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

|  |  |
| --- | --- |
| **WEEK ENDING** | 16th May, 2025 |
| **DAYS** | Monday - Friday |
| **DURATION** | 4 periods per class |
| **SUBJECT** | Mathematics |
| **STRAND** | Strand 3: Geometry and Measurement |
| **SUBSTRAND** | Substrand 3.2: Angles in a Polygon |
| **CLASS** | Basic Eight |
| **CLASS SIZE** | A(28) B(28) C(28) |
| **CONTENT STANDARD (ANNOTATION)** | * 3.2.1: Understand and calculate angles in polygons. |
| **LEARNING INDICATOR(S)** | * 3.2.1.1: Identify and calculate the sum of interior and exterior angles of polygons. |
| **PERFORMANCE INDICATOR(S)** | * Calculate the sum of interior angles of different polygons. * Determine the measure of each interior angle in a regular polygon. * Identify and calculate the sum of exterior angles in a polygon. |
| **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 * Sum * Vertex * Adjacent |
| **R.P.K** | Learners have previously studied basic shapes and their properties, including triangles and quadrilaterals. |

|  |  |  |
| --- | --- | --- |
| **PHASE 1: STARTER** | **PHASE 2: MAIN** | **PHASE 3: REFLECTION** |
| Begin the lesson by asking students to recall the different types of polygons they know. Pose the question: 'What do you notice about the angles as the number of sides of a polygon increases?' Use a quick drawing of a triangle and a pentagon to spark curiosity and discussion. | The objective of this lesson is to explore and understand how to calculate angles in polygons, focusing on both interior and exterior angles. We will begin by considering the sum of the interior angles. For any polygon with    sides, the sum of the interior angles can be calculated using the formula: \n\n\    \n\nThis formula is derived from the fact that a polygon can be divided into    triangles, each having a sum of angles equal to    . For example, a pentagon can be divided into 3 triangles, thus the sum of its interior angles is \n\n\    .\n\nNext, we explore regular polygons, where all sides and angles are equal. The measure of each interior angle in a regular polygon is given by:\n\n\    \n\nFor example, in a regular hexagon (6 sides), each interior angle measures:\n\n\    .\n\nMoving to exterior angles, the sum of the exterior angles of any polygon is always    , regardless of the number of sides. For regular polygons, each exterior angle can be calculated as:\n\n\    .\n\nFor instance, in a regular octagon (8 sides), each exterior angle is:\n\n\    .\n\nTo solidify understanding, we will engage in two interactive activities: 1) Use protractors to measure and verify the angles of drawn polygons. 2) Collaborate in groups to solve puzzles that require arranging angles to form specific polygons. \n\nFor independent practice, solve the following problems: 1) Calculate the sum of interior angles of a decagon. 2) Determine the measure of each interior angle of a regular decagon. 3) Verify the sum of exterior angles of a heptagon. | Conclude the lesson by reviewing key concepts and ensuring clarity on the formulas used. Ask students to explain in their own words why the sum of exterior angles is always    . Discuss real-life applications of these concepts, such as in architecture and design, where precise angle calculations are crucial. Encourage students to share any difficulties they encountered and clarify any misconceptions. |

|  |  |
| --- | --- |
| **ASSESSMENTS** |  |
|  | Observe student participation during group activities and check for understanding through their responses. Provide verbal feedback and offer one-on-one assistance where needed. Collect and review independent practice problems to assess individual comprehension.  For homework, students should find and measure the angles of a polygon they encounter in their environment, such as a table or a tile pattern. They should then calculate and verify the sum of the interior angles using the formula discussed in class. Write a short paragraph on their findings and any challenges faced. |