TEACH TO ONE MATH
a New Classrooms® solution

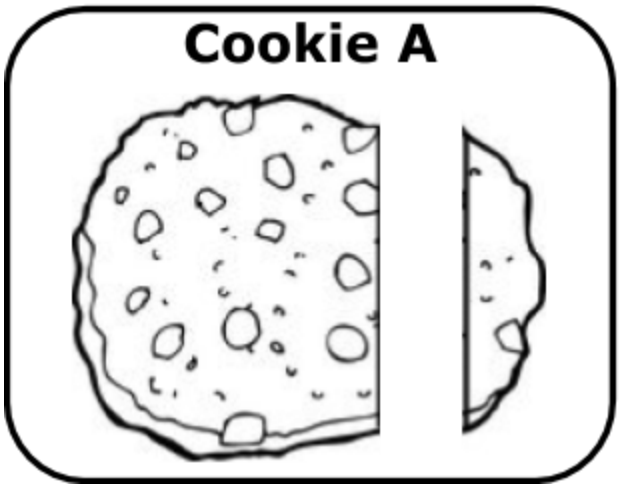
Name_____

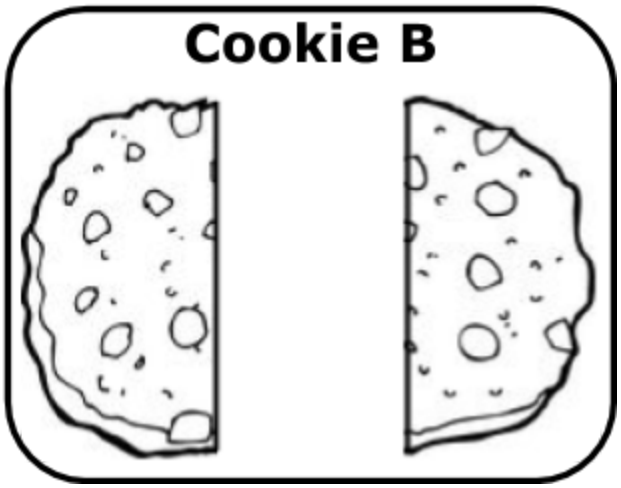
Date_____

What is a Fraction?

Fractions and Sharing

Imagine someone is sharing a cookie with you. Below are 2 ways that cookie could be shared. Use the thinking routine below to describe how the cookies were shared.



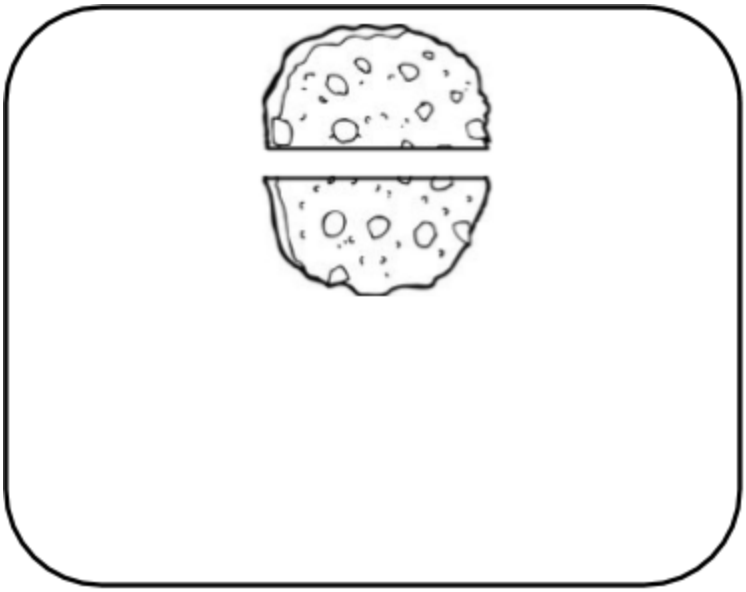


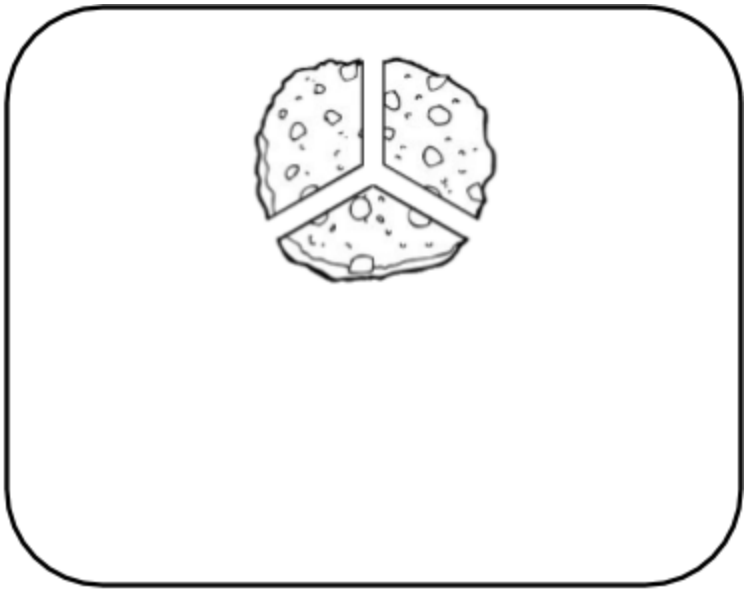
What do you **see**? Be specific and try to describe as many aspects as possible.	What does it make you **wonder**? Think of a question that could help you learn more.

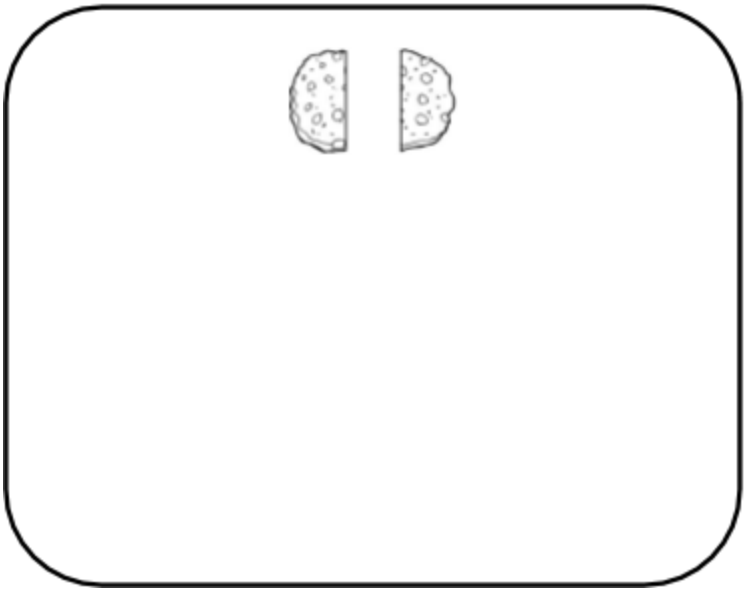
After looking at the cookies how would you describe halves?

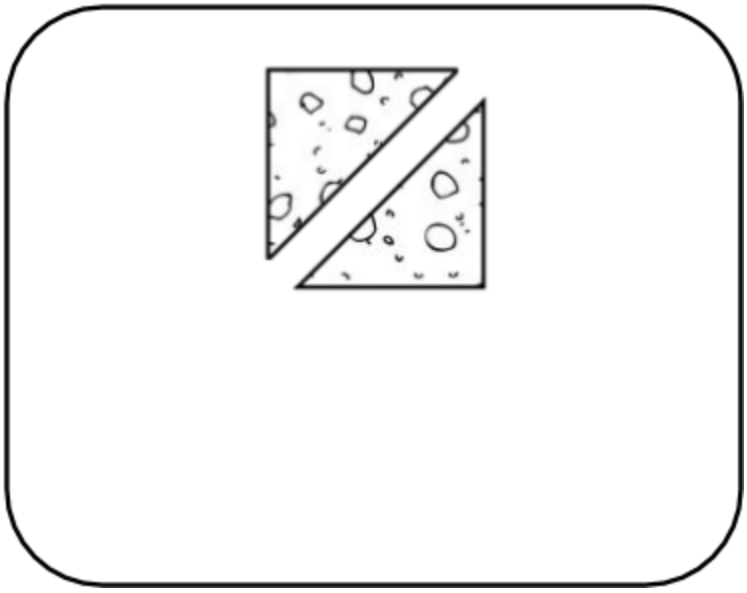
Fractions and Sharing continued

Look at the cookies below and determine which are split into halves. Give your reasons why.





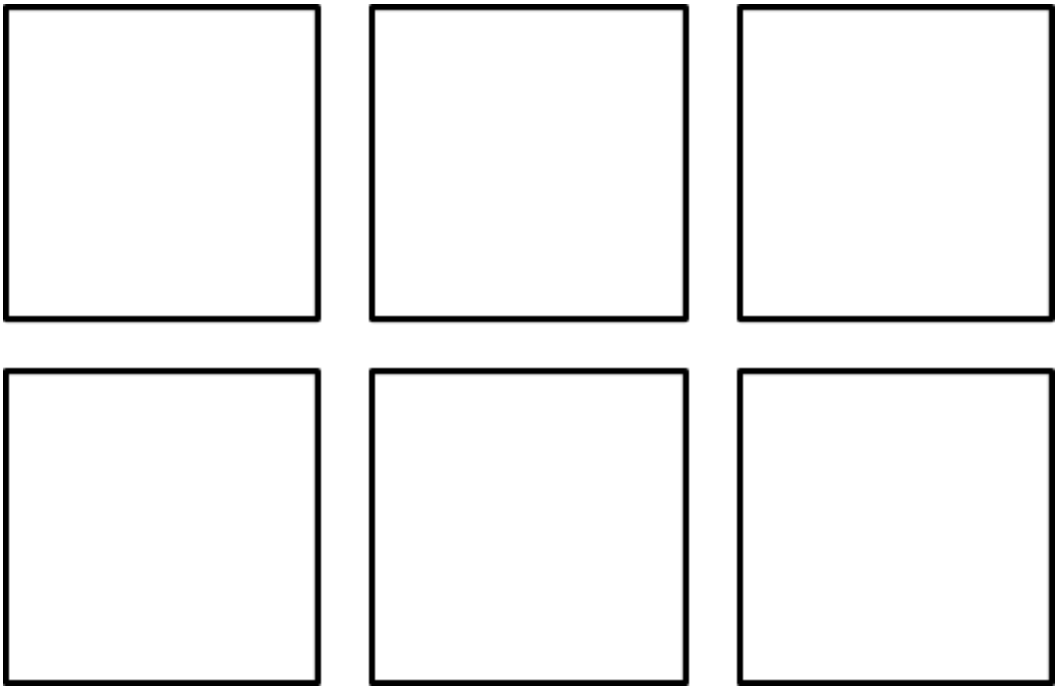




What things matter when making halves?	What does not matter when making halves?

Drawing Fractions

Show different ways to divide these squares into halves.



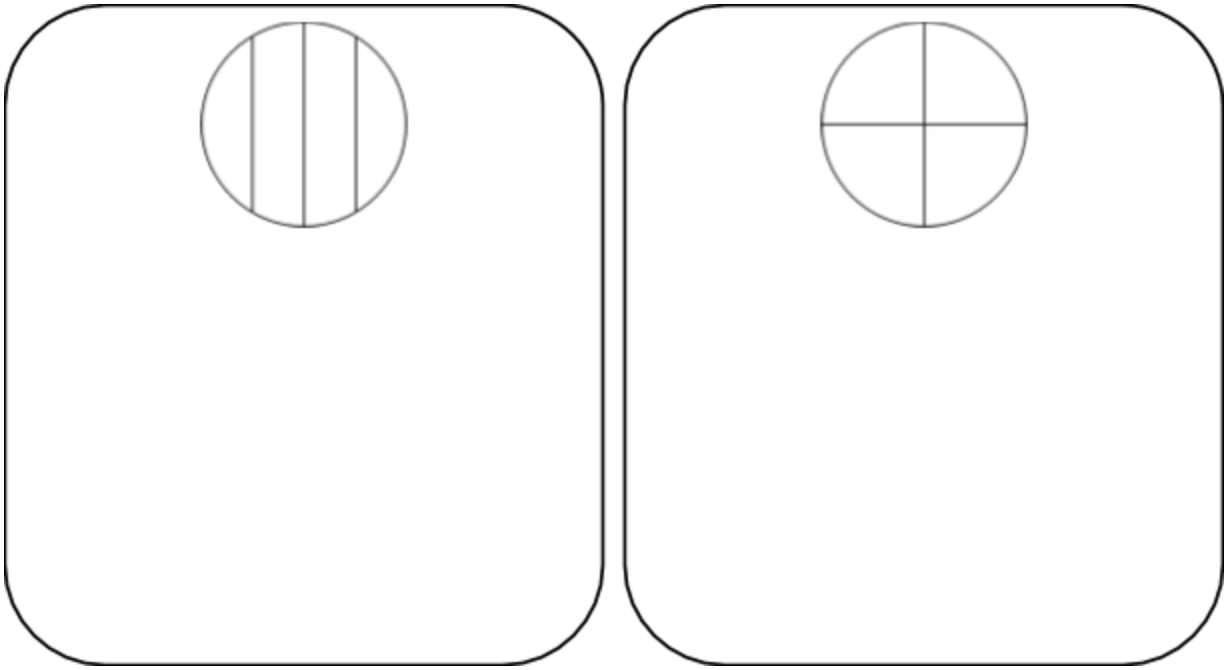
If someone showed you a shape that they had divided into 2 parts, how could you determine if the 2 parts were halves or not?

Building Fractions

Use the materials and space below to make fractions. Be creative and make any fraction you are comfortable with. Sketch some of your favorite examples below.

Writing Fractions

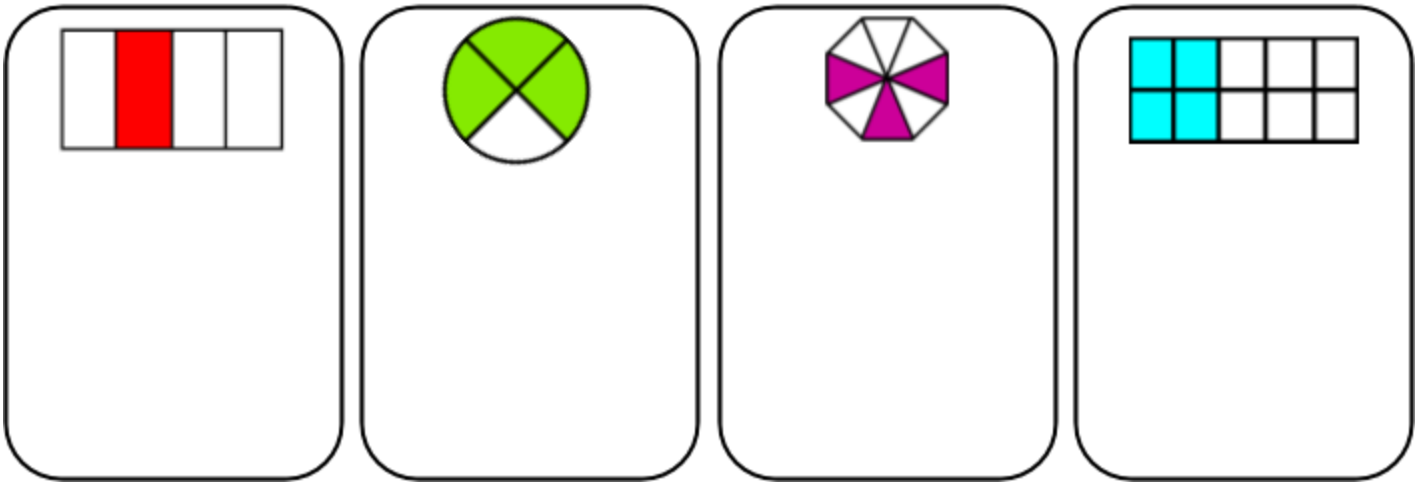
Look at the circles below. Which show a fraction and which does not? Explain your thinking below.



Your teacher cuts an orange in two equal pieces. They say, “each of these pieces is one half.” They then take a grape and cut it into two equal pieces and say, “each of these pieces is one half.” How can this be if grapes and oranges are different sizes?

In Your Own Words

Describe what part of the whole is shaded in the shapes below.



Fraction Matching

Look at the cards that I have given you. Each one of the cards can be grouped with other cards to form a category. Your job is to group cards that you think go together. Sketch the cards from each group in one of the boxes below.

Category Name:

Category Name:

Category Name:

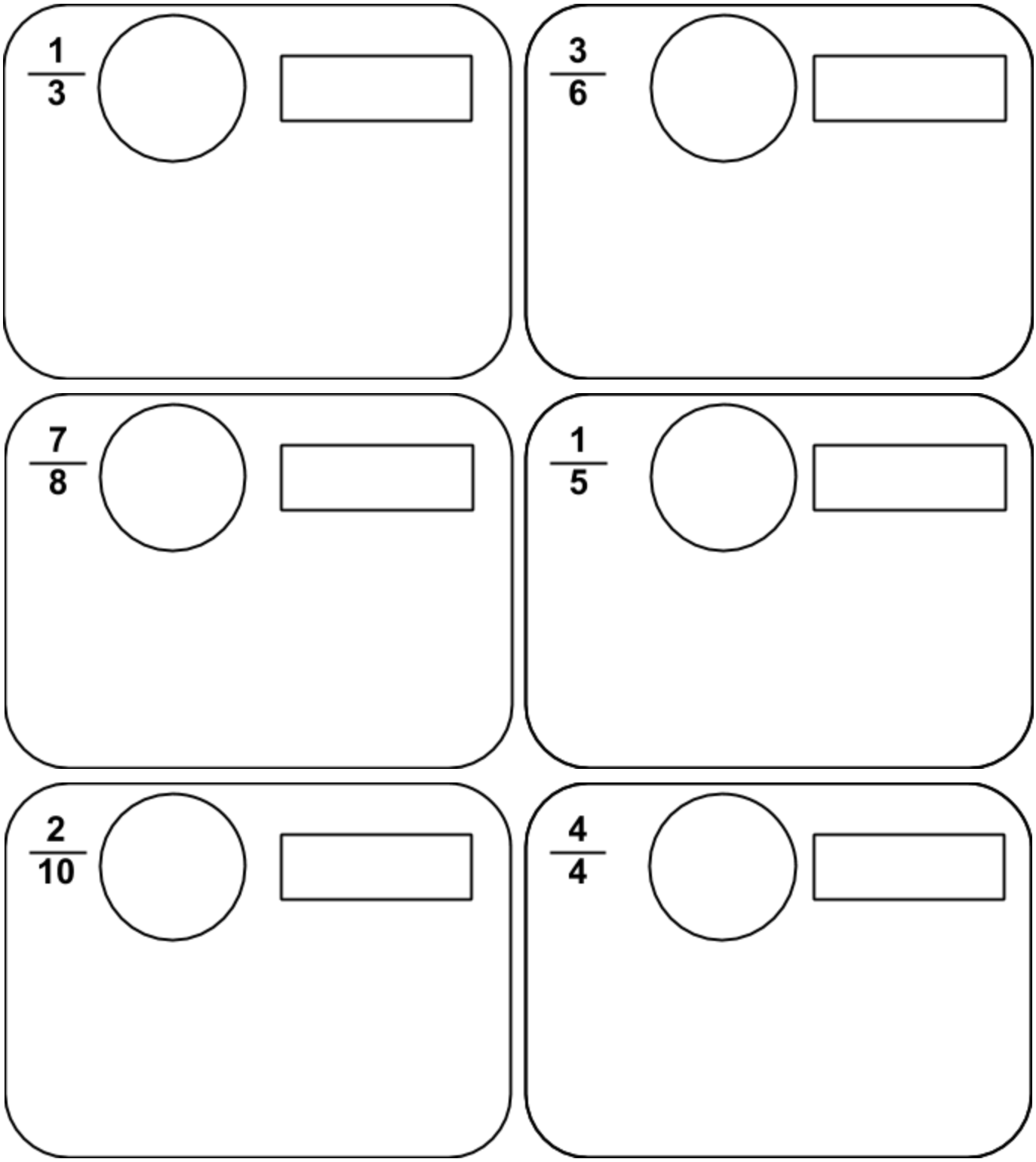
Category Name:

Category Name:

Category Name:

Fraction Matching Part 2

Now the categories are named for you. Create images that match the category names. Start by splitting and shading the circle and rectangle in each category, then draw other shapes you feel belong in each category.

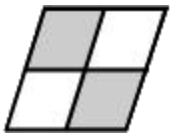
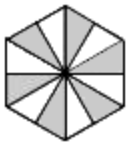
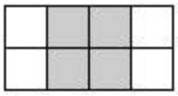
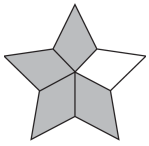
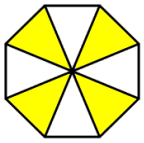
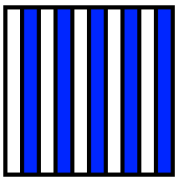
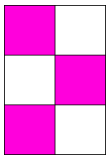
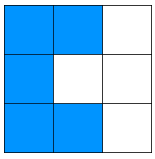


What does EQUALivalent mean?

When you hear “equivalent” what comes to mind? Give some ideas of things you think are equivalent.

What Comes to Mind	Examples of equivalent things

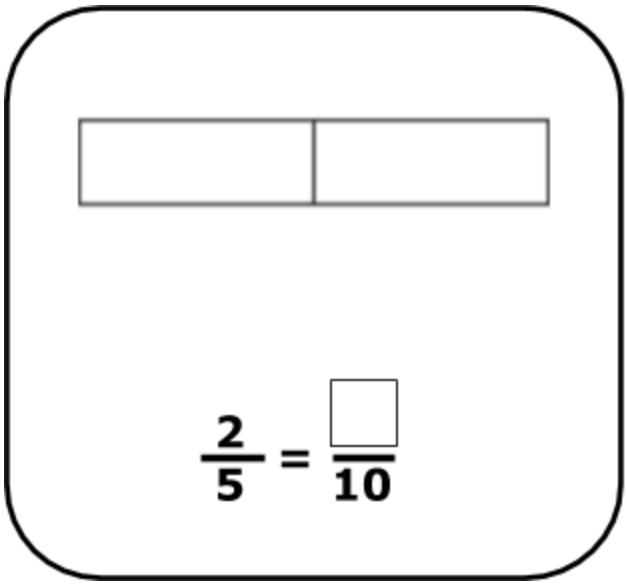
Label the fraction shaded below.

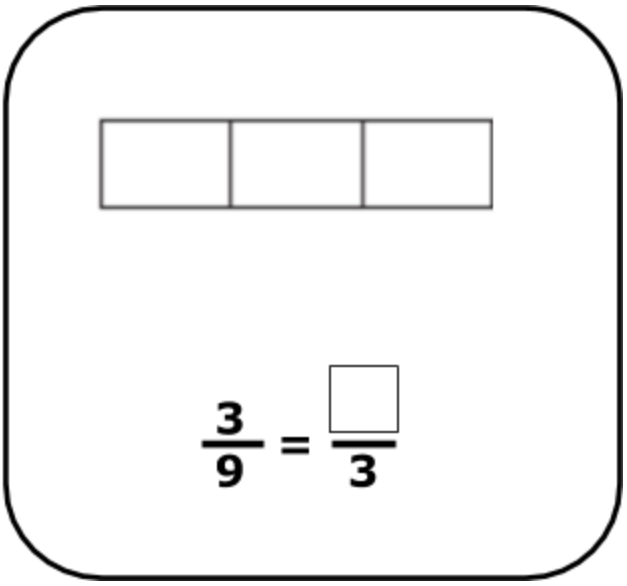
		
		
		

Look at the images and make a claim about which ones are shaded $\frac{1}{2}$. Use evidence to support your claim.

What's Missing?

Go to the last page of this packet and follow the directions to make your own set of fraction strips, then use the strips you created to find the missing number.



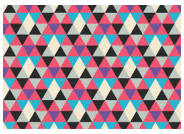


Sketch the fraction strips you used to find the missing number below.

$\frac{4}{6} = \frac{\square}{12}$

$\frac{6}{8} = \frac{\square}{4}$

Patterns!



Use your fraction strips to show a fraction. Find as many equivalent fractions as you can and note what you find on the chart. Start with any fraction you like... and keep an eye out for patterns!

Original Fraction	Equivalent Fractions	Fractions that are not equivalent	Anything you notice?

Make a Claim!

★ If a fraction is equivalent to $\frac{4}{5}$ what can you tell me about its denominator? What makes you say this?

★ Is there a limit to the number of fractions that are equivalent? Give some examples.

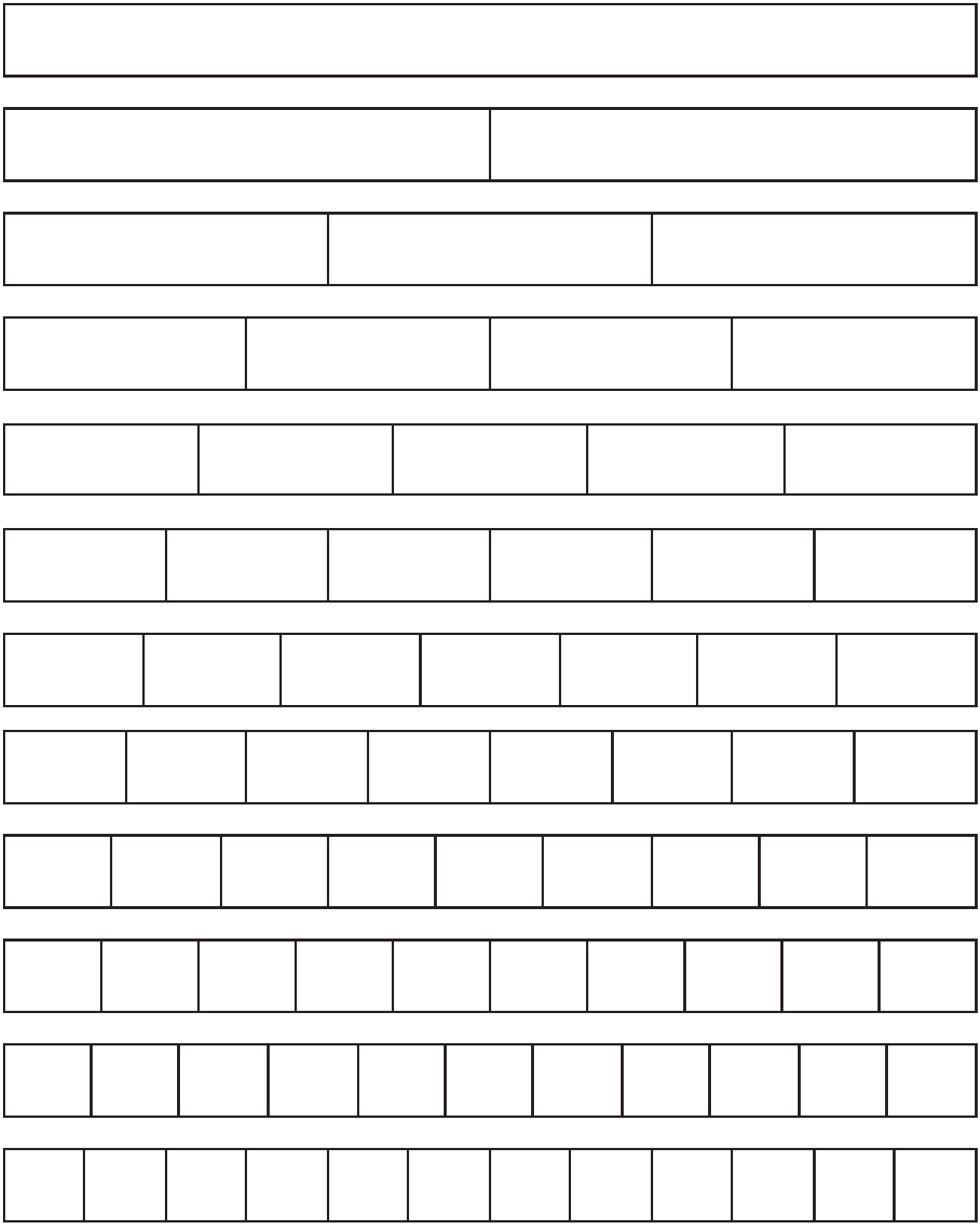
Reflection

Based on your group discussion while finding patterns, use the questions below to help you reflect on what we learned.

How did this **connect** to what you already know?	What new things did you learn that **extend** your thinking in new directions?	What **challenges** or questions come up in your mind about these ideas?

Fraction Strips

Along with your class you are going to make and label your own set of fraction strips. You will be using them to explore fractions later so hold on to them!



Playing With Fractions!

Fill out the chart using the fractions below. Feel free to use fraction strips to help you.

$\frac{2}{3}$ $\frac{4}{12}$ $\frac{3}{4}$ $\frac{4}{6}$ $\frac{2}{8}$

Name it. Name 2 fractions that are equivalent.	**Name it.** Name 2 fractions that are not equivalent.
Show it. How could you show these fractions were equivalent using your fraction strips?	**Give reasons.** How could you use the numbers to tell if the fractions are equivalent?

Game #1: Fraction Memory Game

Breakup into pairs. The goal of the game is to find the most matches.

Rules:

1. Lay all of the cards upside-down on the table and mix them up.
2. Players will try to flip pairs of cards with equivalent fractions.
   example: The " $\frac{1}{4}$ " card matches the " $\frac{2}{8}$ " card
3. Player 1 flips two cards. If the cards match, they get to keep both cards. If the cards do not match, then the cards are flipped back upside-down.
4. Then, player 2 gets a turn to try to flip matching cards. Players alternate until all cards have been removed from the game.
5. When the game is over, the player with the most cards is the winner.

Use this chart to record any matches you find. An example is done for you.

$\frac{1}{4}$	$\frac{2}{8}$						

Game #2: Fraction Scattergories

See if you can come up with the most unique way to make an equivalent fraction.

1. Each round starts with someone making a fraction. Everyone else in the group has 15 seconds to silently make an equivalent fraction using fraction strips.
2. When the timer goes off, hands off those fraction strips! Time for everyone to share the fraction they made.

Round #	Original Fraction	My Equivalent Fraction	Other Equivalent Fractions	My Points
1				
2				
3				
4				
5				

Scoring:

- If two or more students had the same fraction, they get 1 point each.
- If students had a unique equivalent fraction, they get 3 points.
- Students whose fractions aren't equivalent get 0 points.

Reflection

Describe the strategy you use to see if 2 fractions are equivalent. Use drawings if that helps you explain.

_____

_____

_____

_____

_____

Create a Headline that summarizes what you learned in today's activities.

Do you have any questions or things that you want your teacher to know? Please write them below.

Fractions in Simplest Form

When you hear “simple” what comes to mind? Where have you seen decimals used?

What Comes to mind when you hear the word “simple”?	Use the word “simple” in as many sentences as you can

Would you Rather?

Would you rather have 2 quarters or 50 pennies? Explain your reasoning.

_____

_____

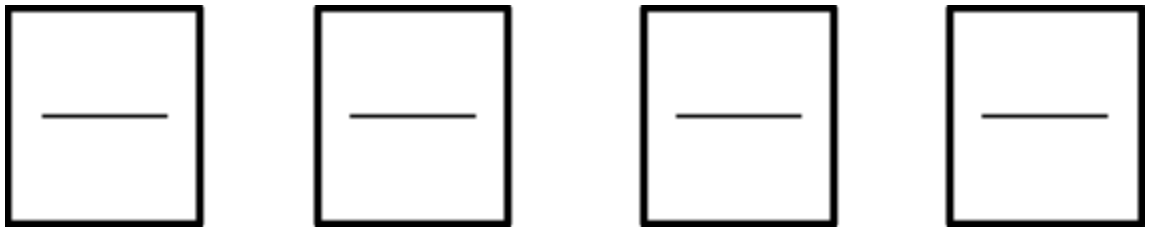
_____

_____

_____

Fraction Strips

Use your fractions strips to find as many fractions equivalent to the fraction below as you can. Write each fraction in its own box below.



If you had to choose which faction was in simplest form which would it be. Explain your thinking.

_____

_____

_____

In Your Own Words

Look at the groups of equivalent fractions below. Use your fraction strips find the you you think is in simplest form. Circle the fraction in simplest form.

$$\frac{6}{8}, \frac{3}{4}, \frac{9}{12}$$

How would you describe what it means for a fraction to be in simplest form?

_____

_____

_____

 Compare the following fractions with your fraction strips. Which is the simplest form of each fraction?

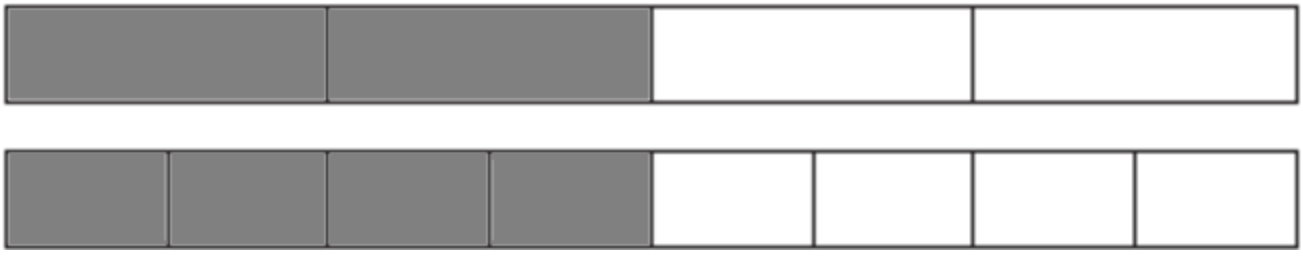
Original Fraction _____ Simplest Form _____

Original Fraction _____ Simplest Form _____

Original Fraction _____ Simplest Form _____

What do you think?

Think of the difference between the words simple and simplest and look at the example below.



Original Fraction $\frac{4}{8}$ Simplest Form $\frac{2}{4}$

What do you think of this answer? Explain why you agree, or what you would change.

_____

_____

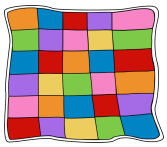
_____

Reflection

Based on the activity you did today come up with a plan you can use to put fractions in simplest form.

How will you know if a fraction is in a simplest form?	How will you find the simplest form of a fraction?	What do you have to keep in mind when putting fractions in simplest form?

Fraction Quilts



A quilt is a blanket made of different pieces of cloth sewn together. In this activity we will be designing quilts using tiles.

Using the tiles you have been given make a rectangle that is ½ blue. Sketch the rectangle you made below.

Remake the pattern you see below with your colored tiles.

R = red **G = green** **Y = yellow**

G	R	G	R
R	Y	G	G
G	G	Y	R
R	G	R	G

What are 2 ways you could describe the fraction of red tiles?		What are 2 ways you could describe the fraction of green tiles?		What are 2 ways you could describe the fraction of yellow tiles?	

Designing Fractions

For each card below both partners should create a design that matches the fractions shown. Share your design with your partner, then choose one of the designs to sketch. For each example write as many equivalent fractions for each color tile as you can.

Build a design that is

$\frac{1}{4}$ **Red**

$\frac{1}{4}$ **Green**

Fraction of Red Tiles	Fraction of Yellow Tiles	Fraction of Green Tiles	Fraction of Blue Tiles

Build a design that is

$\frac{2}{3}$ **Yellow**

Fraction of Red Tiles	Fraction of Yellow Tiles	Fraction of Green Tiles	Fraction of Blue Tiles

Build a design that is

$\frac{1}{8}$ **Yellow**

$\frac{4}{8}$ **Green**

Fraction of Red Tiles	Fraction of Yellow Tiles	Fraction of Green Tiles	Fraction of Blue Tiles

Build a design that is

$\frac{1}{3}$ **Blue**

$\frac{2}{3}$ **Red**

Fraction of Red Tiles	Fraction of Yellow Tiles	Fraction of Green Tiles	Fraction of Blue Tiles

Now is your job to come up with a plan that your partner could use to make a quilt. Describe the fractions of different tiles you would like to see, be sure to check by making the quilt yourself.

Build a design that is

Build a design that is

Build a design that is

Make 2 of the quilts your partner planned below. When you are done check to make sure that all the sketches and fractions are accurate.

The plan was

Fraction of Red Tiles	Fraction of Yellow Tiles	Fraction of Green Tiles	Fraction of Blue Tiles

The plan was

Fraction of Red Tiles	Fraction of Yellow Tiles	Fraction of Green Tiles	Fraction of Blue Tiles

Reflection

Which quilts were easy to make? Which were harder for you? Why was this?

_____

_____

_____

_____

_____

_____

Was this challenging? Explain why, reflecting on everything you learned throughout this task. Is there something specific that you learned that helped you do this?

_____

_____

_____

_____

_____

_____

If you were to do this again, is there anything that you would do differently? Explain why.

_____

_____

_____

_____

_____

_____