Katrice Wilson
sson Plan: Review Day

University of Chicago School Math Project

Mathematical Goals and objectives;
Students will review and discuss material from previous lessons.

Standards (NCTM and MI) addressed:
- G1.4.3 Describe and justify hierarchical relationships among quadrilaterals.
- precisely describe, classify, and understand relationships among types of two- and three-dimensional objects using their defining properties; draw geometric objects with specified properties, such as side lengths or angle measures.
- explore relationships (including congruence and similarity) among classes of two- and three-dimensional geometric objects, make and test conjectures about them, and solve problems involving them

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I. Engagement Block (Launch)	**5-10 min**

Overview: Teacher modeling of the problem of the day. The teacher equips the students to work on the problem that they will be tackling in the next block.

Teacher will begin by reviewing/discussing homework with students from 10/29 (Shapemaker Mysteries). Ask students to tell and explain their responses to the mysteries. Students will explain which shape they thought was guilty and which shapes they thought were not guilty, and how they came to that answer. (10 minutes; 9:05-9:15).

Teacher Roles/Behaviors: Modeling, explaining, demonstrating, describing, predicting, representing, and checking for understanding.
Student Roles/Behaviors: Listening, predicting, observing, and gathering information about the problem.

15-20 min

udents engage in mathematical problem-solving, usually working cooperatively.

Teacher will distribute the Unit 4 review packet, provided by the classroom teacher, to students to work on with a partner or by themselves. (20 Minutes; 9:15-9:35). Before beginning the review packet, students will get laptops off of the C.O.W. Teacher and students will review and discuss the review assignment and explain a few of their answers (10 minutes; 9:35-9:45). Teacher will then ask students if they have any questions over the unit. Teacher will then distribute the Shapemaker activity packets and allow students time to begin working on the packets with a partner or individually (15 minutes; 9:45-10:00). Teacher will walk around, observe, and ask questions.

Teacher Roles/Behaviors: Questions, facilitates, coaches, clarifies, listens, observes, and assesses.
Student Roles/Behaviors: Problem-solves, analyzes, directs/leads, writes, describes, creates, constructs, collects, represents, explains, questions, and listens.

Overview: Student and Teacher Sharing. Students, with partners or in their cooperative groups, recount their solution for the problem highlighting their strategies and representations. Class definitions for new vocabulary can be formally recorded during this block. The teacher usually concludes this block, drawing connections between student work (by questioning students if possible), and emphasizing student work that addresses content objectives or course goals. Emphasis tends to be on *how* the problem was solved and whether the solution *makes sense* than on a literal right or wrong.

The teacher and students will discuss/review the Shapemakers activities packet. The students will choose which activities they would like to review and as a group they will share their findings and briefly explain how they came up with their answers (5 minutes; 10:00-10:05).

Teacher Roles/Behaviors: Questions, listens, coaches, clarifies, leads, assesses, supports, nurtures love of mathematics and problem solving, always looking for multiple ways of representing similar problems, synthesizing, summarizing, thinks õout loud.ö
Student Roles/Behaviors: Leads, explains, analyzes, generalizes, compares, represents, communicates, clarifies while peers and teacher actively listen and ask clarifying questions. There would be a speaking and listening rubric that corresponds to this block.
Materials: Manipulatives needed to represent problem and white board.

gies, operations, and representations to additional problems with or without text.

If there is time at the end of the class period, students will be given the Isosceles Trapezoid worksheet to work on using Geogebra (time is open). If there is no time left, students will be encouraged to complete the Isosceles Trapezoid outside of class. Students will also be assigned the review worksheet as homework to study for the Unit 4 test.

Teacher Roles/Behavior: Introduction, conferences, assesses, works 1 on 1 or with a homogeneous small group.
Student Roles/Behavior: Applies new knowledge of operations, representations or strategies to different problems, developing accuracy and fluency, reviewing and practicing skills.
Materials: Problems that connect and support õProblem of the Day.ö (Possible sources: Math Central, DCR Practice Books, teacher/student generated, or other sources.) Game or station materials as needed, other manipulatives, timer.

Unit 4-Review

on page 32 of your book) if BE=15, m<BCA=30, and m<DAC=50, find as many other angle measures and lengths as you can.

2. A. In the space below draw a regular quadrilateral.

    B. What is the name of the quadrilateral you drew? Be as specific as possible.

3. In the space below, draw the hierarchy relating the following: Kite, Parallelogram, Rectangle, Rhombus, and Square.

4. A-G. For A-G below state whether the statement is True or False and justify your answer,
    A. Every square is a rhombus.

    B. Every rhombus is a square.

    C. Every square is a kite.

    D. Every kite is a rhombus.

    E. If a quadrilateral has three sides of equal length, then it is a kite.

    F. A property of every square is a property of every trapezoid.

G. A property of every trapezoid is a property of every parallelogram.

5. If in an isosceles trapezoid ABCD with bases AB and CD, and m<A=120 and m<D=60, what is the measure of angles B and C? (Please draw and label figure below).

6. In the space below, draw and label the properties of a Kite, Isosceles Trapezoid, Trapezoid, Rhombus, Parallelogram, Square, and Rectangle.

7. Draw and label the lines of symmetry for a regular heptagon, decagon, hexagon, kite, parallelogram, rhombus, square, and trapezoid (both Isosceles and regular).

hape Makers (2003) by Battista)

uadrilateral mansion. The seven people who live in the

n change their shape and size but only to a shape that is made

urred, the shapes in the mansion looked as follows in the mansion's security camera. Examine the *evidence*, which includes the camera pictures below and the following clues:

Clue 1 – The theft occurred in the parlor

Clue 2 - People who are always right are in the same room.

Clue 3 – A well balanced person (who always has two lines of symmetry) was out of the mansion at the time of the theft.
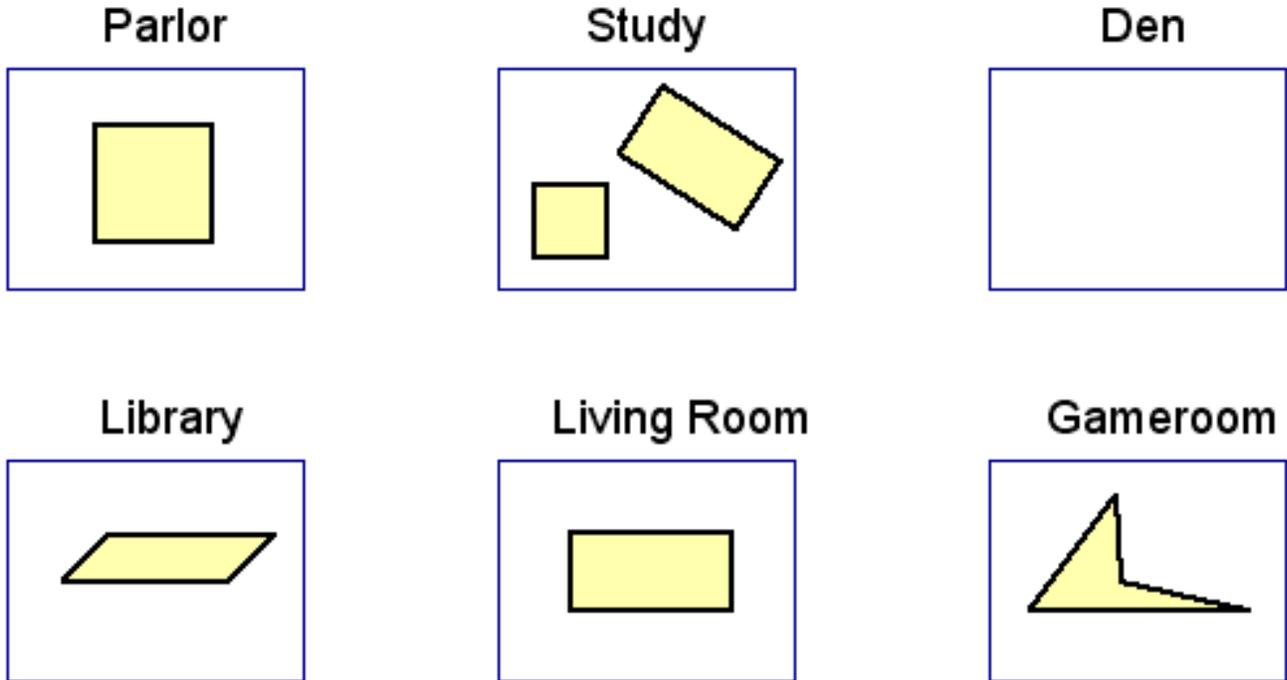
Parlor

Study

Den

### Library

Living Room

Gameroom

First **identify the thief** and write an argument why the person you accused of being the thief is guilty. Then **give an "alibi"** (reasons based on the *evidence* that explain their innocence) for all the other shapes by explaining why they cannot be the thief.

	Identify the guilty person and give an alibi for the rest.
Sudha Square (Square Maker)	
Rectangle Rick (Rectangle Maker)	
Kaneisha Kite (Kite Maker)	
Parallelogram Pete (Parallelogram Maker)	
Trapezoid Tracy (Trapezoid Maker	
Ricardo Rhombus (Rhombus Maker)	
Quentin Quad (Quadrilateral Maker)	

idence, **which includes the camera pictures below and the**

...oom

2. People in the parlor and game room always have at least two equal sides
3. At the time of the theft, one person was at the airport, unstrung because there was not enough wind to fly.
4. The person in the study always has at least two lines of symmetry but sometimes exactly two.
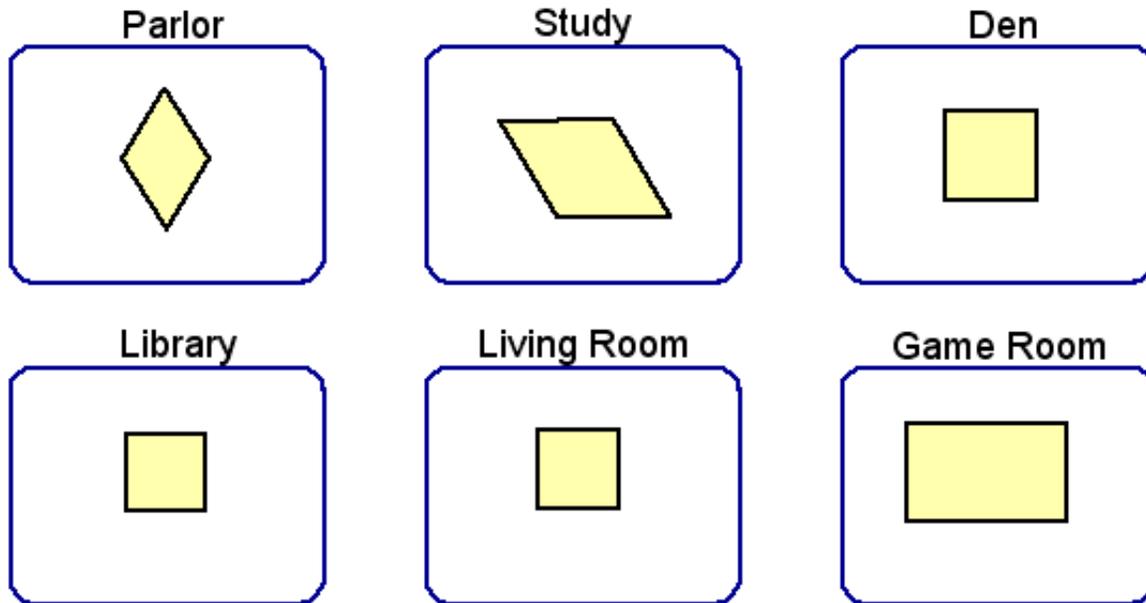
Parlor	Study	Den

Library	Living Room	Game Room

First **identify the thief** and write an argument why the person you accused of being the thief is guilty. Then **give an "alibi"** (reasons based on the *evidence* that explain their innocence) for all the other shapes by explaining why they cannot be the thief. In each alibi, name the room you think the shape is in. (There may be more than one room for a shape so alibis may differ).

	Identify the guilty person and give an alibi for the rest.
Sudha Square (Square Maker)	
Rectangle Rick (Rectangle Maker)	
Kaneisha Kite (Kite Maker)	
Parallelogram Pete (Parallelogram Maker)	
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