

Lesson 1: Introduction to Parallel Lines

Objective: Students will recall the concept of parallel lines and understand their properties.

Materials: Scale, set square, paper, pencil.

Activities:

1. **Recap Discussion:** Discuss what students learned about parallel lines in Grade 6.
 - Definition: Lines that do not meet and maintain the same distance.
 - Examples from daily life.
2. **Drawing Activity:** Have students draw parallel lines using a scale and set square.
3. **Classwork:**
 - Define and explain the properties of parallelograms.
 - Draw a parallelogram with given measurements (e.g., 3 cm by 3 cm).

Homework: Draw different parallelograms and label their sides.

Lesson 2: Lines and Angles

Objective: Students will understand the formation of angles when lines intersect and learn to identify and measure these angles.

Materials: Protractor, scale, paper, pencil.

Activities:

1. **Angle Formation:** Demonstrate how angles are formed when one line crosses another.

2. Angle Measurement:

- Use a protractor to measure the angles formed.
- Discuss the properties: two small angles are equal, two large angles are equal, sum of one small and one large angle is 180° .

3. Classwork:

- Draw intersecting lines and measure the angles.
- Change the position of intersecting points and observe changes.

Homework: Practice measuring different sets of intersecting lines.

Lesson 3: Angles with Parallel Lines

Objective: Students will learn the relationships between angles formed when a transversal cuts parallel lines.

Materials: Protractor, scale, colored pencils, paper.

Activities:

1. **Drawing Activity:** Draw two parallel lines and a transversal.

2. Angle Identification:

- Identify and measure the eight angles formed.
- Color code the corresponding angles and alternate angles.

3. Classwork:

- Identify relationships: corresponding angles are equal, alternate interior angles are equal, co-interior angles sum to 180° .

Homework: Draw different sets of parallel lines with transversals and identify the angles.

Lesson 4: Angle Relationships in Parallelograms

Objective: Students will explore angle relationships in parallelograms.

Materials: Protractor, scale, paper, pencil.

Activities:

1. **Review:** Discuss the properties of parallelograms from previous lessons.
2. **Angle Calculation:** Calculate unknown angles in parallelograms given one angle.
 - Example: Given one angle is 55° , calculate the other angles.
3. **Classwork:**
 - Draw a parallelogram with given side lengths and calculate all angles.
 - Change vertex positions and observe angle changes.

Homework: Solve angle problems in different parallelograms.

Lesson 5: Corresponding and Alternate Angles

Objective: Students will deepen their understanding of corresponding and alternate angles.

Materials: Protractor, scale, paper, pencil.

Activities:

1. **Definition and Examples:** Define corresponding and alternate angles with diagrams.
2. **Classwork:**
 - Draw a set of parallel lines with a transversal.

- Identify and label corresponding and alternate angles.
 - Verify angle measures using a protractor.
3. **Interactive Activity:** Change the angle of the transversal and observe the effect on angle measures.

Homework: Draw parallel lines and identify corresponding and alternate angles with different transversal angles.

Lesson 6: Interior and Exterior Angles

Objective: Students will learn about interior and exterior angles formed by parallel lines and a transversal.

Materials: Protractor, scale, paper, pencil.

Activities:

1. **Explanation:** Discuss interior and exterior angles with examples.
2. **Classwork:**
 - Draw parallel lines cut by a transversal and identify interior and exterior angles.
 - Calculate the sum of co-interior and co-exterior angles.
3. **Group Activity:** Solve angle problems in groups, verifying results with a protractor.

Homework: Identify and calculate interior and exterior angles in different diagrams.

Lesson 7: Sum of Angles in Triangles

Objective: Students will connect the concept of parallel lines to the sum of angles in triangles.

Materials: Protractor, scale, paper, pencil.

Activities:

1. **Triangle Properties:** Review the properties of triangles.
2. **Drawing Activity:** Draw a triangle and a parallel line to one of its sides.
 - Use this to explain the sum of angles in a triangle.
3. **Classwork:**
 - Calculate the sum of angles in different triangles.
 - Discuss how the sum of angles is always 180° .

Homework: Solve problems involving angle sums in triangles.