <math>(a^m)^n = a^{(m \times n)}</math><br/>This rule tells us that when we raise a number to a power and then raise the result to another power, we can multiply the exponents to get the exponent of the final result.<br/>Example: <math>(3^4)^2 = 3^{(4 \times 2)} = 3^8 = 6561</math></p> <p>4. Negative exponent rule: <math>a^{(-m)} = 1/a^m</math><br/>This rule tells us that when we have a negative exponent, we can flip the base and make the exponent positive to get the reciprocal of the result.<br/>Example: <math>2^{-5} = 1/2^5 = 1/32</math></p> <p>5. Zero exponent rule: <math>a^0 = 1</math><br/>This rule tells us that any number raised to the power of zero is equal to one.<br/>Example: <math>7^0 = 1</math></p> | Counters, bundle and loose straws<br>base ten cut square, Bundle of sticks          |

|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|                               | <p>Using these rules, have learners simplify and evaluate expressions involving powers of numbers. Here are a few examples:<br/> Example 1: Simplify <math>4^3 \times 4^5</math><br/> Using the product rule, we can add the exponents:<br/> <math>4^3 \times 4^5 = 4^{(3+5)} = 4^8 = 65536</math></p> <p><u>Assessment</u></p> <ol style="list-style-type: none"> <li>1. Using the power rule, Evaluate <math>(2^4)^3</math></li> <li>2. Using the quotient rule, Simplify <math>3^5 / 3^2</math></li> <li>3. Using the negative exponent rule, Simplify <math>5^{(-2)}</math></li> <li>4. Using the zero exponent rule, Simplify <math>2^0</math></li> </ol> |  |
| PHASE 3:<br><b>REFLECTION</b> | <p>Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson.</p> <p>Take feedback from learners and summarize the lesson.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |

|                                                                                                                    |                                                                                                                                                                                                                                                                    |                                                       |
|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| <b>Week Ending:</b> 17-03-2023                                                                                     | <b>DAY:</b>                                                                                                                                                                                                                                                        | <b>Subject:</b> Mathematics                           |
| <b>Duration:</b> 60MINS                                                                                            | <b>Strand:</b> Strands treated for the term                                                                                                                                                                                                                        |                                                       |
| <b>Class:</b> B8                                                                                                   | <b>Class Size:</b>                                                                                                                                                                                                                                                 | <b>Sub Strand:</b> Sub strands for the term           |
| <b>Content Standard:</b><br>Demonstrate knowledge and understanding in the topics treated so far.                  |                                                                                                                                                                                                                                                                    | <b>Indicator:</b><br>Preparation towards vacation     |
| <b>Performance Indicator:</b><br>Learners can answer all end of term assessment questions in their exercise books. |                                                                                                                                                                                                                                                                    | <b>Lesson:</b><br>1 of 1                              |
| <b>Core Competencies:</b><br>Communication and Collaboration (CC)<br>Critical Thinking and Problem solving (CP)    |                                                                                                                                                                                                                                                                    |                                                       |
| <b>References:</b> Mathematics Curriculum Pg. 101                                                                  |                                                                                                                                                                                                                                                                    |                                                       |
|                                                                                                                    |                                                                                                                                                                                                                                                                    |                                                       |
| Phase/Duration                                                                                                     | Learners Activities                                                                                                                                                                                                                                                | Resources                                             |
| PHASE 1:<br><b>STARTER</b>                                                                                         | Ask learners to bring and display all the materials needed for the assessment.<br><br>Educate them on the consequences of examination mal practice.                                                                                                                | Exercise books, pen, pencils, erasers, Answer sheets. |
| PHASE 2: <b>NEW LEARNING</b>                                                                                       | Engage learners to arrange themselves properly to sit for the assessment test.<br><br>Mark learners answer sheets or exercise books.<br><br>Fill in learner's SBA books and report cards.<br><br>Distribute learners answer sheets or exercise books for feedback. | SBA, Assessment Questions and exercise books.         |