**THE MORNING STAR SCHOOL LTD.  
  
  
WEEKLY LESSON PLAN**

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| **WEEK ENDING** | 16th May, 2025 |
| **DAYS** | M o n d a y - F r i d a y |
| **DURATION** | 4 periods per class |
| **SUBJECT** | Mathematics |
| **STRAND** | 3: Geometry and Measurement |
| **SUBSTRAND** | 3.4: Angles in Polygons |
| **CLASS** | Basic Eight |
| **CLASS SIZE** | A(28) B(28) C(28) |
| **CONTENT STANDARD (ANNOTATION)** | * 3.4.1: Demonstrate understanding of angles in polygons and their properties |
| **LEARNING INDICATOR(S)** | * 3.4.1.1: Identify and calculate interior and exterior angles of polygons |
| **PERFORMANCE INDICATOR(S)** | * Learners should be able to calculate the sum of interior angles of any polygon. * Learners should be able to find the measure of each interior angle in regular polygons. * Learners should be able to apply angle properties to solve problems involving polygons. |
| **TEACHING/LEARNING RESOURCES (TLMS)** | * Charts of polygons, markers, whiteboard, protractor, ruler |
| **CORE COMPETENCIES** | * Creativity, Critical Thinking, Collaboration |
| **KEY WORDS** | * Polygon * Interior Angle * Exterior Angle * Regular Polygon * Irregular Polygon * Sum of Angles * Vertex |
| **R.P.K** | Learners are familiar with basic shapes and can identify polygons such as triangles and quadrilaterals. |

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| **PHASE 1: STARTER** | **PHASE 2: MAIN** | **PHASE 3: REFLECTION** |
| Begin the lesson by asking students to recall different types of polygons they have learned about, such as triangles, quadrilaterals, pentagons, etc. Ask them to share any properties they know about these shapes. This will help set the stage for understanding the angles within these polygons. | **Lesson Objective**: By the end of the lesson, students will understand how to calculate the sum of interior angles of polygons and apply this knowledge to find individual angles in regular polygons.\n\n2.**Introduction**: Explain that polygons are shapes with straight sides. In Ghana, traditional designs often incorporate polygonal patterns such as those found in Kente cloth. Discuss how understanding angles in these shapes can help in designing patterns and structures.\n\n3.**Step-by-Step Explanation**:\n -**Sum of Interior Angles**: The formula for calculating the sum of interior angles of a polygon is given by ((n-2) \times 180^\circ), where (n) is the number of sides. For example, a hexagon (6 sides) has a sum of angles as ((6-2) \times 180^\circ = 720^\circ).\n -**Individual Interior Angle in Regular Polygons**: In a regular polygon, all interior angles are equal. The measure of each interior angle can be found by dividing the sum of the interior angles by the number of sides, i.e., (\frac{(n-2) \times 180^\circ}{n}).\n -**Exterior Angles**: The sum of exterior angles of any polygon is always (360^\circ). In a regular polygon, each exterior angle is (\frac{360^\circ}{n}).\n\n4.**Guided Practice**:\n -**Activity 1**: Provide students with a pentagon. Ask them to calculate the sum of its interior angles using the formula. Verify by measuring each angle.\n -**Activity 2**: Divide students into groups and give each group a different regular polygon. They should calculate both the sum of the interior angles and the measure of each interior angle, then present their findings to the class.\n\n5.**Independent Practice**:\n - Problem 1: Calculate the sum of the interior angles of a decagon (10 sides).\n - Problem 2: Find the measure of one interior angle of a regular octagon (8 sides).\n - Problem 3: A polygon has an exterior angle of (30^\circ). How many sides does this polygon have?\n\nThese exercises will reinforce their understanding and allow them to apply formulas practically. | Conclude the lesson by reviewing the key concepts: the sum of interior angles, individual interior angles in regular polygons, and exterior angles. Ask students to reflect on how this knowledge could be applied in real life, such as in architecture or design. Clarify any misconceptions and encourage them to explore more complex polygons. |

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| **ASSESSMENTS** |  |
|  | Observe students during group activities and provide feedback on their calculations. Use questioning to assess understanding and clarify any errors. Provide immediate feedback during independent practice to ensure comprehension.  Ask students to draw a regular hexagon and calculate both the sum of its interior angles and the measure of each interior angle. Additionally, have them research a real-world application of polygons and write a short paragraph about it. |