Lesson 6: Hierarchy of Quadrilaterals

Standards Alignments

Addressing	5.G.B.3, 5.G.B.4
Building Towards	5.G.B.3

Teacher-facing Learning Goals

- Classify parallelograms in a hierarchy based on angle measurements and side lengths.
- Explain why a square is also a rhombus.

Student-facing Learning Goals

- Let's explore the hierarchy of quadrilaterals.

Lesson Purpose

The purpose of this lesson is for students to continue to build the hierarchy of quadrilaterals. Students use categories and subcategories to see that if a shape is a square it is also a rhombus and also a parallelogram.

The purpose of this lesson is for students to first relate squares and rhombuses and then relate rectangles and parallelograms. They see that if a shape is a square then it is also a rhombus and if a shape is a rectangle then it is also a parallelogram. But there are rhombuses that are not squares and there are parallelograms that are not rectangles. Students record these observations on the anchor chart from previous lessons. This gives students a chance to organize the quadrilaterals in a hierarchy and highlight the relationships they see between the properties of the shapes they worked with in this lesson. Students should have access to straight edges, protractors, and patty paper throughout this lesson.

When students define shapes and make explicit connections between shapes and categories, they reason abstractly and quantitatively (MP2).

Access for:

Students with Disabilities

- Representation (Activity 2)

Instructional Routines

MLR3 Clarify, Critique, Correct (Activity 2), Notice and Wonder (Warm-up)

Materials to Gather

- Toothpicks: Activity 1

Required Preparation

- Gather diagram from a previous lesson.

Lesson Timeline

Warm-up	10 min
Activity 1	15 min
Activity 2	20 min
Lesson Synthesis	10 min
Cool-down	5 min

Teacher Reflection Question

What surprised you about student thinking in Activity 2?

Cool-down (to be completed at the end of the lesson)

5 min

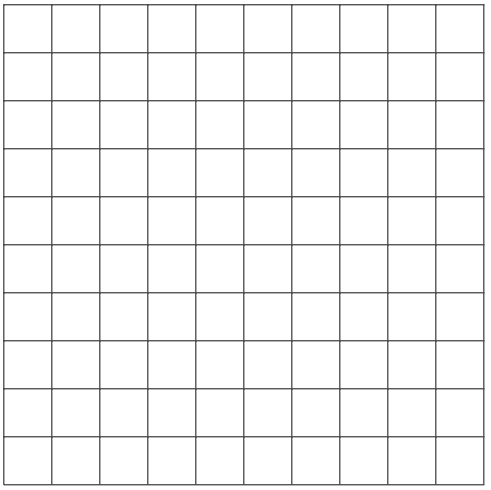
Rhombuses as Parallelograms

Standards Alignments

Addressing 5.G.B.3

Student-facing Task Statement

Explain why a rhombus is always a parallelogram. Use the grid if it is helpful.



Student Responses

A rhombus is always a parallelogram because its opposite sides are parallel. If I draw a rhombus on a grid I can see that the opposite sides will never meet even if the lines are extended in both directions.