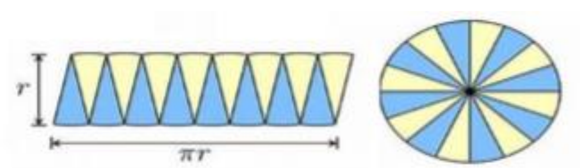
SECOND TERM
WEEKLY LESSON NOTES
WEEK 8

Week Ending: 26-05-2023	**DAY:**		**Subject:** Mathematics	
Duration: 60MINS			**Strand:** Geometry & Measurement	
Class: B8	**Class Size:**		**Sub Strand:** Construct & Bisect Angles	
Content Standard: B8.3.1.2 Demonstrate the ability to perform geometric constructions of the angles (75˚, 105˚, 60˚, 135˚ and 150˚), and construct triangles and find locus of points under given conditions.		**Indicator:** B8.3.1.2.3: Construct loci		**Lesson:** 1 of 2
Performance Indicator: Learners can construct loci			**Core Competencies:** Communication and Collaboration (CC) Critical Thinking and Problem solving (CP)	
References: Mathematics Curriculum Pg. 133-141				

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Revise with learners on the previous lesson. Share performance indicators with learners and introduce the lesson.	
PHASE 2: **NEW LEARNING**	Have learners understand that a 'locus' refers to the set of all points that satisfy a specific geometric condition. It represents the path or trajectory followed by a point or object under certain constraints or rules. The concept of locus is often used in geometry to describe the collection of points that satisfy a given property. For example, the locus of points equidistant from two fixed points is a straight line called the perpendicular bisector. Similarly, the locus of points equidistant from a fixed point is a circle. Demonstrate how to construct a loci *1. Identify the condition: Determine the specific condition or property that the points must satisfy.* *2. Analyze the condition: Understand the requirements of the condition or property. Break it down into simpler components if needed. For example, if the condition involves the distance between points, consider the distances involved and their relationships.* *3. Use geometric tools: Depending on the condition, utilize geometric tools such as rulers, compasses, protractors, or specific geometric constructions to help determine and visualize the locus.*	Counters, bundle and loose straws base ten cut square, Bundle of sticks

	4. Consider different scenarios: Explore different cases or variations of the condition to gain a better understanding of the locus. This might involve changing parameters or considering different possibilities within the condition. *5. Record the locus: Once you have determined the set of points that satisfy the condition, record or represent the locus appropriately. This could be by drawing the locus on a coordinate plane, labeling it with relevant equations or descriptions, or using mathematical notation to express the locus.* *6. Verify and refine: After constructing the locus, verify that the points on the locus indeed satisfy the condition. If necessary, refine the construction by checking additional points or adjusting the construction based on any discrepancies found.* Guide learners to construct loci under given conditions including: (i) the locus of sets of points from a fixed point; (ii) the locus of points equidistant from two fixed points; (iii) the locus of points equidistant from two intersecting straight lines, and (iv) the locus of points equidistant from two parallel lines. Describe the locus of a circle by tracing the path of a point P which moves in such a way that its distance from a fixed point, say O, is always the same to construct circles Perform geometric construction to locate the centre of a circle by locating the intersection of the perpendicular bisectors of any two chords on the circle Draw circles of given radii at the points as centre and chord. Construct a regular hexagon within a circle given the length of a side <u>Assessment</u> Use a pair of compasses and a ruler to construct a hexagon ABCDEF such that |AB| = 6cm. Find the measure of the angles AOB and compare to its value.	
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.	

Week Ending: 26-05-2023	**DAY:**	**Subject:** Mathematics
Duration: 60MINS		**Strand:** Geometry & Measurement
Class: B8	**Class Size:**	**Sub Strand:** Construct Of Triangles
Content Standard: B8.3.1.2 Apply the Pythagoras theorem, the primary trigonometric ratios and the formulas for determining the area of a circle to solve real problems.	**Indicator:** B8.3.2.1.1 Use the relationship between the diameter and circumference of a circle to deduce the formula for finding its area, and use this to solve problems	**Lesson:** 2 of 2
Performance Indicator: Learners can use the relationship between the diameter and circumference of a circle to deduce the formula for finding its area, and use this to solve problems		**Core Competencies:** Communication and Collaboration (CC) Critical Thinking and Problem solving (CP)
References: Mathematics Curriculum Pg. 142		

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Revise with learners on the previous lesson. Share performance indicators with learners and introduce the lesson.	
PHASE 2: **NEW LEARNING**	Guide learners to use the relationship between the diameter and circumference of a circle to deduce the formula for finding its area. E.g.1: Divide a circle into sectors (minimum of 16) then cut the sectors and arrange to form a rectangle to deduce the area of the circle.  $\therefore A = \pi r \times r = \pi r^2$ Alternatively; The relationship between the diameter and circumference of a circle is given by the formula: $C = \pi d$ where C represents the circumference and d represents the diameter of the circle. From this relationship, we can deduce the formula for finding the area of a circle. We know that the circumference of a circle is the distance around its boundary, while the area of a circle is the measure of the region enclosed by the circle. To derive the formula for the area, we can	Counters, bundle and loose straws base ten cut square, Bundle of sticks

	make use of the fact that the circumference is directly related to the diameter. We start with the equation for the circumference of a circle: $C = \pi d$ We can rewrite the diameter in terms of the radius (r), which is half of the diameter: $d = 2r$ Substituting this expression for the diameter in the equation for the circumference, we get: $C = \pi(2r)$ Simplifying further: $C = 2\pi r$ Now, we can use the relationship between the circumference and the radius to find the formula for the radius: $C = 2\pi r$ Dividing both sides of the equation by 2π: $C / (2\pi) = r$ Now, let's focus on the formula for the area of a circle. The area (A) of a circle is given by the formula: $A = \pi r^2$ <u>Assessment</u> Let learners solve problems on area of a circle. (i) Find the area of a circle whose radius is 14cm (Take $\pi = 22/7$). (ii) Find the area of a semi-circle whose radius is 7cm (Take $\pi = 22/7$) (iii) Two circles have a common center; the small circle has radius 7cm, the big circle has radius 14cm.Find the shaded area. (Take $\pi = 22/7$).	
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.	