

# LETTER HOME

## Parts and Wholes

Dear Family Member:

The activities in this unit will help your child better understand fractions. Your child will explore the concept of a whole. He or she will also learn the meaning of the numerator and the denominator and how to use them to name fractions. Understanding the size of the whole is important to understanding the fractional parts of that whole. For example, half of a soccer field is larger than half of a sheet of paper. On the other hand, it is also necessary to understand that the parts of one whole must be equal. That is, one-fourth is not just one of any four parts; it is one of four equal parts.

Another important idea is related to the relative size of the fraction piece. The fewer pieces a whole is divided into, the larger each piece will be. Your child will use concrete models to name fractions, compare the size of fractions, and find equivalent fractions.

You can help your child with fractions using the following ideas:

**Fraction Spotting.** Point out fractions in your daily life; for example, one-half of a bottle of soda pop. Discuss what the whole is and what the fraction means. If the whole is 2 liters of soda in the bottle, then  $\frac{1}{2}$  of the bottle is 1 liter of soda.

**Doubling and Halving Recipes.** Use recipes that require fractional amounts, such as  $\frac{1}{2}$  cup sugar or  $\frac{1}{4}$  teaspoon salt. If you halve or double a recipe, help your child determine what the final amounts will be.

**Play Fraction Hex.** In this game players compare fractions in order to move game pieces across a gameboard. Directions and game boards are in the *Student Activity Book* in Lesson 6.



What fraction of the students are wearing glasses?

## Math Facts and Mental Math

This unit continues the systematic review and assessment of the multiplication facts.

**Multiplication Facts.** Students review the 2s and 3s, increase fluency and learn to apply multiplication strategies to larger numbers.

You can help your child review these facts using the flash cards that are sent home or by making a set of flash cards from index cards or scrap paper. Study facts in small groups each night. As your child goes through the flash cards, put the cards in three stacks: Facts I Know Quickly, Facts I Can Figure Out, and Facts I Need to Learn.

For Facts I Need to Learn, work on strategies for figuring them out. Good strategies include:

Skip counting. To solve  $2 \times 8$ , skip count: 2, 4, 6, 8, 10, 12, 14, 16

Doubling. To solve  $2 \times 8$ , think  $8 + 8 = 16$

Reasoning from known facts. To solve,  $9 \times 3$ ,  $9 \times 2 = 18$  and  $18 + 3 = 21$

For Facts I Can Figure Out, use the flash cards to practice the facts for fluency.

For Facts I Know Quickly, help your child use mental math strategies to multiply 10s and 100s:

$20 \times 30 = 600$ ,  $40 \times 300 = 12000$ ,  $3 \times 300 = 900$

Thank you for taking time to talk with your child about what he or she is doing in math.

Sincerely,

# Unit 9: Home Practice

## Part 1 Triangle Flash Cards: 2s and 3s

Study for the quiz on the multiplication facts for the 2s and 3s. Take home your Triangle Flash Cards: 2s and 3s and your list of facts you need to study. Ask a family member to choose one flash card at a time. He or she should cover the largest number. Solve a multiplication fact with the two uncovered numbers. Your teacher will tell you when the quiz on the 2s and 3s will be.

## Part 2 Using Mental Math Strategies

1. A.  $18 + 5 + 3 =$  \_\_\_\_\_ B.  $500 - 300 =$  \_\_\_\_\_

2. A.  $80 - 50 =$  \_\_\_\_\_ B.  $50 + 40 + 9 =$  \_\_\_\_\_

Use your estimating strategies to answer the following questions.

3. Choose two of the numbers at the right to find a sum:

A. over 150. \_\_\_\_\_

B. very close to 100. \_\_\_\_\_

Choose two of the numbers at the right to find a difference:

C. close to 25. \_\_\_\_\_

D. less than 10. \_\_\_\_\_

77

85

26

48

4. Solve the problems. Estimate to be sure your answers are reasonable. Explain your estimation strategies to your partner.

A. 
$$\begin{array}{r} 7943 \\ + 158 \\ \hline \end{array}$$

Your Estimate

B. 
$$\begin{array}{r} 2000 \\ - 874 \\ \hline \end{array}$$

Your Estimate

**Part 3** Multiplying by 10 and 100.

1. A.  $6 \times 2 =$  \_\_\_\_\_      B.  $6 \times 20 =$  \_\_\_\_\_      C.  $6 \times 200 =$  \_\_\_\_\_
2. A.  $3 \times 3 =$  \_\_\_\_\_      B.  $3 \times 30 =$  \_\_\_\_\_      C.  $3 \times 300 =$  \_\_\_\_\_
3. A.  $5 \times 6 =$  \_\_\_\_\_      B.  $5 \times 60 =$  \_\_\_\_\_      C.  $5 \times 600 =$  \_\_\_\_\_
4. Describe any patterns you see in Questions 1, 2, and 3.

5. Use patterns to help you solve these problems.

A.  $34 \times 10 =$  \_\_\_\_\_      B.  $62 \times 100 =$  \_\_\_\_\_      C.  $48 \times 10 =$  \_\_\_\_\_

D.  $51 \times 100 =$  \_\_\_\_\_      E.  $28 \times 100 =$  \_\_\_\_\_      F.  $76 \times 10 =$  \_\_\_\_\_

**Part 4** Use Strategies to Add and Subtract

Solve the problems. Estimate to be sure your answers are reasonable.  
Use the *Addition Strategies Menu* and *Subtraction Strategies Menu*.

A. 
$$\begin{array}{r} 4006 \\ +498 \\ \hline \end{array}$$

B. 
$$\begin{array}{r} 4006 \\ -498 \\ \hline \end{array}$$

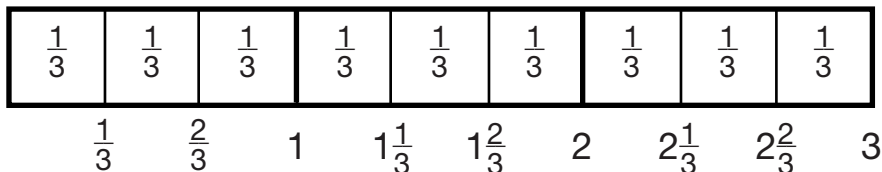
C. 
$$\begin{array}{r} 7032 \\ +1777 \\ \hline \end{array}$$

D. 
$$\begin{array}{r} 7032 \\ -1777 \\ \hline \end{array}$$

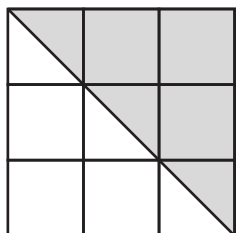
- E. Describe the estimation strategy you used for Question A.

## Part 5 Showing Fractions Many Ways

1. Skip count by thirds to 10. Write the numbers. Use the diagram to get started.



2. I am  $\frac{1}{3}$  more than 1. What number am I? \_\_\_\_\_
3. I am  $\frac{1}{3}$  less than 1. What number am I? \_\_\_\_\_
4. I am  $\frac{1}{3}$  more than  $1\frac{2}{3}$ . What number am I? \_\_\_\_\_
5. Use this picture to answer Questions 5A and 5B.

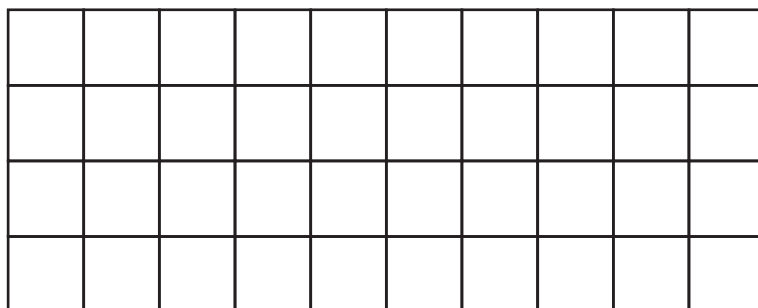


= 1 sq cm

- A. What is the area of the large square?  
\_\_\_\_\_

- B. What is the area of the shaded triangle?  
\_\_\_\_\_

6. Use the grid to answer the following questions.



- A. Color  $\frac{1}{2}$  of the squares red. How many squares did you color? \_\_\_\_\_
- B. Color half of the remaining squares blue. How many squares did you color? \_\_\_\_\_
- C. Color  $\frac{1}{5}$  of the remaining squares green. How many squares did you color? \_\_\_\_\_

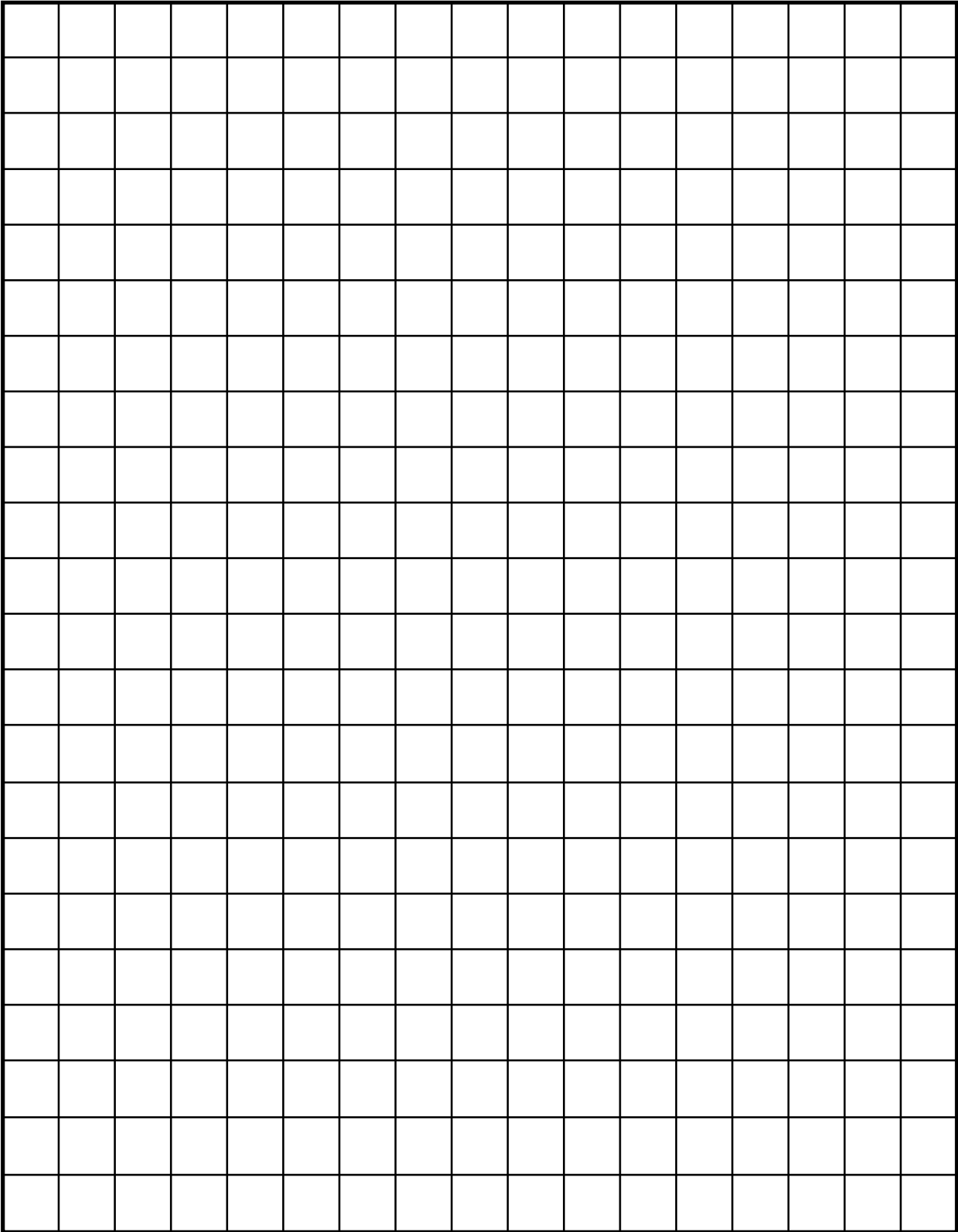
# Multiplication Facts I Know

- Circle the facts you know well.
- Keep this table and use it to help you multiply.
- As you learn more facts, you may circle them too.

×	0	1	2	3	4	5	6	7	8	9	10
0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9	10
2	0	2	4	6	8	10	12	14	16	18	20
3	0	3	6	9	12	15	18	21	24	27	30
4	0	4	8	12	16	20	24	28	32	36	40
5	0	5	10	15	20	25	30	35	40	45	50
6	0	6	12	18	24	30	36	42	48	54	60
7	0	7	14	21	28	35	42	49	56	63	70
8	0	8	16	24	32	40	48	56	64	72	80
9	0	9	18	27	36	45	54	63	72	81	90
10	0	10	20	30	40	50	60	70	80	90	100

Name \_\_\_\_\_

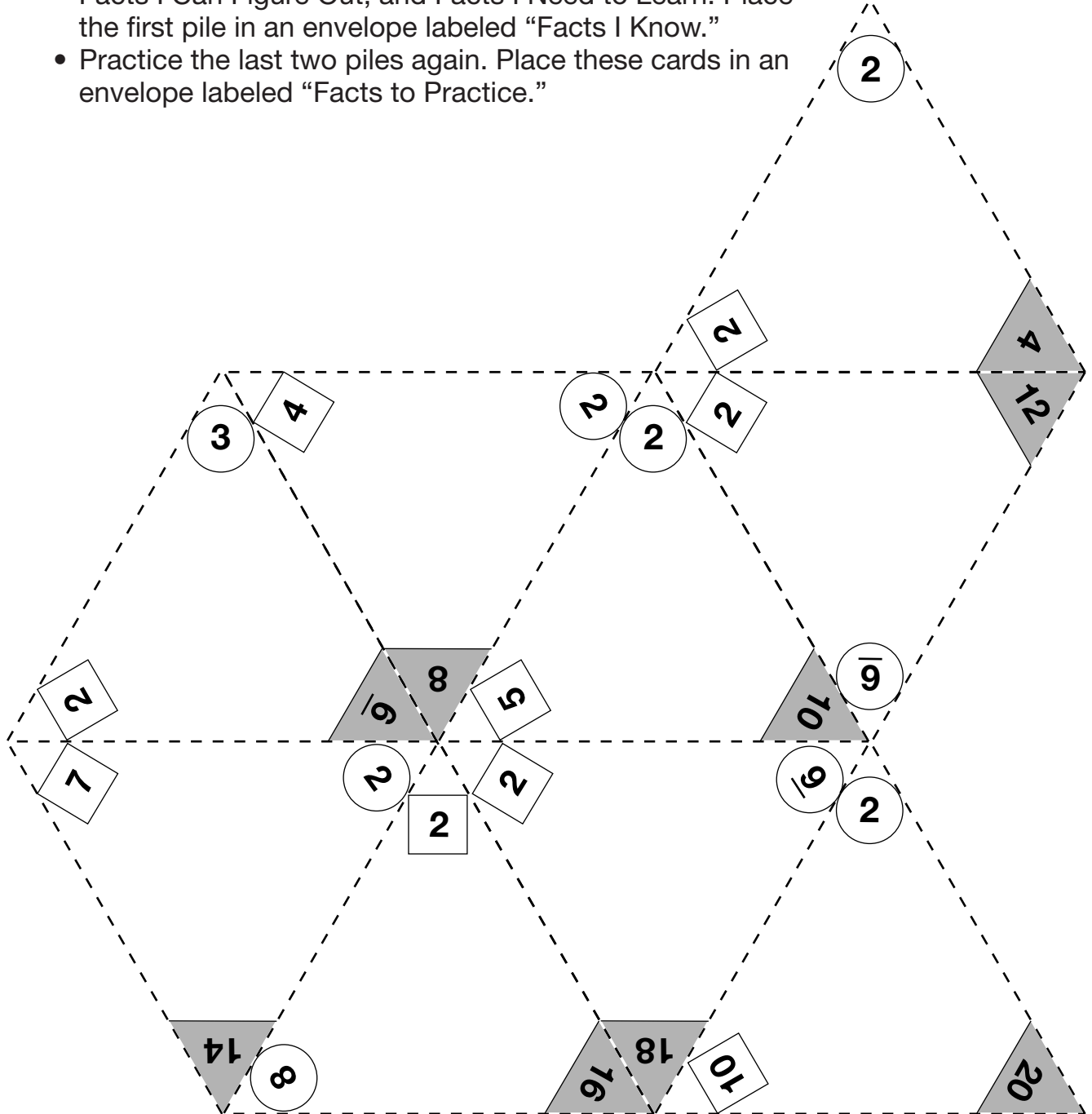
Date \_\_\_\_\_



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# Triangle Flash Cards: 2s

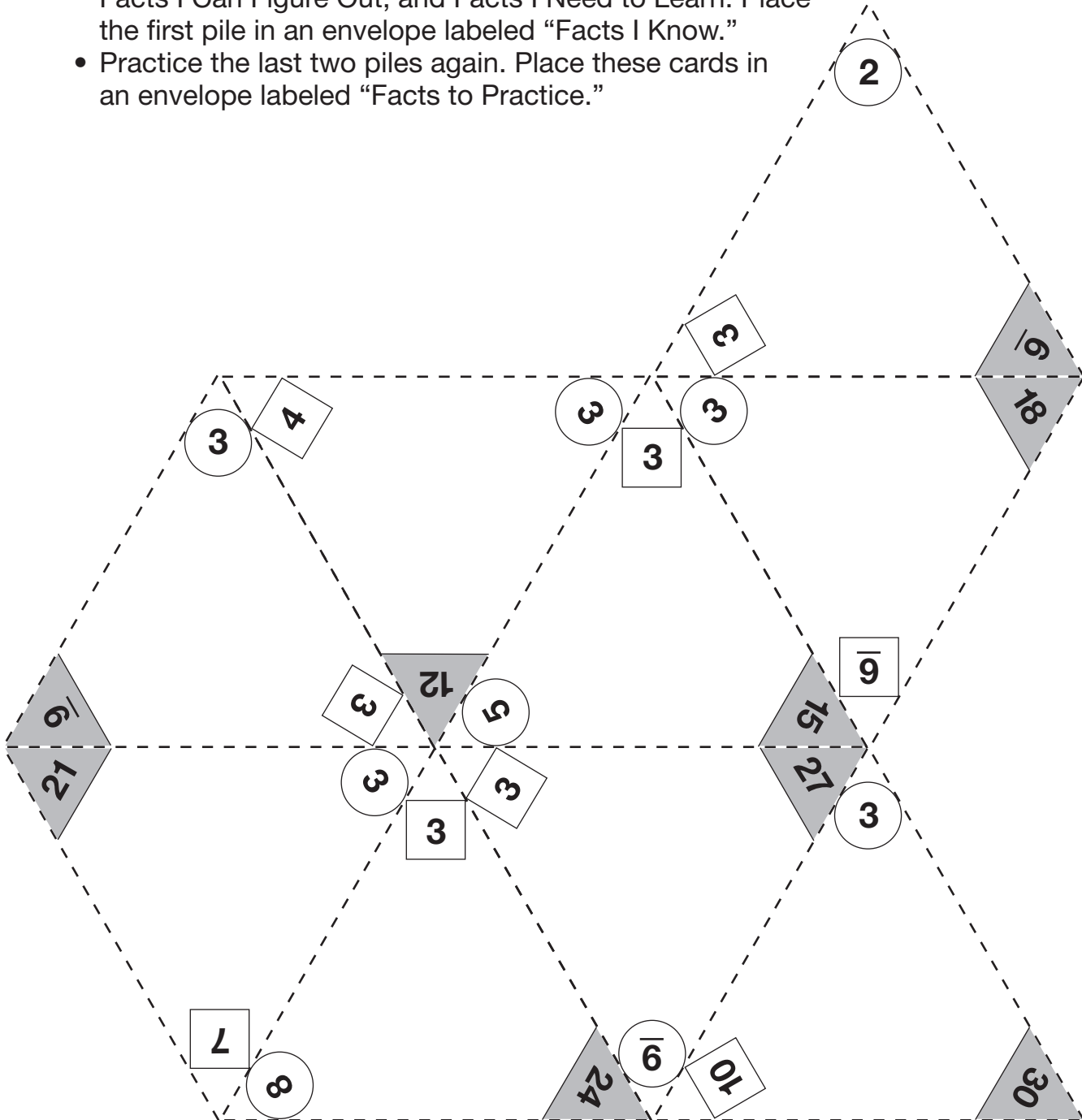
- Work with a partner. Each partner cuts out the flash cards.
- To quiz you on a multiplication fact, your partner covers the shaded number. Multiply the two uncovered numbers.
- Divide the used cards into three piles: Facts I Know Quickly, Facts I Can Figure Out, and Facts I Need to Learn. Place the first pile in an envelope labeled “Facts I Know.”
- Practice the last two piles again. Place these cards in an envelope labeled “Facts to Practice.”



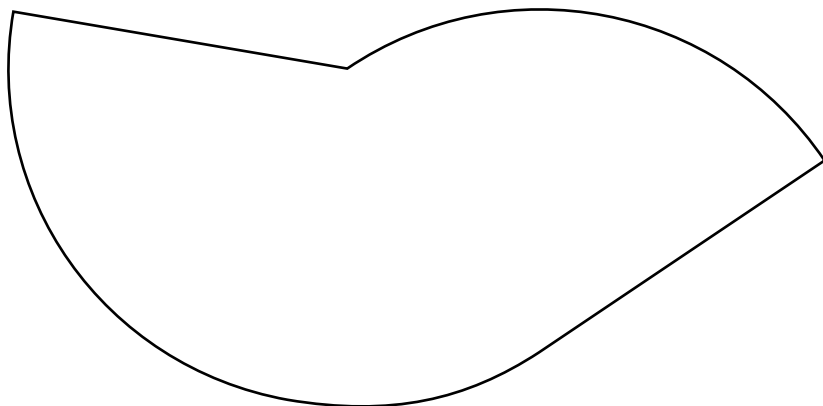
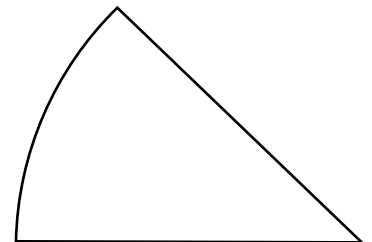
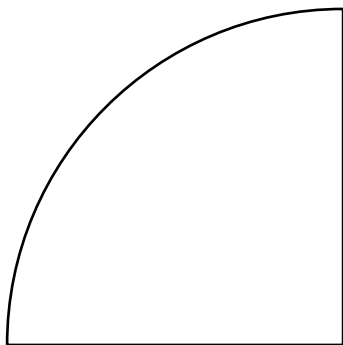
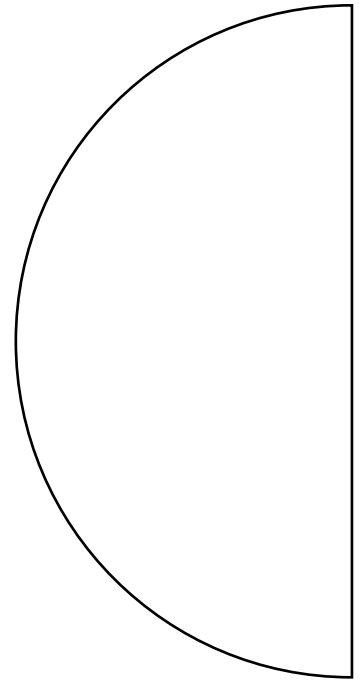
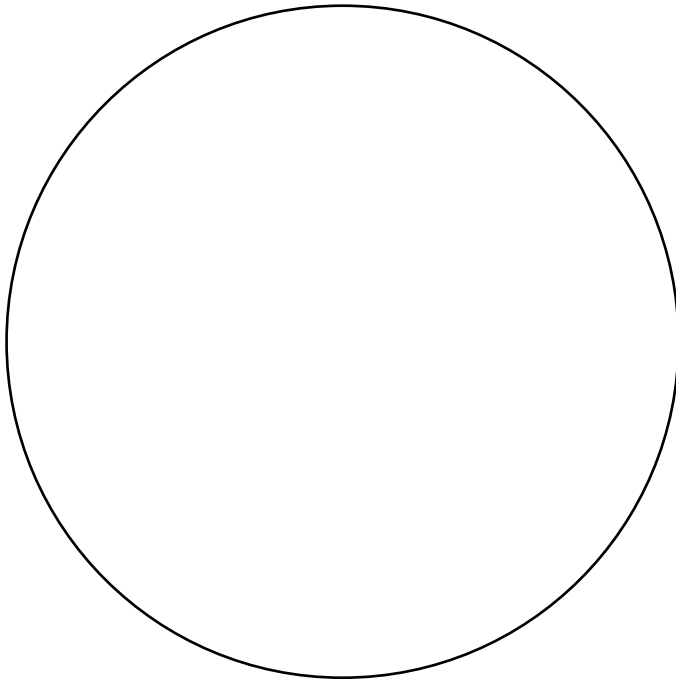


# Triangle Flash Cards: 3s

- Work with a partner. Each partner cuts out the flash cards.
- To quiz you on a multiplication fact, your partner covers the shaded number. Multiply the two uncovered numbers.
- Divide the used cards into three piles: Facts I Know Quickly, Facts I Can Figure Out, and Facts I Need to Learn. Place the first pile in an envelope labeled "Facts I Know."
- Practice the last two piles again. Place these cards in an envelope labeled "Facts to Practice."



# Red, Pink, Yellow, and Blue Pieces





## Pizza Delivery

**Joe Smart ordered a pizza from Red Hot Pizza and Moe Smart ordered a pizza from Rick's Pizzeria. Joe ate half his pizza and Moe ate three-fourths of his. Who ate more? Be ready to explain your answer.**

Name \_\_\_\_\_ Date \_\_\_\_\_

## Circle Pieces: Red, Pink, Yellow, Blue Check-In: Questions 16–20 Feedback Box

	Expect- ation	Check In	Comments
Recognize that fractional parts of a unit whole may be different shapes but must be the same size. [Q#16–20]	E4		
Identify the unit whole when given a fractional part of a whole. [Q#16–20]	E7		

Yes ...

Yes, but ...

No, but ...

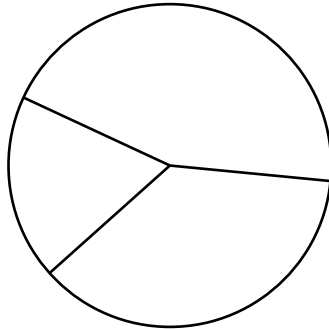
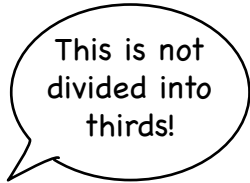
No ...

<b>MPE2. Find a strategy.</b> I choose good tools and an efficient strategy for solving the problem. [Q# 20]				
<b>MPE5. Show my work.</b> I show or tell how I arrived at my answer so someone else can understand my thinking.				

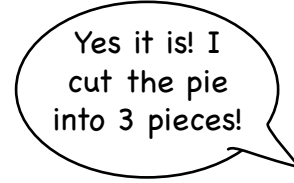
# Agree or Disagree?

1. Joe Smart asked Moe Smart to divide a pie into thirds so they could share it among themselves and Mrs. Smart.

**Joe said:**

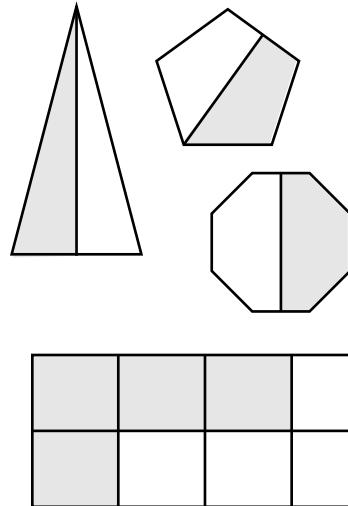
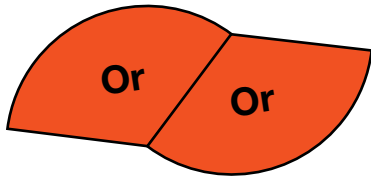
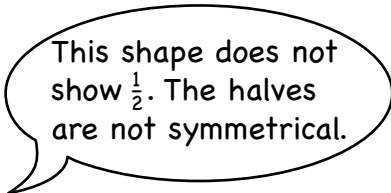


**Moe said:**

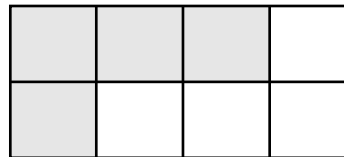
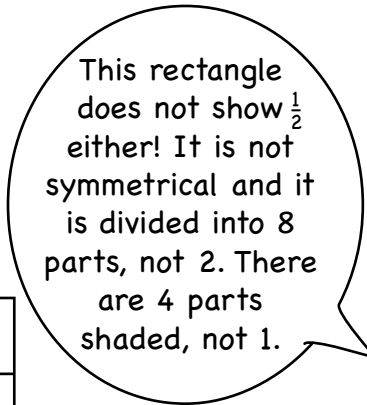


2. Moe said these things show  $\frac{1}{2}$ .

**Joe said:**

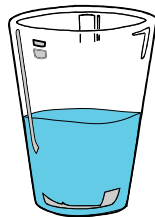
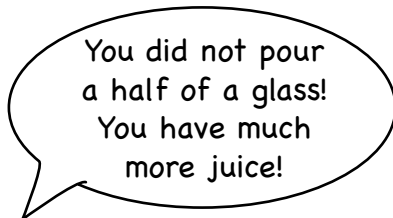


**Then Joe said:**

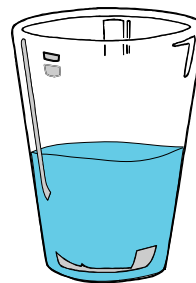


3. Mrs. Smart said the boys could each have a  $\frac{1}{2}$  glass of juice.

**Moe said:**

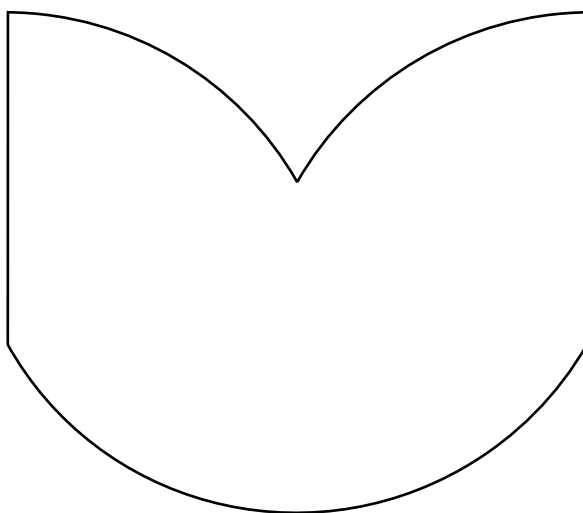
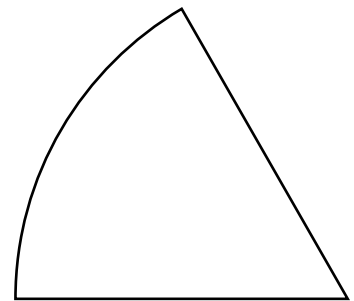
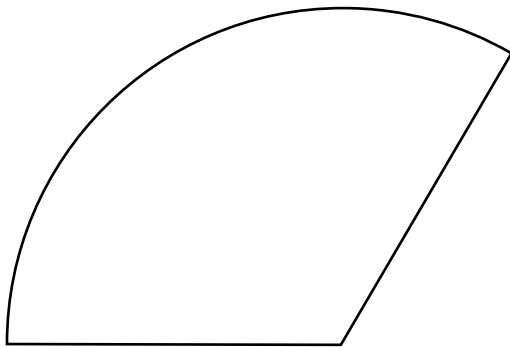
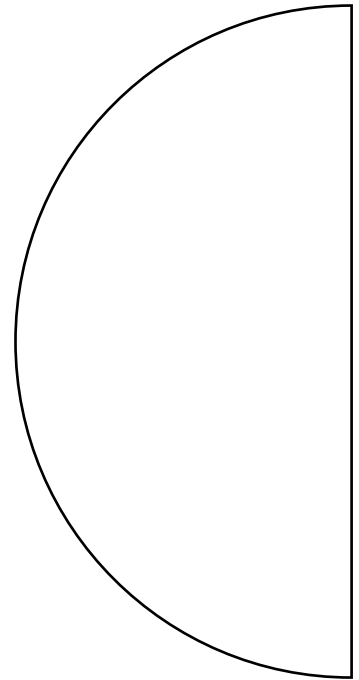
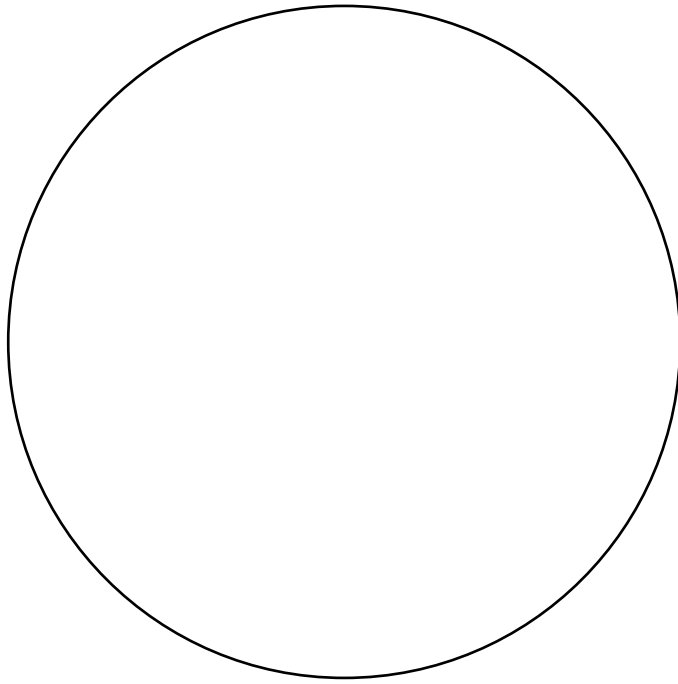


**Moe's glass**



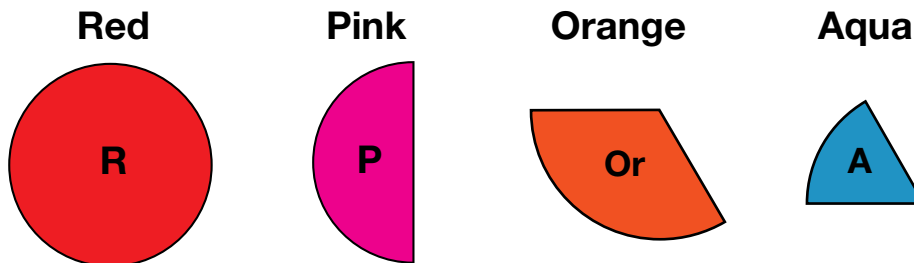
**Joe's glass**

# Red, Pink, Orange, and Aqua Pieces



# Parts and Wholes Quiz

Use the red, pink, orange, and aqua pieces to answer the questions. Use the *Writing Numbers in Words* page in the *Student Guide Reference* section.



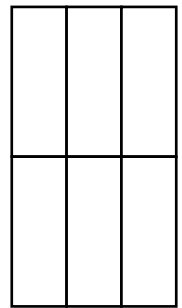
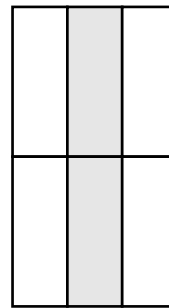
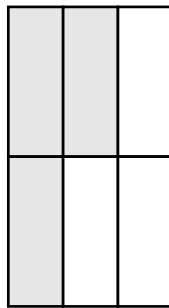
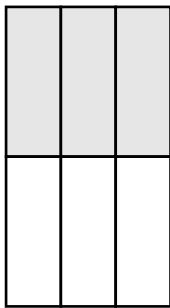
1. The red circle is one unit whole. Cover it with four aquas and one orange.
  - A. Is the circle divided into fifths? Why or why not?
  - B. Write a fraction for one aqua. \_\_\_\_\_
  - C. Write a fraction for four aquas. \_\_\_\_\_
  - D. Write a fraction for one orange. \_\_\_\_\_
2. The pink pieces is the unit whole. Cover it with two different colors.
  - A. What colors did you use? \_\_\_\_\_
  - B. Write a fraction in words for one aqua. \_\_\_\_\_
  - C. Write a fraction in words for one orange. \_\_\_\_\_

3. The aqua piece is one fourth.

A. Draw a shape for one whole.

B. Show three-fourths of your shape.

4. The large rectangle is the unit whole. Circle the large rectangles that show  $\frac{1}{2}$ . Show  $\frac{1}{2}$  another way on the last rectangle.



5. Joe and Moe Smart each ate pieces of the same small cake. Joe Smart ate  $\frac{1}{4}$  of the small cake. Moe ate  $\frac{1}{3}$  of the cake that was left. Moe says he ate more cake than Joe. Do you agree with Moe? Why or why not? Show or tell how you decided.



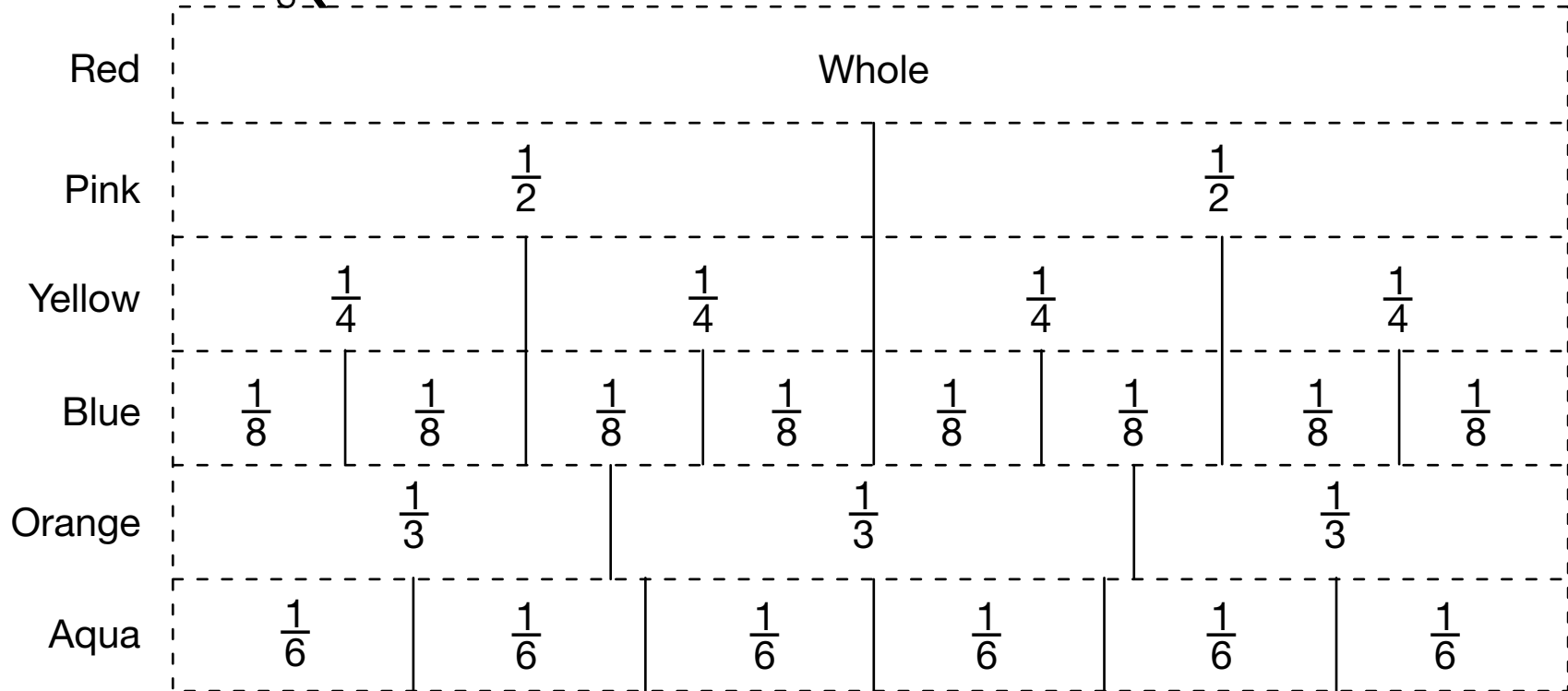
**Parts and Wholes Quiz  
Feedback Box**

	<b>Expectation</b>	<b>Check In</b>	<b>Comments</b>
Represent fractions using circle pieces and drawings. [Q# 1, 3A, 4, 5]	<b>E1</b>		
Use words and numbers to name fractions. [Q# 1B-D, 2B-C]	<b>E2</b>		
Recognize that fractional parts of a unit whole may be different shapes but must be the same size. [Q# 1A, 3B, 4, 5]	<b>E3</b>		
Recognize that the same fractional parts of different-size unit wholes are not equal. [Q# 1B, 1D, 2B, 2C]	<b>E4</b>		
Partition shapes by a given unit fraction. [Q# 3B, 5]	<b>E6</b>		
Identify the unit whole when given a fractional part of a whole. [Q# 3A, 5]	<b>E7</b>		

# Fraction Strips for the Teacher

Cut on dotted lines.

Fold on solid lines.



# Extra Fraction Strips

A large rectangular area with a dashed border, divided into ten horizontal strips by dashed lines, intended for writing fractions.

Name \_\_\_\_\_ Date \_\_\_\_\_

# Folding Fractions

## Homework Section Check-In: Questions 6–8

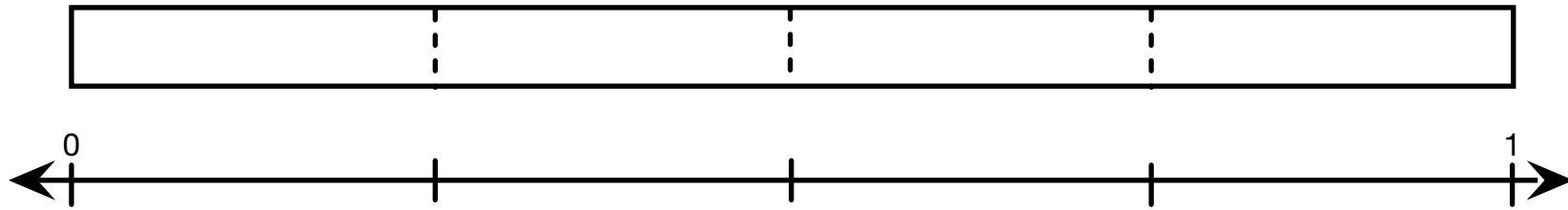
### Feedback Box

	Expectation	Check In	Comments
Find equivalent fractions using fraction strips. [Q#6]	<b>E9</b>		
Compare and order fractions using fraction strips. [Q#7]	<b>E10</b>		
Recognize that fractional parts of a unit whole must be the same size. [Q#8]	<b>E3</b>		

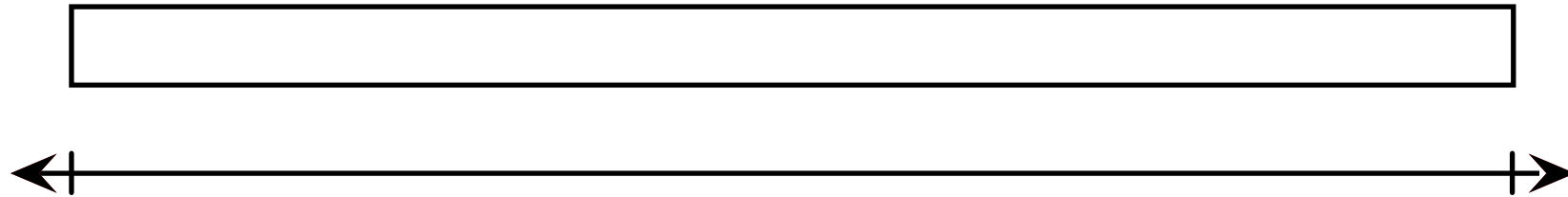
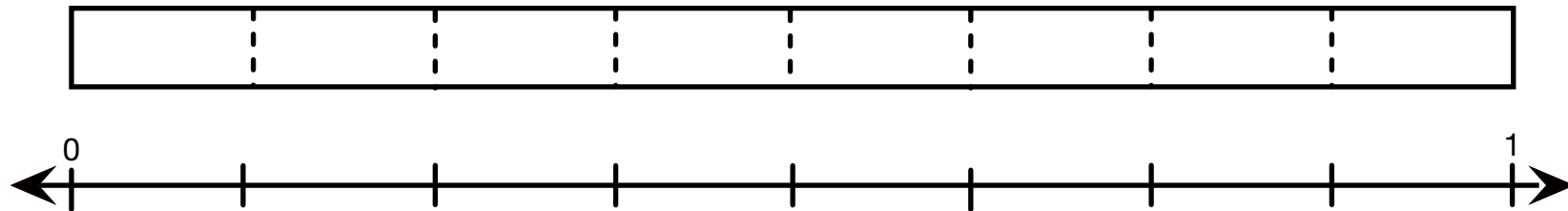
	Yes ...	Yes, but ...	No, but ...	No ...
<b>MPE2. Find a strategy.</b> I choose good tools and an efficient strategy for solving the problem. [Q#8]				
<b>MPE5. Show my work.</b> I show or tell how I arrived at my answer so someone else can understand my thinking. [Q#8]				

# Showing Fractions on Number Lines

Example A.



Example B.



# Show That Fraction

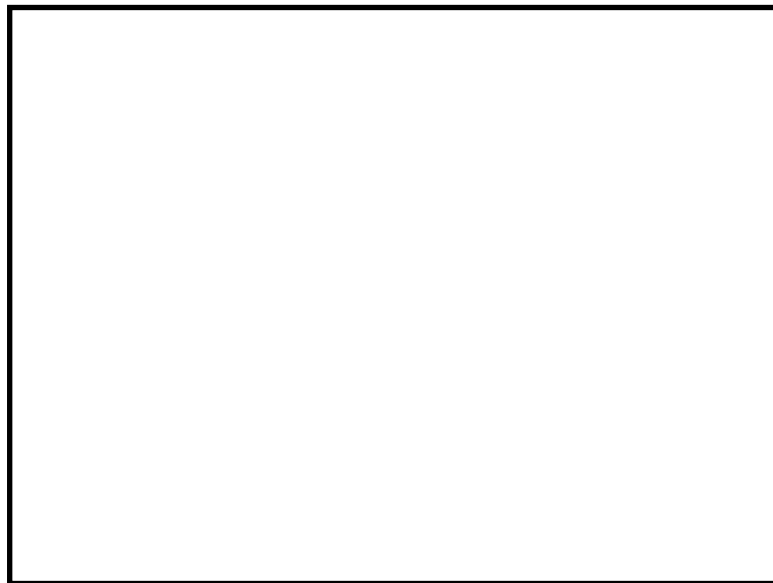
Master

\_\_\_\_\_

Number

\_\_\_\_\_

Words



one whole fraction strip

one whole fraction strip

