

Teacher Name: Danielle Love

Subject/Grade Level: Geometry

## PART I: LESSON PREVIEW

Unit: Quadrilaterals

Lesson duration: One ninety-minute block

Summary/description of lesson: Quadrilateral Overview/Introduction

## PART II: LESSON BACKGROUND

Primary Objectives:

 Virginia Geometry SOL G.9 The student will verify characteristics of quadrilaterals and use properties of quadrilaterals to solve real-world problems.

Secondary Objectives:

- Explore different types of quadrilaterals and start to become familiar with their properties.
- Learn key vocabulary to aid in understanding of quadrilateral characteristics.

Pre-Assessment(s): Students will fill in a Thinking Map of their prior knowledge of each quadrilateral's properties. Preassessment will be given during this ninety-minute block.

Formative assessments:

• "Classifying Quadrilaterals" worksheet that accompanies the Classifying Quadrilaterals Gizmo.

Summative assessment: A packet of three free-response questions will be assigned today but due at the end of the unit. The free-response questions target real-world application problems, also incorporating authentic learning experiences.

## PART II: LEARNING TARGETS (ALL STUDENTS)

Know	Understand	Be Able to Do
• Properties of quadrilaterals (parallelogram, rectangle, rhombus, square, isosceles trapezoid, trapezoid, kite).	<ul> <li>Quadrilaterals have a hierarchical nature based on relationships between sides, angles, and diagonals.</li> <li>Properties of quadrilaterals can be used to identify the quadrilateral and find the measures of sides and angles.</li> </ul>	<ul> <li>Solve problems using properties specific to parallelograms, rectangles, rhombi, squares, isosceles trapezoids, trapezoids, and kites.</li> <li>Prove quadrilaterals have specific properties using deductive reasoning, algebraic, and coordinate methods (distance, midpoint, and slope formulas).</li> </ul>



## PART III: LEARNING TIERS

Identification of tiers based on pre-assessment data			
(describe what you will do to help students master content objectives for each tier)			
Tier 1	Tier 1 Tier 2 Tier 3		
(Enhanced)	(Target)	(Prerequisite)	

# PART IV: INSTRUCTIONAL AND ENGAGEMENT STRATEGIES

Instructional Strategies (Check All That Apply)	Qualities of Engaging Work (Check All That Apply)
☐ Identify similarities and differences	Personal response
Describe Activity: Through Gizmo exploration of each	Describe Activity: The free-response
shape, students will begin to identify shapes with	questions/authentic learning activities throughout the
similar and different properties	unit will provide students an opportunity to incorporate their background knowledge to responses.
Summarizing and note-taking	
Describe Activity: While completing the Gizmo, students	Clear/modeled expectations
will be summarizing their exploration on a worksheet.	Describe Activity: Students will learn new vocabulary
Also, students will take notes on vocabulary that is	terms. These are terms that will be modeled throughout
essential to understanding quadrilateral characteristics.	the entire unit. Students are expected to use them as
	they are being modeled.
L Reinforcing effort and providing recognition	
Describe Activity:	L Emotional/Intellectual safety
	work at their own pace to complete a Classifying
L Homework and practice	Quadrilaterals Gizmo activity.
as they explore the Classifying Quadrilaterals Gizmo	
as they explore the olassifying Quadmaterals Oizmo.	Learning with others
Nonlinguistic representations	Describe Activity: Partners will look up and/or create
Describe Activity: Students will have many	definitions suitable for each vocabulary word.
opportunities to translate guadrilateral properties to	
pictures.	☐ Sense of audience
	Describe Activity:
Cooperative learning	
Describe Activity:	Choice
	Describe Activity: Within the Classifying Quadrilaterals
Setting objectives and providing feedback	Gizmo activity, students are able to drag angles and
Describe Activity:	create different types of quadrilaterals.



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LESSON DESIGN

Generating and testing hypotheses	□ Novelty and variety
Describe Activity: <i>Students will be generating and</i>	Describe Activity: The Classifying Quadrilaterals Gizmo
<i>testing hypotheses as they explore the Classifying</i>	activity provides a unique opportunity for students to
<i>Quadrilaterals Gizmo.</i>	explore the properties of each quadrilateral.
□ Cues, questions, and advance organizers Describe Activity: Students will complete a worksheet as they explore the Classifying Quadrilaterals Gizmo. Also, to prepare for the remainder of the unit, students will be creating a foldable with Thinking Maps to organize	☐ Authenticity Describe Activity: The free-response questions due at the end of the unit provide students with a real-world and authentic learning experience.

## **PART V: PROCEDURES**

	Teacher Actions	Student Actions	Materials/Resources (including technology)	Time
Warm up/Activating Prior Knowledge/Emotional Hook	Guide students through learning new vocabulary and placing the definitions in their foldable notes.	Students provide definitions for new vocabulary by searching through textbook and/or creating definitions with partners.	<ul> <li>Foldable notes*</li> <li>Textbook</li> <li>*see attachments in unit plan binder</li> </ul>	15 min
Teacher Input	Set-up and demonstrate the Classifying Quadrilaterals Gizmo activity.	Students login, locate, and become comfortable with the Classifying Quadrilaterals Gizmo activity.	<ul> <li>Laptop with access to internet (<u>www.explorelearning.com</u></li> </ul>	10 min
Guided Student Practice	See independent practice	See independent practice	See independent practice	
Independent Student Practice	Assist students with completion of the Classifying Quadrilaterals Gizmo activity.	Students complete the Classifying Quadrilaterals Gizmo activity while filling out accompanying worksheet.	<ul> <li>Laptop with access to internet (www.explorelearning.com</li> <li>Classifying Quadrilaterals Gizmo activity worksheet*</li> <li>*see attachments in unit plan binder</li> </ul>	30 min
Lesson Synthesis through Review (with opportunity to Analyze, Evaluate, and Create)	Provide each student with free-response packet (3 short answer questions with parts related to real-world experience)	Students should complete the free- response questions throughout the unit, with due date on the day of the test.	Free-response question packet* *see attachments in unit plan binder	30 min

## PART VI: PRE-PLANNED GUIDING QUESTIONS

Bloom's Level	Question Exemplars	Acceptable Student Responses
	(Specific to Unit)	(Must Match Level of Questioning)
Knowledge	1. What is a shape with 3 sides called?	1. Triangle
	2. Can you name a shape with 4 sides?	2. Quadrilateral, parallelogram, rectangle,
Comprehension	Why do you think a triangle is called this?	Because "tri" means three and it is a shape with three angles.
Application	What have you seen today that is a shape with 4 sides?	Answers open to anything that fits the quadrilaterals listed above.
Analysis	<ol> <li>How are opposite angles related to each other?</li> <li>How are consecutive angles related to each other?</li> </ol>	<ol> <li>Opposite angles are congruent.</li> <li>Consecutive angles are supplementary.</li> </ol>
Synthesis	Drag angles to see other parallelograms. What are three characteristics of parallelograms?	Three answers from the following list: opposite angles congruent, opposite sides congruent, opposite sides parallel, diagonals bisect each other, consecutive angles supplementary
Evaluation	1. Measure the opposite pairs of opposite sides.	1. and 2. Answers open to measurements dependent on the parallelogram they
	2. Measure the opposite pair of angles.	designed, as long as the measures are equal.

### PART VII: TEACHER SELF-EVALUATION AND REFLECTION ON LESSON PLANNING AND DELIVERY

Strengths of Lesson	Opportunities for Growth
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