Eureka Math

3rd Grade
Module 7
Lesson 4

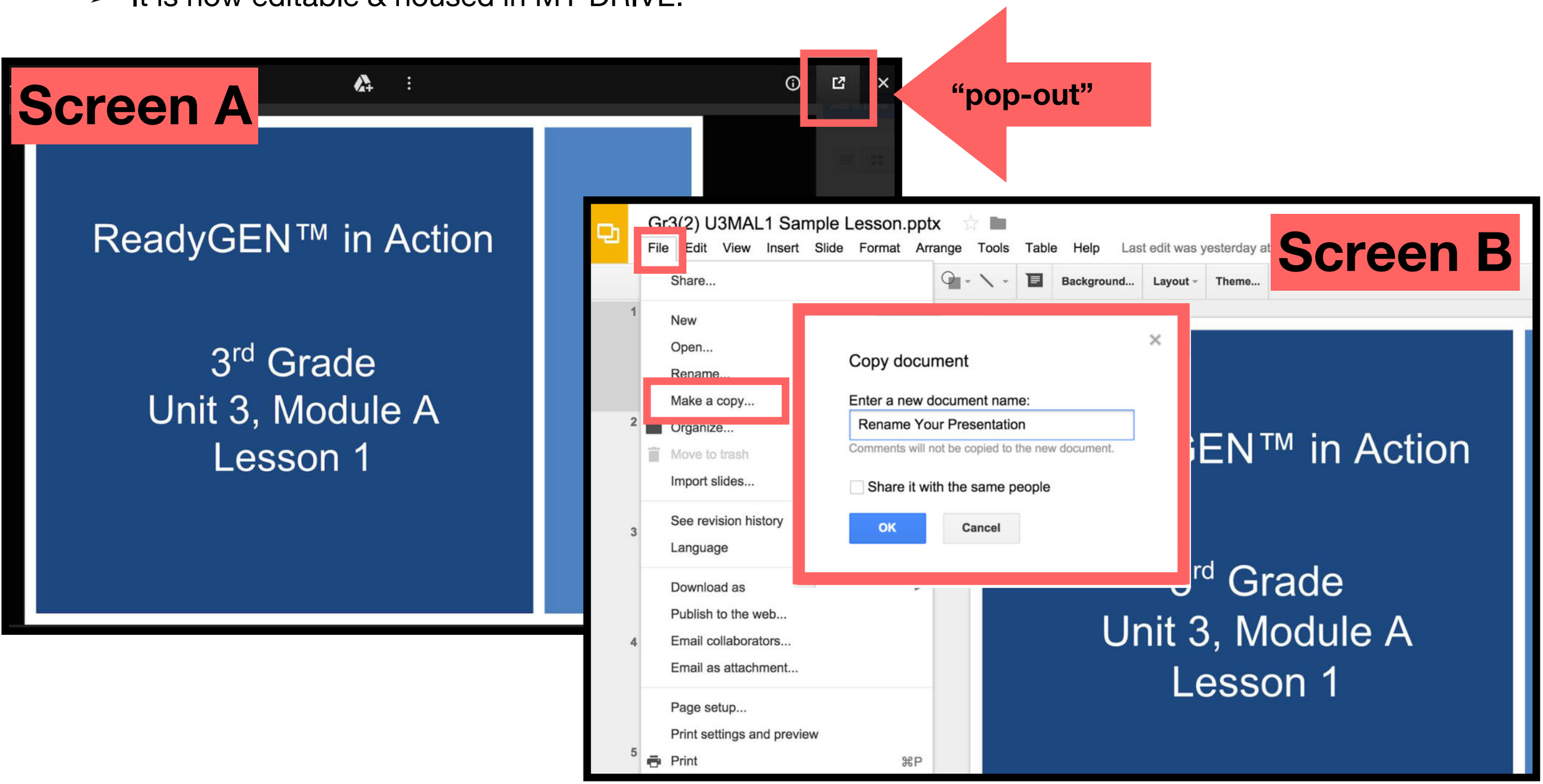
At the request of elementary teachers, a team of Bethel & Sumner educators met as a committee to create Eureka slideshow presentations. These presentations are not meant as a script, nor are they required to be used. Please customize as needed. Thank you to the many educators who contributed to this project!

Directions for customizing presentations are available on the next slide.

Customize this Slideshow

Reflecting your Teaching Style and Learning Needs of Your Students

- ➢ When the Google Slides presentation is opened, it will look like Screen A.
- ➢ Click on the “pop-out” button in the upper right hand corner to change the view.
- ➢ The view now looks like Screen B.
- ➢ Within Google Slides (not Chrome), choose FILE.
- ➢ Choose MAKE A COPY and rename your presentation.
- ➢ Google Slides will open your renamed presentation.
- ➢ It is now editable & housed in MY DRIVE.



Icons

Read, Draw, Write

Learning Target

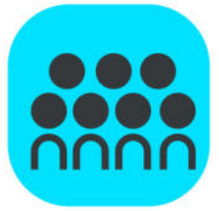
Personal White Board

Problem Set

Manipulatives Needed

Fluency

Think Pair Share



Whole Class

Individual

Partner

Small Group

Small Group Time

Lesson 4

Objective: Compare and classify quadrilaterals.

Suggested Lesson Structure

Fluency Practice	(12 minutes)
Application Problem	(7 minutes)
Concept Development	(31 minutes)
Student Debrief	(10 minutes)
Total Time	**(60 minutes)**

I can compare and classify quadrilaterals.

Fluency Practice

Multiply by 4 (8 min.)

7 × 4 = ____

Let’s skip-count up by fours.

4, 8, 12, 16, 20, 24, 28.

Let’s skip-count up by fours starting at 20. Why is 20 a good place to start?

20 (5 fingers), 24 (6 fingers), 28 (7 fingers).

Fluency Practice

Multiply by 4 (8 min.)

7 × 4 = ____

Let’s see how we can skip-count down to find the answer, too. Start at 40 with 10 fingers, 1 for each four.

40 (10 fingers), 36 (9 fingers), 32 (8 fingers), 28 (7 fingers).

7 × 4 = 28

Fluency Practice

Multiply by 4 (8 min.)

9 × 4 = ____

Let’s skip-count up by fours.

4, 8, 12, 16, 20, 24, 28, 32, 36.

Let’s skip-count up by fours starting at 20. Why is 20 a good place to start?

20 (5 fingers), 24 (6 fingers), 28 (7 fingers), 32 (8 fingers), 36 (9 fingers).

Fluency Practice

Multiply by 4 (8 min.)

9 × 4 = ____

Let’s see how we can skip-count down to find the answer, too. Start at 40 with 10 fingers, 1 for each four.

40 (10 fingers), 36 (9 fingers).

9 × 4 = 36

Fluency Practice

Multiply by 4 (8 min.)

6 × 4 = ____

Let’s skip-count up by fours.

4, 8, 12, 16, 20, 24.

Let’s skip-count up by fours starting at 20. Why is 20 a good place to start?

20 (5 fingers), 24 (6 fingers).

Fluency Practice

Multiply by 4 (8 min.)

6 × 4 = ____

Let’s see how we can skip-count down to find the answer, too. Start at 40 with 10 fingers, 1 for each four.

40 (10 fingers), 36 (9 fingers), 32 (8 fingers), 28 (7 fingers), 24 (6 fingers).

6 × 4 = 24

Fluency Practice

Multiply by 4 (8 min.)

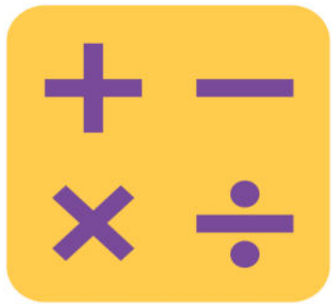
8 × 4 = ____

Let’s skip-count up by fours.

4, 8, 12, 16, 20, 24, 28, 32.

Let’s skip-count up by fours starting at 20. Why is 20 a good place to start?

20 (5 fingers), 24 (6 fingers), 28 (7 fingers), 32 (8 fingers).



Fluency Practice

Multiply by 4 (8 min.)

8 × 4 = ____

Let’s see how we can skip-count down to find the answer, too. Start at 40 with 10 fingers, 1 for each four.

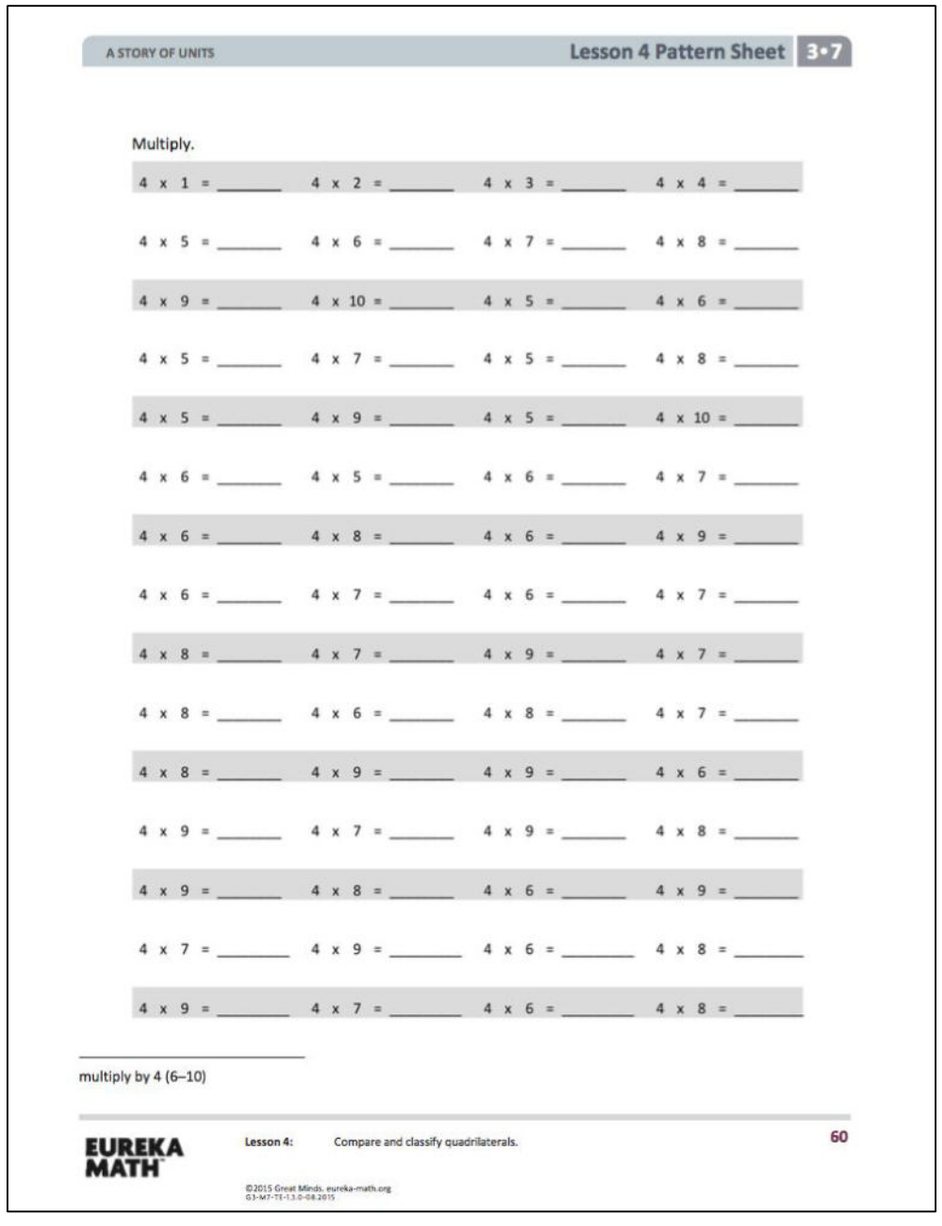
40 (10 fingers), 36 (9 fingers), 32 (8 fingers).

8 × 4 = 32

Fluency Practice

Multiply by 4 (8 minutes)

Let’s practice multiplying by 4. Be sure to work left to right across the page.



A STORY OF UNITS — Lesson 4 Pattern Sheet 3•7

Multiply.

4 x 1 = _____	4 x 2 = _____	4 x 3 = _____	4 x 4 = _____
4 x 5 = _____	4 x 6 = _____	4 x 7 = _____	4 x 8 = _____
4 x 9 = _____	4 x 10 = _____	4 x 5 = _____	4 x 6 = _____
4 x 5 = _____	4 x 7 = _____	4 x 5 = _____	4 x 8 = _____
4 x 5 = _____	4 x 9 = _____	4 x 5 = _____	4 x 10 = _____
4 x 6 = _____	4 x 5 = _____	4 x 6 = _____	4 x 7 = _____
4 x 6 = _____	4 x 8 = _____	4 x 6 = _____	4 x 9 = _____
4 x 6 = _____	4 x 7 = _____	4 x 6 = _____	4 x 7 = _____
4 x 8 = _____	4 x 7 = _____	4 x 9 = _____	4 x 7 = _____
4 x 8 = _____	4 x 6 = _____	4 x 8 = _____	4 x 7 = _____
4 x 8 = _____	4 x 9 = _____	4 x 9 = _____	4 x 6 = _____
4 x 9 = _____	4 x 7 = _____	4 x 9 = _____	4 x 8 = _____
4 x 9 = _____	4 x 8 = _____	4 x 6 = _____	4 x 9 = _____
4 x 7 = _____	4 x 9 = _____	4 x 6 = _____	4 x 8 = _____
4 x 9 = _____	4 x 7 = _____	4 x 6 = _____	4 x 8 = _____

multiply by 4 (6–10)

EUREKA MATH — Lesson 4: Compare and classify quadrilaterals. 60

Fluency Practice

Equivalent Counting with Units of 5 (4 minutes)

Count to 10 as I write. Please do not count faster than I can write.

(Write as students count.)

1, 2, 3, 4, 5, 6, 7, 8, 9, 10.

Count to 10 fives. (Write as students count.)

1 five, 2 fives, 3 fives, 4 fives, 5 fives, 6 fives, 7 fives, 8 fives, 9 fives, 10 fives.

Fluency Practice

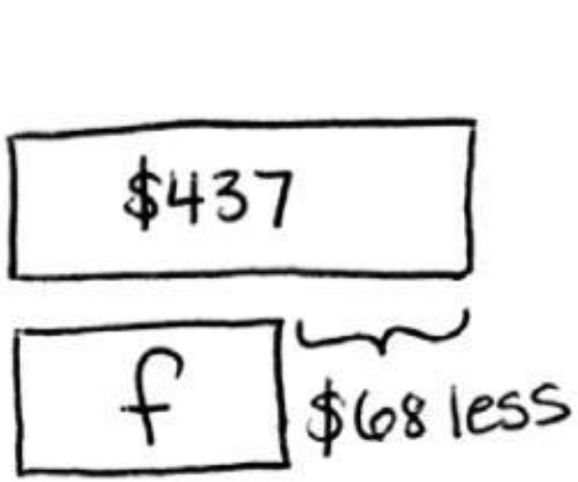
Equivalent Counting with Units of 3 (4 minutes)

1	2	3	4	5	6	7	8	9	10
1 five	2 fives	3 fives	4 fives	5 fives	6 fives	7 fives	8 fives	9 fives	10 fives
5	10	15	20	25	30	35	40	45	50
1 five	10	3 fives	20	5 fives	30	7 fives	40	9 fives	50
5	2 fives	15	4 fives	25	6 fives	35	8 fives	45	10 fives

Application Problem

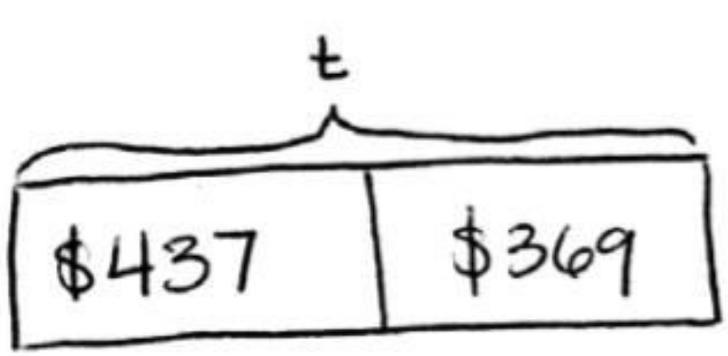
The third graders raised $437 in a fundraiser. The fourth graders raised $68 less than the third graders. How much money did the two grade levels raise altogether?

Application Problem



12
3 13 17
4 3 7

\- 68
369



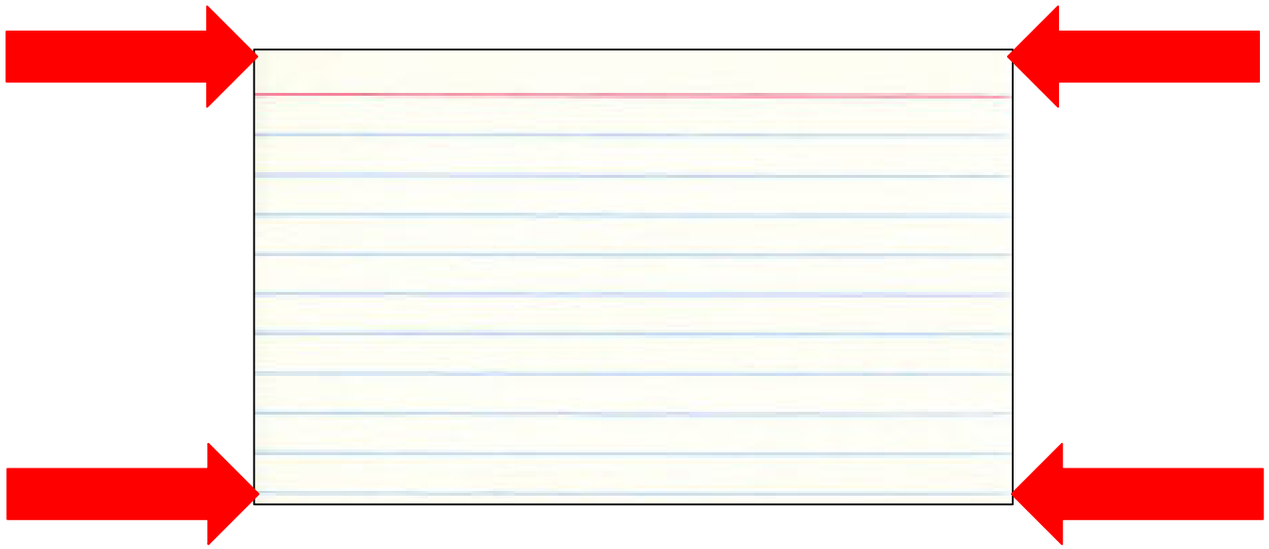
437
+ 369
806

The 2 grade levels raise $806 altogether.

Concept Development

Part 1: Group polygons by attributes.

We'll use these cards as tools. Put a finger on each corner.

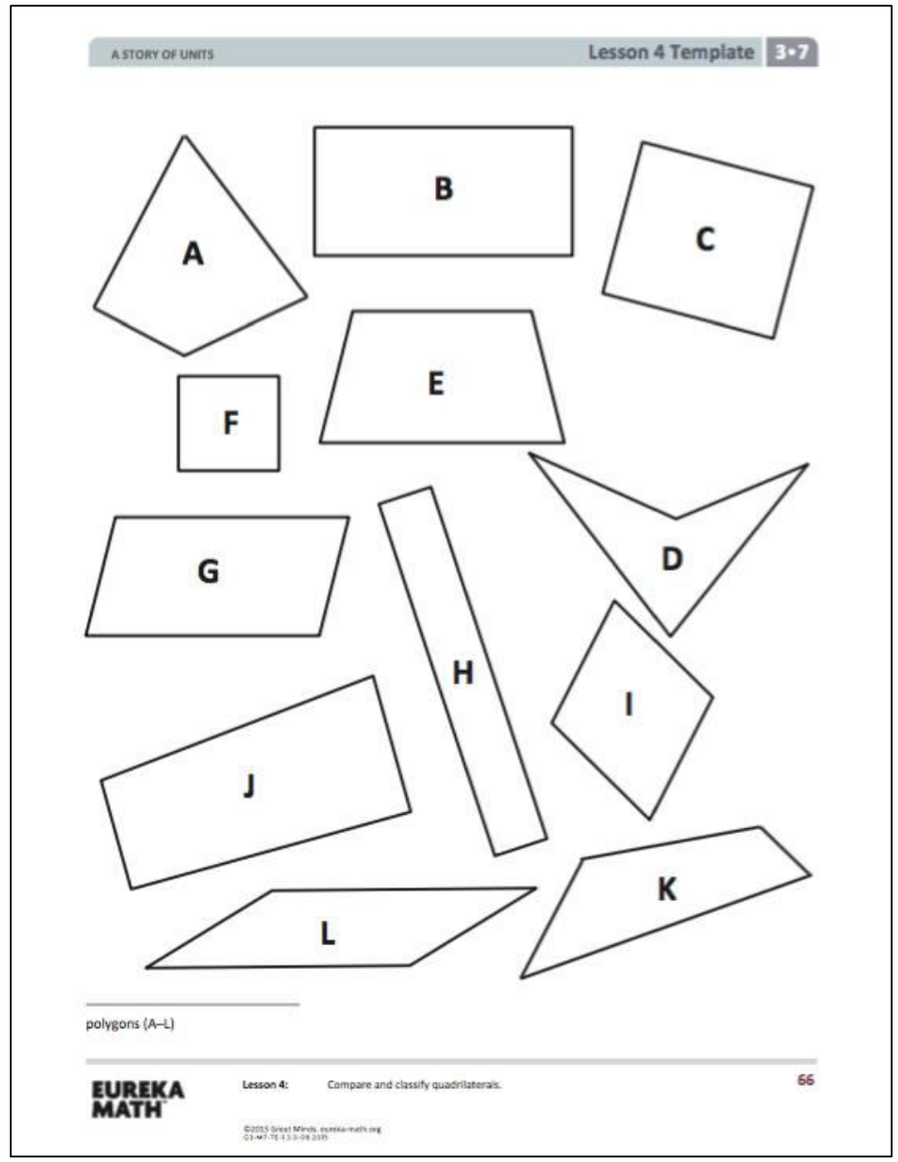


Remember from second grade that we call the point where sides meet to make a corner an angle. These are right angles because they have square corners. We'll use our cards as right angle tools to help us find other shapes that have right angles.

Concept Development

Now, cut out shapes A–L on your template.

Look at your shapes. Discuss with a partner: What are some different ways we can group these shapes together?



Concept Development

We can group them by name, like all the squares together.

We can group them by the number of sides.

We can also group them by the number of angles.

Concept Development

Remember from second grade that closed shapes like these that have no gaps or overlaps between the straight sides are called polygons.

Polygons with four straight sides are called **quadrilaterals**.

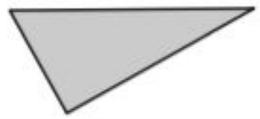
Tell your partner what a quadrilateral is, and then find and group the quadrilaterals.

Concept Development

What do you notice about the polygons you grouped?

The polygons look different, but they share the attributes of having four sides and four angles. Complete the first row of the chart on the Problem Set. Make sure to sketch one polygon from the group.

1. Cut out all the polygons (A–L) in the Template. Then, use the polygons to complete the following chart.

Attribute	Write the letters of the polygons in this group.	Sketch 1 polygon from the group.
Example: **3 Sides**	Polygons: Y, Z	
4 Sides	Polygons:	

Concept Development

Next, we'll find and group **trapezoids.**

These are quadrilaterals that have at least one set of **parallel sides**.

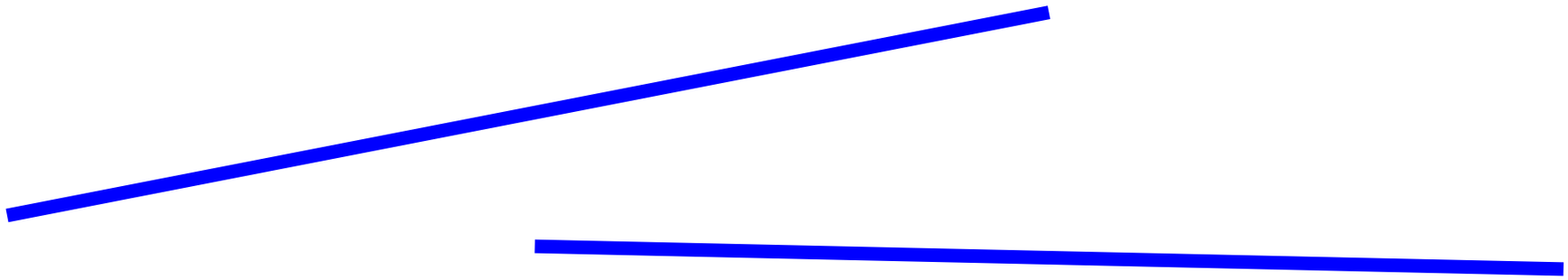
Think of parallel sides like the two side lines of a capital H, or a slanted H, since not all parallel sides stand vertical.

Concept Development

Imagine these two lines go on forever. Do you think they will ever cross? Why or why not?

Concept Development

These lines are not touching. Are they parallel? Why or why not?



Concept Development

If trapezoids must have at least one set of parallel sides, can they have more than one set?

Group the trapezoids. Complete the second row of the chart on the Problem Set. Make sure to sketch one polygon from the group.

At Least 1 Set of Parallel Sides	Polygons:	

Concept Development

Now we'll find and group parallelograms. These are four-sided polygons that have two sets of parallel sides.

Group the parallelograms. Then, complete the next row of the chart on your Problem Set.

2 Sets of Parallel Sides	Polygons:	

Concept Development

Now, use your right angle tool to measure and group all the polygons that have four right angles. Then, complete the chart.

4 Right Angles	Polygons:	

Concept Development

Next, find and group all the squares.

Which attributes make squares special?

Use your ruler and right angle tool to confirm that with these polygons. Then, complete the chart.

4 Right Angles and 4 Equal Sides	Polygons:	

Concept Development

Part 2: Analyze quadrilaterals.

In our set of polygons A–L, why did the number of polygons get smaller as we added attributes?

As the attributes become more specific, fewer shapes in our set share all of the attributes. Look at Polygons C and F. They are included in every group. Why do you think that is?

Concept Development

Why aren’t Polygons B and H included in the last category? These specific rectangles have four sides, two sets of parallel lines, and four right angles.

Look at Polygon I. It has four equal sides and two sets of parallel lines. Why isn’t it included in the last category?

Let’s make a new category, one that has shapes with 4 equal sides. Work with your partner.

Concept Development

Move Polygons C, F, and I to form a new group.

A shape with 4 equal sides is called a **rhombus**.

Why is a square a rhombus?

Why isn’t shape I a square?

Because it doesn’t have right angles!

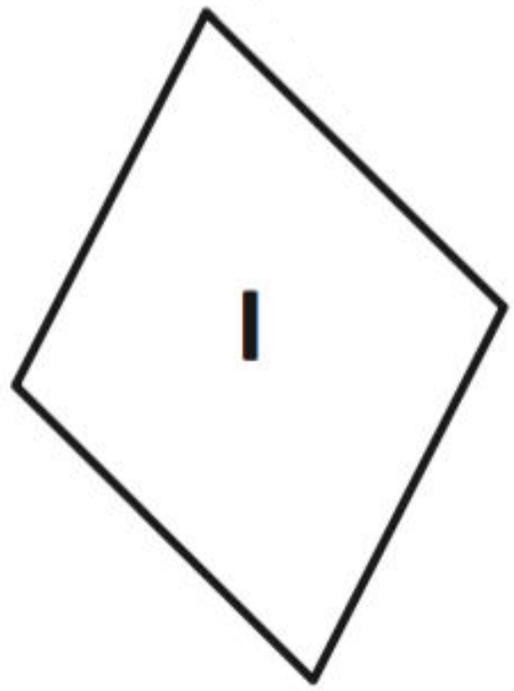
Concept Development

Move Polygons C, F, and I to form a new group.

A shape with 4 equal sides is called a **rhombus**.

Why is a square a rhombus?

Why isn’t shape I a square?



Concept Development

Part 3: Decompose quadrilaterals into two triangles.

Problem 4 asks you to use a straightedge to draw a line between opposite corners in each quadrilateral you drew in the chart. This kind of line is called a diagonal line. Do that now.

Which new polygons did you make by drawing the diagonal line?

Triangles.

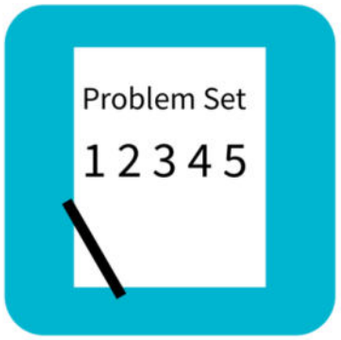
Complete Problem 4 on your Problem Set.

Concept Development

Pick other polygons we used that you did not draw on your chart. Draw diagonal lines inside the polygons. Do you still get two triangles?

All quadrilaterals are made up of two triangles.

Go back and finish Problems 2 and 3 on the Problem Set.

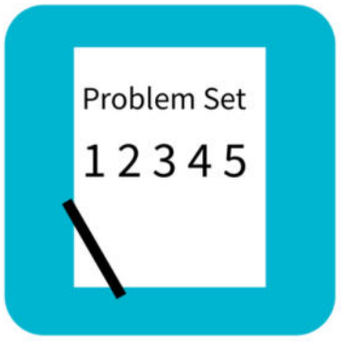


Problem Set

Name _____ Date _____

1. Cut out all the polygons (A–L) in the Template. Then, use the polygons to complete the following chart.

Attribute	Write the letters of the polygons in this group.	Sketch 1 polygon from the group.
Example: **3 Sides**	Polygons: Y, Z	
4 Sides	Polygons:	
At Least 1 Set of Parallel Sides	Polygons:	
2 Sets of Parallel Sides	Polygons:	
4 Right Angles	Polygons:	
4 Right Angles and 4 Equal Sides	Polygons:	



Problem Set

2. Write the letters of the polygons that are quadrilaterals. Explain how you know these polygons are quadrilaterals.

3. Sketch a polygon below from the group that has 2 sets of parallel sides. Trace 1 pair of parallel sides red. Trace the other pair of parallel sides blue. What makes parallel sides different from sides that are not parallel?

4. Draw a diagonal line from one corner to the opposite corner of each polygon you drew in the chart using a straightedge. What new polygon(s) did you make by drawing the diagonal lines?

Debrief

How does grouping quadrilaterals by attributes, like you did in Problem 1, help us see the similarities and differences between the polygons?

Share sketches of parallelograms from Problem 3. Have students describe parallel lines through their color-coded tracing.

Debrief

For Problem 4, share drawings of different quadrilaterals to reinforce how every quadrilateral can be decomposed into two triangles.

Debrief

What math vocabulary did we use today to name polygons with four sides?

Quadrilateral.

At least one set of parallel sides?

Trapezoid

Two sets of parallel sides?

Parallelogram

Debrief

What math vocabulary did we use today to name a shape with 4 equal sides?

Rhombus

An angle that makes square corners?

Right angle

The line between opposite corners in each quadrilateral?

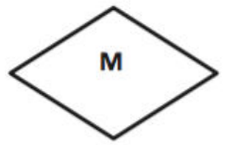
Diagonal

Exit Ticket (3 minutes)

Name _____ Date _____

List as many attributes as you can to describe each polygon below.

1.



2.