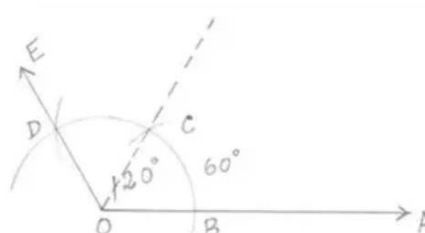
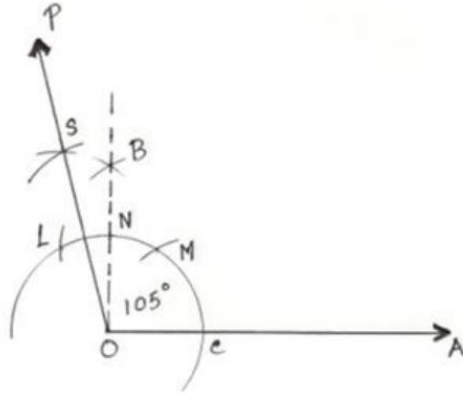


**SECOND TERM**  
**WEEKLY LESSON NOTES**  
**WEEK 7**

|   |  |  |
|---|--|--|
| <b>Week Ending:</b> 19-05-2023  | <b>DAY:</b>  | <b>Subject:</b> Mathematics  |
| <b>Duration:</b> 60MINS   |  | <b>Strand:</b> Geometry & Measurement  |
| <b>Class:</b> B8  | <b>Class Size:</b>   | <b>Sub Strand:</b> Construct & Bisect Angles   |
| <b>Content Standard:</b><br>B8.3.1.2 Demonstrate the ability to perform geometric constructions of the angles ( $75^\circ$ , $105^\circ$ , $60^\circ$ , $135^\circ$ and $150^\circ$ ), and construct triangles and find locus of points under given conditions. |  | <b>Indicator:</b><br>B8.3.1.2.1 Construct and bisect angles of $120^\circ$ , $105^\circ$ , $135^\circ$ and $150^\circ$ |
| <b>Performance Indicator:</b><br>Learners can construct and bisect angles of $120^\circ$ , $105^\circ$ , $135^\circ$ and $150^\circ$  |  | <b>Lesson:</b><br>1 of 2   |
| <b>Performance Indicator:</b><br>Learners can construct and bisect angles of $120^\circ$ , $105^\circ$ , $135^\circ$ and $150^\circ$  |  | <b>Core Competencies:</b><br>Communication and Collaboration (CC)<br>Critical Thinking and Problem solving (CP)        |
| <b>References:</b> Mathematics Curriculum Pg. 123   |  |  |
| <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>  | Use a pair of compasses and a ruler, guide learners to construct angles of $120^\circ$ , $105^\circ$ , $135^\circ$ and $150^\circ$<br><br><u>To Construct an angle of <math>120^\circ</math></u> <ul style="list-style-type: none"> <li>• Draw a ray OA.</li> <li>• With O as center and any suitable radius draw an arc cutting OA at B.</li> <li>• With B as center and the same radius cut the arc at C, then with C as center and same radius cut the arc at D. Join OD and produce it to E.</li> </ul>  <p style="text-align: right;">Then, <math>\angle AOE = 120^\circ</math>.</p><br><u>To Construct an angle of <math>105^\circ</math></u> <ul style="list-style-type: none"> <li>• Take any ray OA.</li> <li>• With O as center and any convenient radius, draw an arc cutting OA at B.</li> <li>• With B as center and the same radius, draw an arc cutting the first arc at C.</li> </ul> | Counters, bundle and loose straws base ten cut square, Bundle of sticks  |

- With  $C$  as center and the same radius, cut off an arc cutting again the first arc at  $D$ .
- With  $C$  and  $D$  as center and radius of more than half of  $CD$ , draw two arcs cutting each other at  $E$ , join  $OE$ .
- After making  $90^\circ$  angle take  $L$  and  $N$  as center and draw two arcs cutting each other at  $S$ .
- Join  $SO$ .



#### To Construct an angle of $135^\circ$

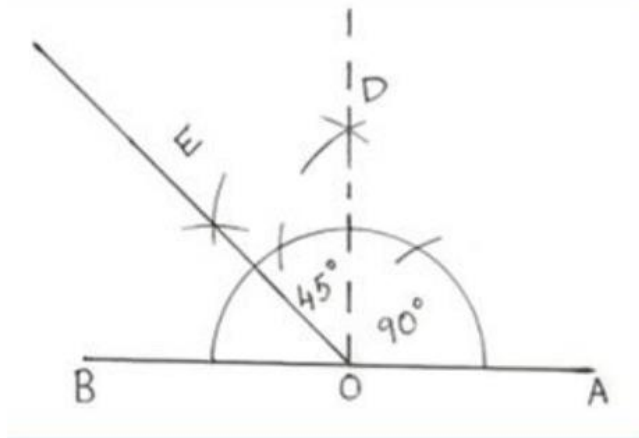
Construct  $\angle AOD = 90^\circ$

Produce  $\angle AO$  to  $B$ .

Draw  $OE$  to bisect  $\angle DOB$ .

$\angle DOE = 45^\circ$

$\angle EOA = 45^\circ + 90^\circ = 135^\circ$



#### To Construct an angle of $135^\circ$

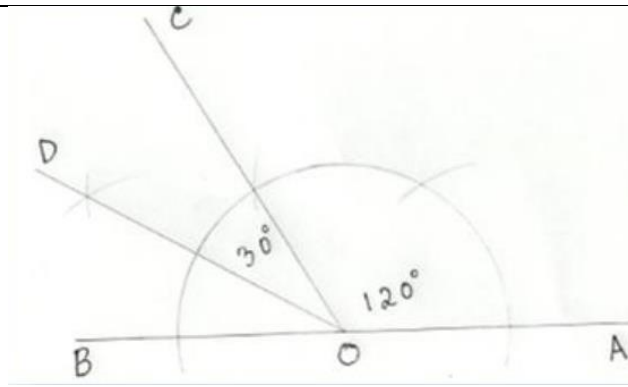
Construct  $\angle AOC = 120^\circ$

Produce  $\angle AO$  to  $B$ .

Draw  $OD$  to bisect  $\angle COB$ .

Now  $\angle COD = 30^\circ$

Therefore,  $\angle AOD = 120^\circ + 30^\circ = 150^\circ$



Assessment

Using a pair of compasses and a ruler only, construct the following angles;  $120^\circ$ ,  $105^\circ$ ,  $135^\circ$  and  $150^\circ$

**PHASE 3:**  
**REFLECTION**

Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson.

Take feedback from learners and summarize the lesson.

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|--|---|---|
| <b>Week Ending:</b> 19-05-2023   | <b>DAY:</b>   | <b>Subject:</b> Mathematics   |
| <b>Duration:</b> 60MINS  |   | <b>Strand:</b> Geometry & Measurement   |
| <b>Class:</b> B8   | <b>Class Size:</b>  | <b>Sub Strand:</b> Construct Of Triangles   |
| <b>Content Standard:</b><br>B8.3.1.2 Demonstrate the ability to perform geometric constructions of the angles ( $75^\circ$ , $105^\circ$ , $60^\circ$ , $135^\circ$ and $150^\circ$ ), and construct triangles and find locus of points under given conditions | <b>Indicator:</b><br>B8.3.1.2.2: Construct scalene triangles, isosceles triangles, equilateral triangles, obtuse-angled triangle, and acute-angled triangles in different orientations under given conditions.  | <b>Lesson:</b><br>2 of 2  |
| <b>Performance Indicator:</b><br>Learners can determine the values of angles in a triangle using knowledge of the sum of interior angles in a triangle and other properties.   |   | <b>Core Competencies:</b><br>Communication and Collaboration (CC)<br>Critical Thinking and Problem solving (CP) |
| <b>References:</b> Mathematics Curriculum Pg. 127-132  |   |   |
| <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>   | <p>Guide learners to use a pair of compasses and a ruler to construct an equilateral triangle when a side is given and justify why it is an equilateral triangle</p> <ul style="list-style-type: none"> <li>• Draw a straight line segment to serve as the base of your triangle. Label the endpoints as points A and B.</li> <li>• Use a ruler to measure the length of the given side. Let's say the length is "a". Mark a point C on the line segment AB, at a distance of "a" from point A.</li> <li>• With a compass, set the width to the length "a". Place the compass tip on point C and draw an arc that intersects the line segment AB. Label the intersection points as D and E.</li> <li>• Without changing the compass width, place the compass tip on point D and draw another arc that intersects the arc drawn in the previous step. Label the intersection point as F.</li> <li>• Draw a straight line connecting point C and point F.</li> <li>• Draw a straight line connecting point F and point B.</li> </ul> <p>Guide learners to use a pair of compasses and a ruler to construct an equilateral triangle</p> <ul style="list-style-type: none"> <li>• Draw a straight line segment to serve as the base of your triangle. Label the endpoints as points A and B.</li> <li>• Use a ruler to measure and mark a second point, C, on the same line but at a different distance from point A than point B. This will determine the length of one side of the triangle.</li> </ul> | Counters, bundle and loose straws base ten cut square, Bundle of sticks   |

|                                       |   |  |
|---------------------------------------|---|--|
|                                       | <ul style="list-style-type: none"> <li>• <i>With a compass, set the width to the length of the second side of the triangle. Place the compass tip on point B and draw an arc that intersects the line segment AB.</i></li> <li>• <i>Without changing the compass width, place the compass tip on point A and draw another arc that intersects the line segment AB.</i></li> <li>• <i>Label the intersection point of the arcs as point D.</i></li> <li>• <i>Draw a straight line connecting point C and point D. This will be the second side of the triangle.</i></li> <li>• <i>Draw a straight line connecting point C and point B. This will be the third side of the triangle.</i></li> </ul> <p>Using a pair of compasses and a ruler, guide learners to perform geometric construction of an isosceles right-angled triangle when the base line is given.</p> <ol style="list-style-type: none"> <li>1. <i>Draw a straight line segment to serve as the base of your triangle. Label the endpoints as points A and B.</i></li> <li>2. <i>Use a ruler to measure and mark a point C on the line segment AB. This will be the midpoint of AB.</i></li> <li>3. <i>With a compass, set the width to the length of AC. Place the compass tip on point C and draw an arc that intersects the line segment AB. Label the intersection points as D and E.</i></li> <li>4. <i>Without changing the compass width, place the compass tip on point D and draw another arc that intersects the arc drawn in the previous step. Label the intersection point as F.</i></li> <li>5. <i>Draw a straight line connecting point C and point F.</i></li> <li>6. <i>Draw a straight line connecting point F and point B.</i></li> </ol> <p><u>Assessment</u></p> <ol style="list-style-type: none"> <li>1. Use a pair of compasses and a ruler to perform geometric construction of an isosceles triangle when all the sides are given.</li> <li>2. Use a pair of compasses and a ruler to perform geometric construction of an isosceles triangle when the base angles and base side are known</li> <li>3. Use a pair of compasses and a ruler to construct acute-angled triangles, obtuse-angled triangles and right-angled triangles when a side and two angles are given</li> <li>4. Use a pair of compasses and a ruler to construct triangles when all the sides are given.</li> </ol> |  |
| <p><b>PHASE 3:<br/>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>  |  |