Eureka Math

Kindergarten
Module 6
Lesson 3

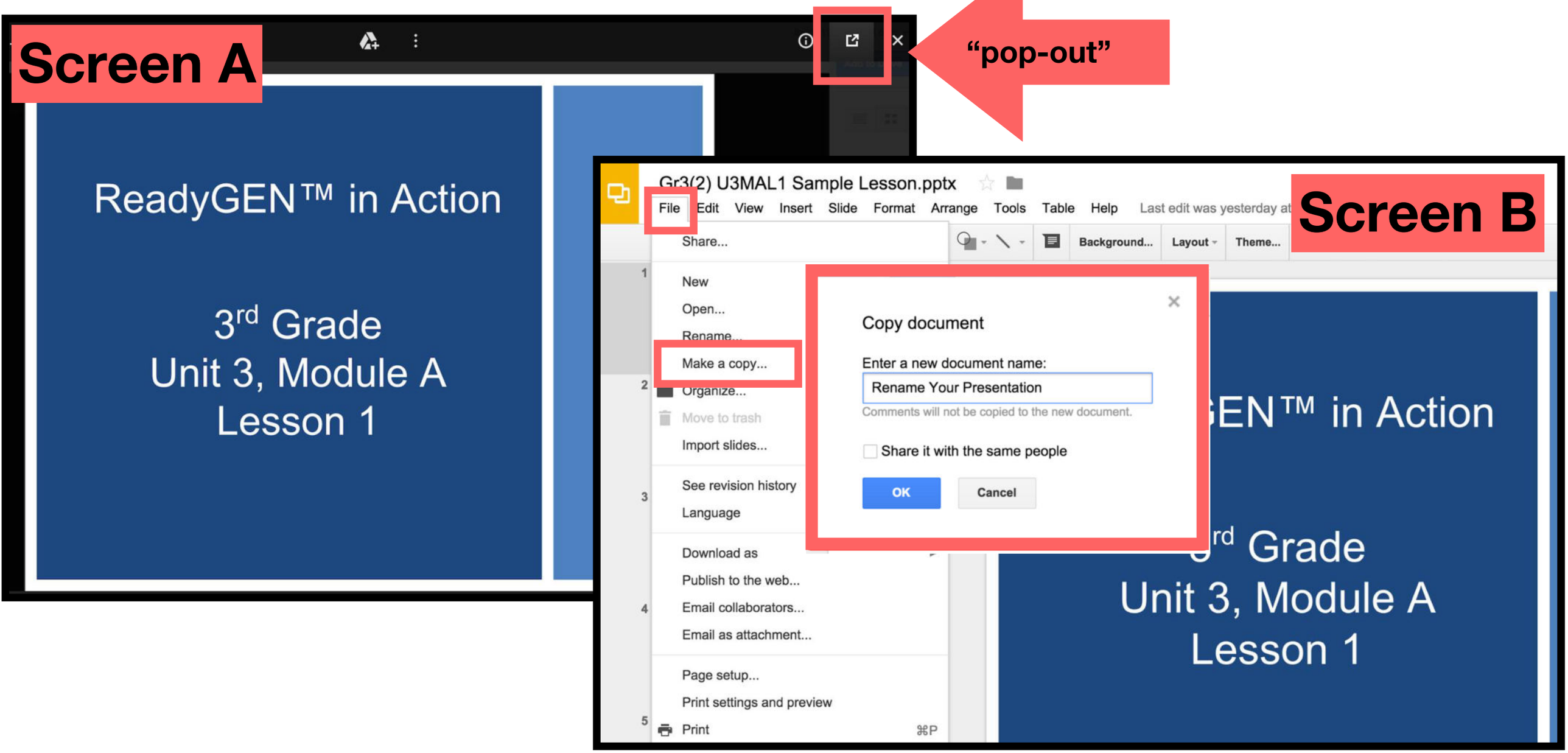
At the request of elementary teachers, a team of Bethel & Sumner educators met as a committee to create Eureka slideshow presentations. These presentations are not meant as a script, nor are they required to be used. Please customize as needed. Thank you to the many educators who contributed to this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

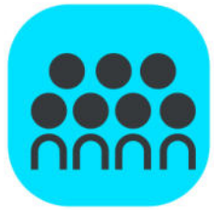
Personal White Board

Problem Set

Manipulatives Needed

Fluency

Think Pair Share



Whole Class

Individual

Partner

Small Group

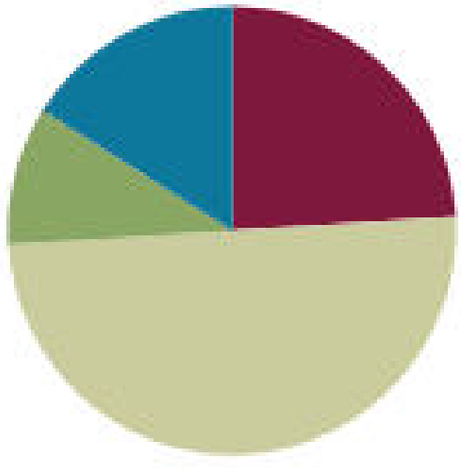
Small Group Time

Lesson 3

Objective: Compose solids using flat shapes as a foundation.

Suggested Lesson Structure

Fluency Practice	(12 minutes)
Application Problem	(5 minutes)
Concept Development	(25 minutes)
Student Debrief	(8 minutes)
Total Time	**(50 minutes)**



Materials Needed

Teacher

- Set of geometric solids

Materials Needed

Student

- Color by Answer Addition
- Color by Answer Subtraction
- Crayons
- Geoboard (per pair) (or dot paper and markers and ruler)
- Rubber Bands(per pair)
- Student squares from lesson 1 (fluency template 2)
- 12 coffee stir sticks
- Small ball of clay

Compose solids (3D Shapes) using flat shapes as a foundation.

Fluency Practice (12 minutes)

Color by Answer Addition (6 minutes)

Name _____ Date _____

Add. Color the blocks using the code for the total.

1—RED	2—ORANGE	3—YELLOW
4—GREEN	5—BLUE	

0 + 1	1 + 1	2 + 1	3 + 1	4 + 1
0 + 2	1 + 2	2 + 2	3 + 2	
0 + 3	1 + 3	2 + 3		
0 + 4	1 + 4			
0 + 5				

Fluency Practice (12 minutes)

Color by Answer Subtraction (6 minutes)

Name _____ Date _____

Subtract. Color the blocks using the code for the difference.

0—PURPLE	1—RED	2—ORANGE	3—YELLOW	
4—GREEN	5—BLUE			

1 - 0	2 - 0	3 - 0	4 - 0	5 - 0
1 - 1	2 - 1	3 - 1	4 - 1	5 - 1
	2 - 2	3 - 2	4 - 2	5 - 2
		3 - 3	4 - 3	5 - 3
			4 - 4	5 - 4
				5 - 5

Application Problem
(5 minutes)

You have a challenge today! Work with your partner. On your geoboard, make a shape with three sides. Now, leave your shape on your board, and let your partner make a three-sided shape as well. Do they look the same? Name the shapes. Remove your shapes from the geoboard.

Now, make a shape with four sides. Have your partner make another four-sided shape. Do they look alike? Name the shapes. Remove your shapes from the geoboard.

Try it with five sides! Then, six! How far can you and your partner go?

Concept Development (25 min)

Part 1: Review the attributes and names of solids.

What do we call this solid?

How did you know?

What is special about a cone?
Talk to your partner.

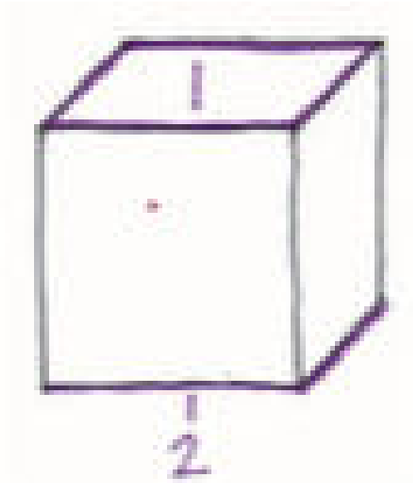
Concept Development (25 min)

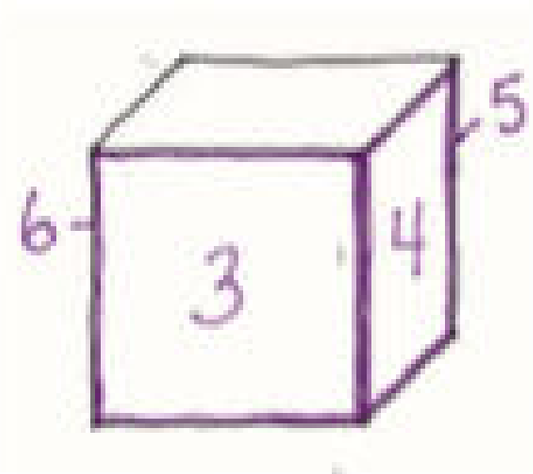
Part 2 : Construct a cube.

In our last lesson, you made some great shapes out of your straws! I want to use some of the squares you constructed to make a new shape like one of our solids. Does anyone have any ideas?

Concept Development (25 min)

Look at the cube we already have. (Hold it up.)
How many squares will I need to use? Let's count together.





Counting Faces

Concept Development (25 min)

Let’s use this one as the bottom of the cube. Now, I will use some of your other squares for the sides. (Demonstrate.) What does it look like now?

Concept Development (25 min)

What if I trace one of the squares on my paper and cut it out? (Demonstrate.) I will attach it to one of the squares. (Cover one side of the skeleton with the paper to create a face, and hold the shape up for observation.)

What do you notice?

Concept Development (25 min)

What if you take one of the sides of your triangle and cut it to be shorter, and then put it back into your shape? (Allow time for students to experiment.)

What do you notice?

Concept Development (25 min)

I will trace and cut some more. (Demonstrate with the remaining 5 faces to create a cube.)

Let’s double-check. How many faces do we have? First, let’s count the faces on the top and bottom.

Say what we are counting.

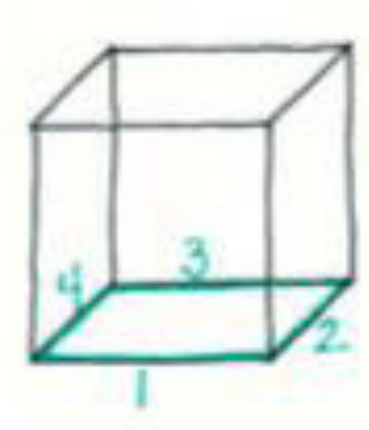
Concept Development (25 min)

Second, let’s count the ones around the middle. This is our third face, so start at the number…?

Go!

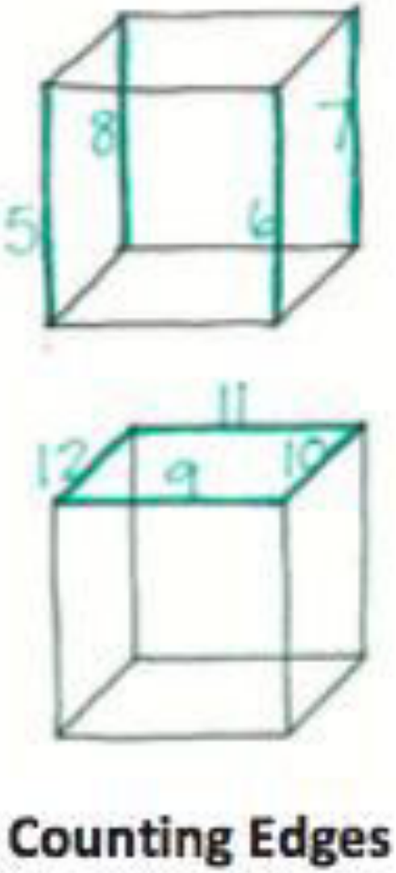
Concept Development (25 min)

Have we counted all of the faces? Did we miss any? How many faces are there on the cube?



Now, count the edges for me.

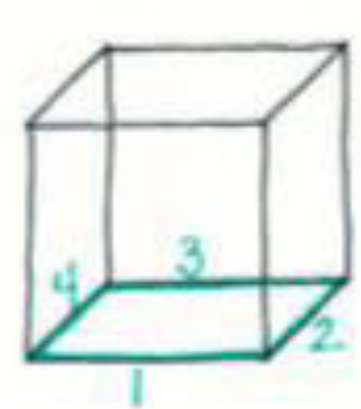
First, we'll count the ones on the bottom. I'll start with this one.



Counting Edges

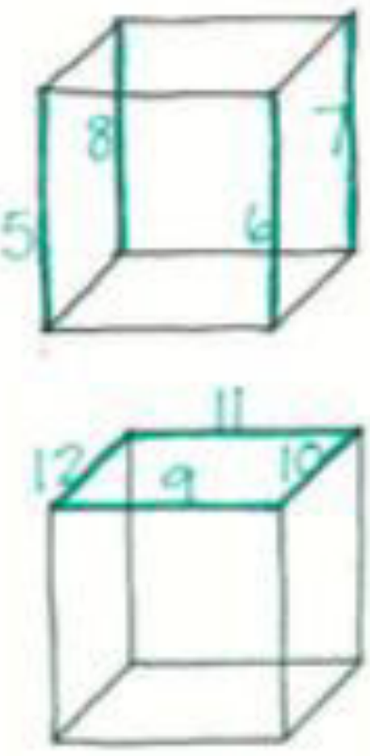
Concept Development (25 min)

Second, let's count the edges in the middle. Start at the number after 4.



Third, let's count the ones at the top. How many edges have we counted so far?

So, the next edge we count will be number...?

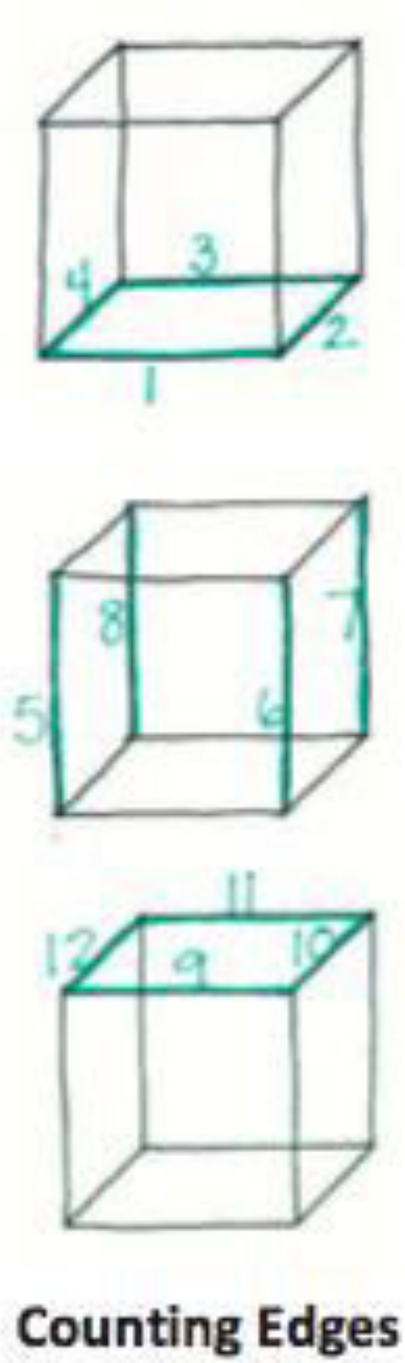


Counting Edges

Concept Development (25 min)

Count when I touch.
Are there any more edges?
Tell your partner how we counted.

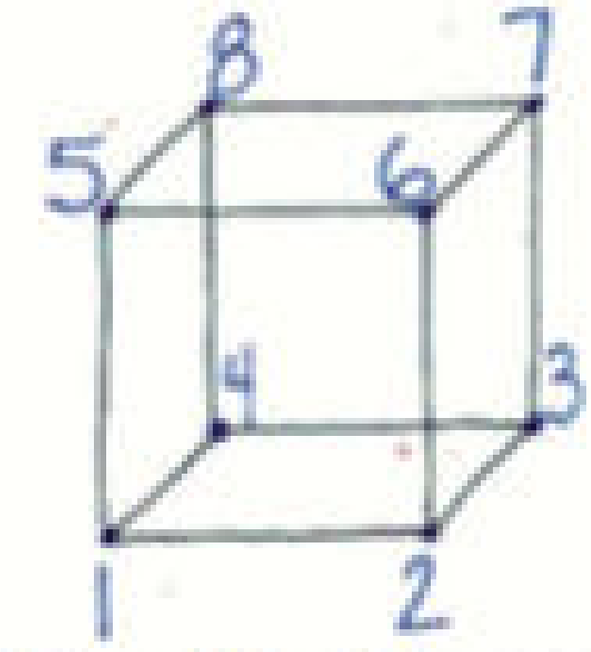
What did we do first, second, and Third?
Let's count them once more without stopping and without saying what we are counting.



Counting Edges

Concept Development (25 min)

Now, count the corners. (Repeat the same process with the corners, having them count the corners on the bottom and then the top, saying what they are counting.)



Counting Corners

Concept Development (25 min)

It is time to make a shape like this on your own. Begin by making a square out of your straws for the bottom. Make another one for the top, too. (Allow time for students to work.)

What do we need now?

Concept Development (25 min)

Please finish your shapes.

(Allow time for students to construct the shape. Circulate to observe understanding, and offer support as necessary.)

Concept Development (25 min)

You have made wonderful shapes! Hold them up. What do you notice about them?

Work with your partner to count the faces, edges, and corners of your pretend cube like we did earlier.

What shapes are the invisible faces?

Concept Development (25 min)

I wonder what would happen if we put two of these shapes together. With your partner, see what you can create if you use more than one.
What are the shapes of the new invisible faces?

Wait for my signal.
How many corners do you have now? Count them using our system.

Concept Development (25 min)

How many faces? (Give students time to count.)

How many edges?

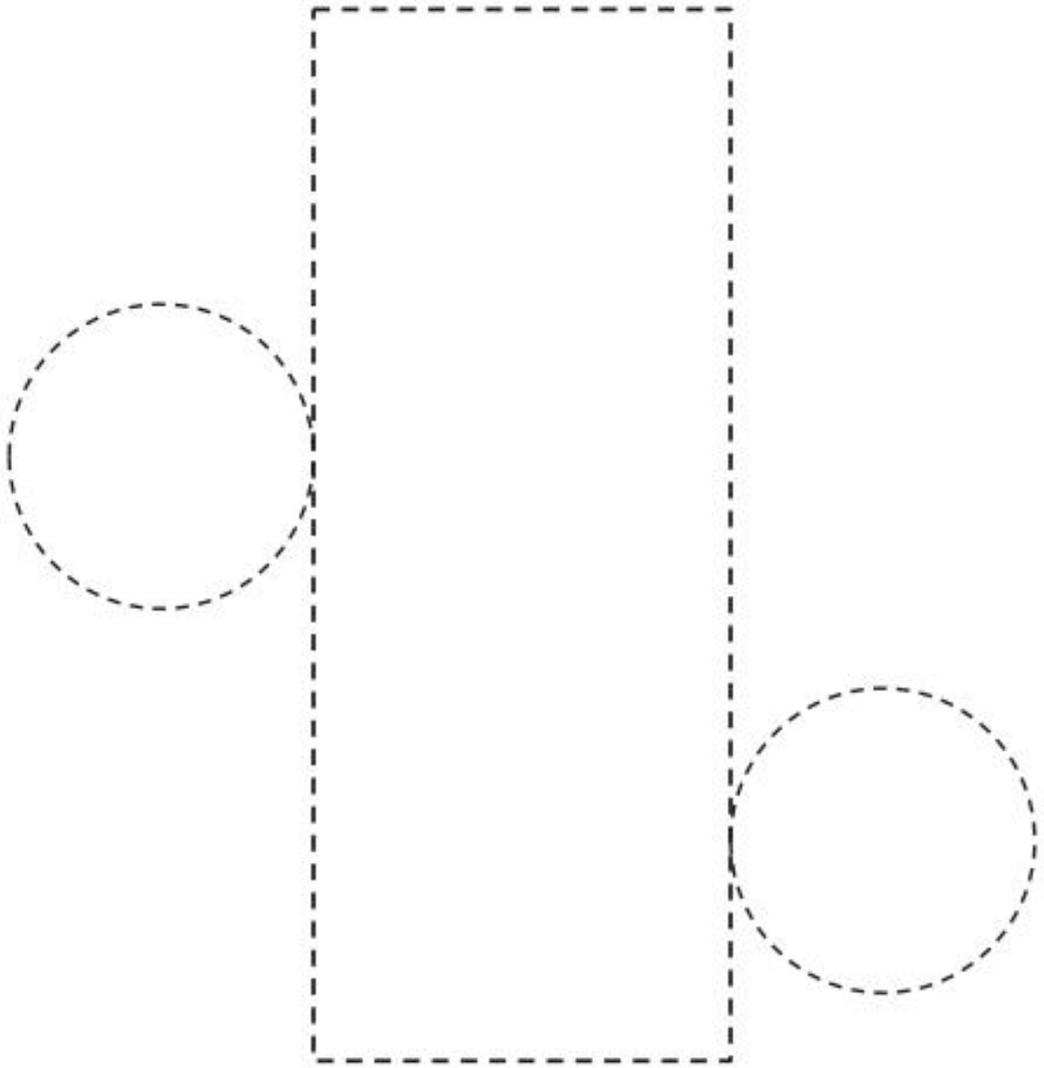
Great work. Take a minute to compare your new shape with another pair's.

Problem Set

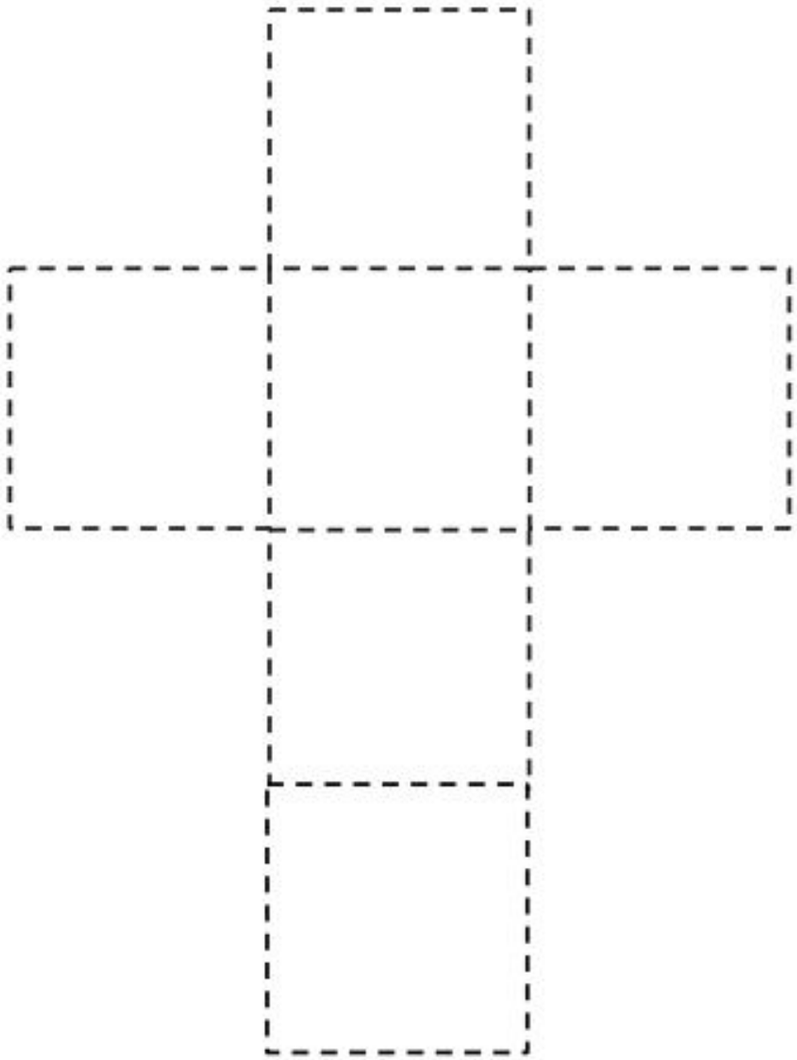
10 min

Name _____ Date _____

Trace the circles and rectangle. Cut out the shape. Fold and tape to create a cylinder.



Trace the squares. Cut out the shape. Fold and tape to create a cube.



Debrief

(13 minutes)

Lesson Objective:

Compose solids (3D Shapes) using flat shapes as a foundation.

Debrief

(8 minutes)

- How many squares did you trace on your Problem Set before you started cutting? What did you have to do to make a cube out of all the squares you traced?
- What two shapes did you trace to make your cylinder? (Circle and rectangle.) What happened to the rectangle when you cut and folded the paper to make the cylinder? Could we say that a rectangle is a face of a cylinder? Why or why not? (No. Faces are flat. Once we roll up the rectangle to make a cylinder, it is no longer flat.) What about the circle? Is a circle a face of the cylinder?
- When you counted the faces of your cube, how did you keep track of your count? How did you make sure that you didn’t count any face twice?

Debrief

(8 minutes)

- Describe a cube to me. Tell me about its faces, edges, and corners.
- Describe a cylinder to me. Tell me about its faces, edges, and corners.

Exit Ticket

(3 minutes)

Name _____ Date _____

Draw a line from the flat shape to the object that has a face with that flat shape.