Geometry – Angles and Their Types

Common Core Standard: 4.G.A.1 – Recognize and measure angles.
A. GRADE LEVEL: 4th–5th grade
B. SUBJECT: STEM/Mathematics
C. DATE: [Insert date]
D. DURATION: 2 days
E. LESSON FOCUS:
Students will recognize and measure angles in both geometric figures and real-world objects. They will learn about the different types of angles and apply this knowledge in practical contexts.
F. MATERIALS:

- Whiteboard and markers
- Angle flashcards (with pictures of different angles)
- Protractors
- Printed worksheets with images of various angles
- Real-world objects (books, chairs, clocks, etc.)

G. LESSON OBJECTIVES: By the end of the lesson, students will be able to:

1. Identify and classify different types of angles (acute, right, obtuse, straight).
2. Measure angles using a protractor.
3. Apply their knowledge of angles to identify and measure angles in real-world objects.

H. PROCEDURES:

1. INTRODUCTION: Begin by explaining what an angle is. Define an **angle** as the space between two lines that meet at a point called the **vertex**. Use the whiteboard to draw different angles:

- **Acute Angle**: Less than 90°
- **Right Angle**: Exactly 90°
- **Obtuse Angle**: Greater than 90° but less than 180°
- **Straight Angle**: Exactly 180°
  Provide simple examples of each type of angle (e.g., corners of a book for right angles, hands of a clock for acute or obtuse angles).

2. EXPERIMENT:
Use real-world objects to demonstrate the angles in action. For example, point out angles in classroom furniture, clocks, or books. Have students use protractors to measure angles they find in the classroom or from provided objects.

3. OBSERVATION:
Students will work in pairs or small groups to measure angles using protractors. They will record the angle types and their measurements on their worksheets. While students are measuring, encourage them to compare the angles with different objects and identify their types (acute, right, obtuse, or straight).

4. GENERALIZATION:
After completing the measurements, bring the class together to discuss their findings. Ask students to share what they observed and how they identified each angle type. Discuss the

importance of recognizing angles in everyday objects and how this knowledge helps us understand the world around us. Reinforce that angles are found in many places, such as architecture, machinery, and nature.

5. ASSESSMENT:

- Observe students during their measurements to check for accuracy in identifying and measuring angles.
- Review their worksheets to ensure correct labeling and measurements.
- Administer a short quiz that asks students to identify angle types and measure given angles using a protractor.

Note 1 (Safety):

When using protractors and other measuring tools, remind students to handle these objects carefully to avoid injury. Ensure that students are aware of how to safely use the protractor by holding it steady while measuring angles. Supervise students closely to prevent any accidents.

Note 2 (Accommodation for ELL and ESE Students):

For English Language Learners (ELL) students, provide visual aids such as charts, diagrams, and flashcards to help them understand the different types of angles. Offer bilingual dictionaries or use peer support for clarification. For Exceptional Student Education (ESE) students, provide extra time to complete the activities and use simplified language in instructions. Pair students with strong peers for collaborative learning. Additionally, students who need support can work in smaller groups for focused instruction.