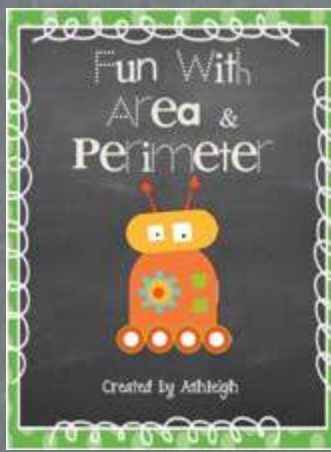
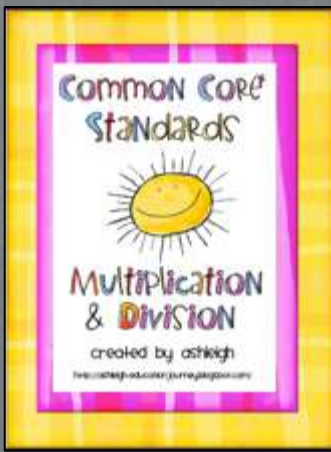
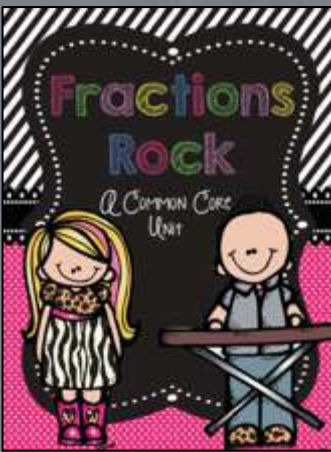
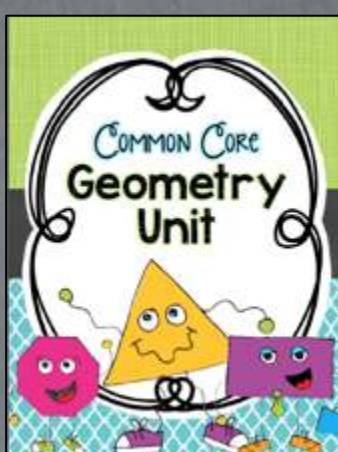
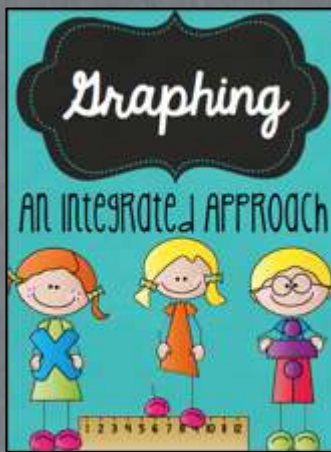
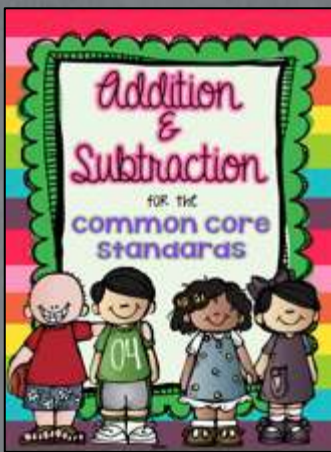
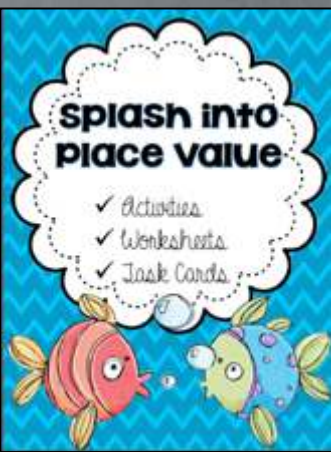




# 3rd Grade Math Units



# *Splash Into Place Value*

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$\frac{1}{\gamma}$	$\frac{1}{\beta}$
$\frac{1}{2}$	$\frac{1}{2}$
$\frac{1}{3}$	$\frac{1}{3}$
$\frac{1}{4}$	$\frac{1}{4}$
$\frac{1}{5}$	$\frac{1}{5}$
$\frac{1}{6}$	$\frac{1}{6}$
$\frac{1}{7}$	$\frac{1}{7}$
$\frac{1}{8}$	$\frac{1}{8}$
$\frac{1}{9}$	$\frac{1}{9}$
$\frac{1}{10}$	$\frac{1}{10}$
$\frac{1}{11}$	$\frac{1}{11}$
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$\frac{1}{95}$	$\frac{1}{95}$
$\frac{1}{96}$	$\frac{1}{96}$
$\frac{1}{97}$	$\frac{1}{97}$
$\frac{1}{98}$	$\frac{1}{98}$
$\frac{1}{99}$	$\frac{1}{99}$
$\frac{1}{100}$	$\frac{1}{100}$

Use a number reference to show an example of the identity property.

$\frac{1}{\frac{1}{2}}$	$\frac{1}{\frac{1}{2}} = 2$	$\frac{2}{\frac{1}{2}}$	$\frac{2}{\frac{1}{2}} = 4$
$\frac{1}{\frac{1}{3}}$	$\frac{1}{\frac{1}{3}} = 3$	$\frac{3}{\frac{1}{3}}$	$\frac{3}{\frac{1}{3}} = 9$
$\frac{1}{\frac{1}{4}}$	$\frac{1}{\frac{1}{4}} = 4$	$\frac{4}{\frac{1}{4}}$	$\frac{4}{\frac{1}{4}} = 16$
$\frac{1}{\frac{1}{5}}$	$\frac{1}{\frac{1}{5}} = 5$	$\frac{5}{\frac{1}{5}}$	$\frac{5}{\frac{1}{5}} = 25$
$\frac{1}{\frac{1}{6}}$	$\frac{1}{\frac{1}{6}} = 6$	$\frac{6}{\frac{1}{6}}$	$\frac{6}{\frac{1}{6}} = 36$
$\frac{1}{\frac{1}{7}}$	$\frac{1}{\frac{1}{7}} = 7$	$\frac{7}{\frac{1}{7}}$	$\frac{7}{\frac{1}{7}} = 49$
$\frac{1}{\frac{1}{8}}$	$\frac{1}{\frac{1}{8}} = 8$	$\frac{8}{\frac{1}{8}}$	$\frac{8}{\frac{1}{8}} = 64$
$\frac{1}{\frac{1}{9}}$	$\frac{1}{\frac{1}{9}} = 9$	$\frac{9}{\frac{1}{9}}$	$\frac{9}{\frac{1}{9}} = 81$
$\frac{1}{\frac{1}{10}}$	$\frac{1}{\frac{1}{10}} = 10$	$\frac{10}{\frac{1}{10}}$	$\frac{10}{\frac{1}{10}} = 100$

Describe the commutative property  
in your own words.

Use a number sentence to show a  
example of the conclusion

your own work.

Use a number sentence to show an example of the associative property.

--	--

Prove the identity property

### Properties of Addition

[illegible]

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[illegible]

Materials/Preparation:

- Subtraction Writing recording sheet

- Subtraction with regrouping is such a challenging task for students, which is why students need to approach this concept from multiple angles. This activity required students to explain HOW to subtract a three digit number with regrouping.
- Have students complete the Subtraction Writing recording sheet. Students will need to model how to subtract using the provided number sentence.
- Then students will explain in writing the steps of the subtraction algorithm.
- Students may find the answer key beneficial as they learn how to subtract.

## Reelin's Substr

Largest number: 1400	
Smallest number: 1400	
Expanded Dimensions	
Block Dimensions	





  

Largest number: 1400	
Smallest number: 1400	
Expanded Dimensions	
Block Dimensions	

Largest number: 1400	
Smallest number: 1400	
Expanded Dimensions	

Nathalie Jentzen [n.jentzen@ucl.ac.uk](mailto:n.jentzen@ucl.ac.uk)

<p>Round 1</p> 	
<p>Round 2</p> 	

## Estimated

100	225	3

$8 \times 7 = 56$	$32 \div 4 = 8$	70
$9 \times 3 = 27$	$24 \div 6 = 4$	30
$6 \times 5 = 30$	$2400 \div 30 = 80$	210

Share your feedback with us: [ShareYourFeedback@Wiley.com](mailto:ShareYourFeedback@Wiley.com)

<p>1. Write down the name of the person you are writing to.</p> <p>2. Write down the name of the person you are writing to.</p>	<p>3. Write down the name of the person you are writing to.</p> <p>4. Write down the name of the person you are writing to.</p>
<p>5. Write down the name of the person you are writing to.</p> <p>6. Write down the name of the person you are writing to.</p>	<p>7. Write down the name of the person you are writing to.</p> <p>8. Write down the name of the person you are writing to.</p>

### Addition Mystery

1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30
31	32	33	34	35	36
37	38	39	40	41	42
43	44	45	46	47	48
49	50	51	52	53	54
55	56	57	58	59	60
61	62	63	64	65	66
67	68	69	70	71	72
73	74	75	76	77	78
79	80	81	82	83	84
85	86	87	88	89	90
91	92	93	94	95	96

## Addition Mystery Dr.

	1	2	3	4	5	6	7
1	1	2	3	4	5	6	7
2	2	22	23	24	25	26	27
3	3	32	33	34	35	36	37
4	4	42	43	44	45	46	47
5	5	52	53	54	55	56	57
6	6	62	63	64	65	66	67
7	7	72	73	74	75	76	77
8	8	82	83	84	85	86	87
9	9	92	93	94	95	96	97

## Subtraction Mystery Picture

Write the missing number in each pattern. Write only the answer in the box.

03-05=	673-65
145-51=	783-74
195-53=	892-83
832-82=	700-78
65-78=	323-38
773-88=	384-88
84-44=	542-27
145-8=	482-43
700-33=	983-14
38-8=	640-54
	780-72

### Subtraction Mystery

1	2	3	4	5	6
11	12	13	14	15	16
21	22	23	24	25	26
31	32	33	34	35	36
41	42	43	44	45	46
51	52	53	54	55	56
61	62	63	64	65	66
71	72	73	74	75	76
81	82	83	84	85	86
91	92	93	94	95	96

### Subtraction Word Problems

[illegible]

### Writing Story Problems

<p>state is stable and positive that retains the essential property of stability</p>	<p>state is stable and positive that retains the essential property of stability</p>
<p>state is stable and positive that retains the essential property of stability</p>	<p>state is stable and positive that retains the essential property of stability</p>

### Addition and Subtraction Story Problems 2

<p>1. I have 100 pennies and I want to buy a book that costs 75 cents. How many more pennies do I need?</p>	<p>2. I have 100 pennies and I want to buy a book that costs 75 cents. How many more pennies do I need?</p>
<p>3. I have 100 pennies and I want to buy a book that costs 75 cents. How many more pennies do I need?</p>	<p>4. I have 100 pennies and I want to buy a book that costs 75 cents. How many more pennies do I need?</p>
<p>5. I have 100 pennies and I want to buy a book that costs 75 cents. How many more pennies do I need?</p>	<p>6. I have 100 pennies and I want to buy a book that costs 75 cents. How many more pennies do I need?</p>
<p>7. I have 100 pennies and I want to buy a book that costs 75 cents. How many more pennies do I need?</p>	<p>8. I have 100 pennies and I want to buy a book that costs 75 cents. How many more pennies do I need?</p>
<p>9. I have 100 pennies and I want to buy a book that costs 75 cents. How many more pennies do I need?</p>	<p>10. I have 100 pennies and I want to buy a book that costs 75 cents. How many more pennies do I need?</p>

### Multi-Step Word Problems

<p>1. I am a butterfly and I fly to the flowers.</p> <p>2. I am a butterfly and I fly to the flowers.</p> <p>3. I am a butterfly and I fly to the flowers.</p> <p>4. I am a butterfly and I fly to the flowers.</p> <p>5. I am a butterfly and I fly to the flowers.</p> <p>6. I am a butterfly and I fly to the flowers.</p> <p>7. I am a butterfly and I fly to the flowers.</p> <p>8. I am a butterfly and I fly to the flowers.</p> <p>9. I am a butterfly and I fly to the flowers.</p> <p>10. I am a butterfly and I fly to the flowers.</p>	<p>1. I am a butterfly and I fly to the flowers.</p> <p>2. I am a butterfly and I fly to the flowers.</p> <p>3. I am a butterfly and I fly to the flowers.</p> <p>4. I am a butterfly and I fly to the flowers.</p> <p>5. I am a butterfly and I fly to the flowers.</p> <p>6. I am a butterfly and I fly to the flowers.</p> <p>7. I am a butterfly and I fly to the flowers.</p> <p>8. I am a butterfly and I fly to the flowers.</p> <p>9. I am a butterfly and I fly to the flowers.</p> <p>10. I am a butterfly and I fly to the flowers.</p>
--	--

Ben played outside for 75 minutes. He rode his bike for 22 minutes, and he rode his skateboard for 36 minutes. The rest of the time he was on his scooter. How many minutes did he play on his scooter?

Amelia needed to read 100 more pages to finish her book. She read 12 pages on Monday, 34 pages on Tuesday, and 9 pages on Wednesday. How many more pages does she need to read?

There were three people on a boat. Oliver weighed 80 pounds and Alex weighed 125 pounds. When James got on the boat, the total weight went to 325 pounds. How much did James weigh?

Chloe loves to run. She ran 5 miles last week. She ran 8 miles on Monday and 4 miles on Wednesday. The only other day she ran was Friday. How far did Chloe run on Friday?

# Graphing

## AN INTEGRATED APPROACH

I've always looked at data analysis and/or graphing as its own little unit in my math curriculum and taught it in isolation from other math concepts and subject areas. As I studied the Common Core Standards and reflected on my own math instruction, I saw the need to integrate my data standards into each of the math strands and concepts I taught throughout the year. This graphing unit contains at least two graphing activities for each of the math concepts below:

- Place Value
- Addition/Subtraction
- Multiplication/Division
- Fractions
- Measurement
- Geometry

Since the Common Core Standards were the foundation of this unit, you'll find a combination of picture graphs, bar graphs, and line plots in the activities. Because these graphs may be new to students, I recommend spending a brief amount of time at the beginning of the year studying each type of graph to familiarize students with how to create and read the three types of graphs. It will also be important for students to understand basic terminology such as increments, scaled, and data. In this unit, I've included basic terminology posters as well as an introductory lesson for each type of graph.

If the integrated approach just isn't for you or if time won't permit, these lessons can certainly be used in a more traditional graphing unit. Just pick and choose the activities that will best suit your students!

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## Vocabulary

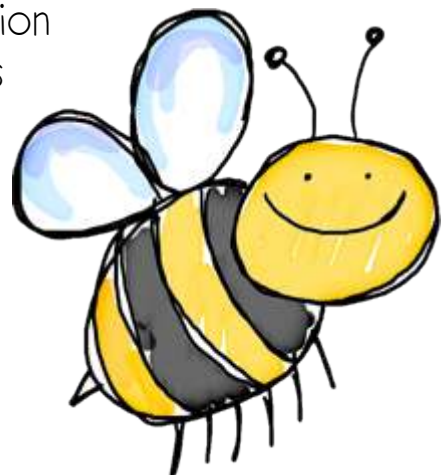
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I have an obtuse angle




Who has a polygon with 5 sides?

I have an acute angle




Who has a triangle with 3 equal sides and 3 equal angles?

I have a pentagon



Who has an angle whose measure is less than 90°?

I have an equilateral triangle




Who has a line that passes through the center of a circle?


## I HAVE WHO HAS GEOMETRY

**Preparation**  
Print cards on card stock  
Laminate and cut out cards

**How To Play**  
Distribute each of the cards. Depending on your class size some students may need two cards.  
Have one student begin the game by reading their card.  
Ex: "I have a square. Who has lines that never intersect?"  
The student who is holding the "parallel lines" card should answer by reading their entire card.  
Students should go through each of the cards until they get back to where they started.  
The object of this game is for students to increase their speed and to decrease the amount of time it takes to use each of the cards.




I have a vertex




Who has a closed-in, plane figure with straight lines?

I have a quadrilateral




Who has a parallelogram with all four sides equal in length, with no right angles?

I have a polygon




Who has all four-sided polygons?

I have a rhombus




Who has a quadrilateral with exactly one pair of parallel lines?

Plane object that has no endpoints and continues on forever



Distance between two endpoints




## Geometry Concentration

**Preparation**


- Print cards on card stock
- Laminate and cut out cards

**How to Play:**


- Shuffle all of the geometry cards.
- Lay all of the cards face down on a flat surface.
- Students should take turns trying to find matches by picking two cards up each turn.
- If the two cards are a match, the student gets to keep the set and has another turn.
- If the two cards are not a match, the student should lay the cards down in the same place, and then the turn is over.
- After all of the matches have been found, students should count all of the matches they collected during the game and whoever has the most wins the game.
- This game can be played with partners or small groups.




Triangle with 3 equal sides



Triangle with 2 equal sides




Which shape doesn't belong? Why?




25

Which shape doesn't belong? Why?




Which shape doesn't belong? Why?



27

Which shape doesn't belong? Why?



## Geometry Task Cards

**Materials**

- Task Cards
- Answer Sheet


**Preparation**

- Print and laminate task cards (use cardstock for extra durability)

**Directions**


- This makes a great center or work station activity! Have students with a partner to answer a variety of geometry questions.
- If you have not yet taught a particular skill or term, you can remove those cards until your students are ready.
- I encourage my students to review their work with the included answer key. However, I don't give them the answer key until after they've completed the activity.

Identify the figure below.




1

Identify the figure below.




3

Identify the figure below.



2

Identify the figure below.



4



# Fractions Rock

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# Teacher Notes

Ever since the release of the Common Core Standards, I've wanted to create a comprehensive fraction unit that would teach all of the third grade standards. I think fractions required the biggest change in my instruction as I transitioned from my state standards to the Common Core Standards. However, I didn't want to create the unit until I had a couple years experience with the Common Core Standards. I wanted to experiment with what strategies worked best with my students and to find potential areas of trouble. I created this unit with a focus on both conceptual understanding and skills practice. I've broken this unit into three parts: math workshop lessons, skills practice worksheets, and task cards. The math workshop sections contain the lesson plan, any needed recording sheet for the activity, and a practice sheet that I use as a follow up for skills practice or homework. I've also included a "Unit at a Glance" page that shows how I plan to implement this unit in my own classroom. It will show the order I plan to teach each lesson and which skills practice worksheet I use to reinforce each math workshop lesson. I've set aside five weeks to focus on fractions, which may seem a little long for a fractions unit. I needed the extra time, because I incorporate math workstations on Tuesdays and Thursdays. That is the time I will pull aside small groups of students to work with anyone who needs additional help or practice. The rest of my class will participate in workstation activities. If you don't need the workstation plans, you can refer to the "Unit at a Glance" on page five that lays out the unit without workstations.



## Comparing Fractions

Standards: 3.NF.3

Materials:

- Fraction strips (two if you don't have)
- Comparing Fractions

Mini Lesson: Review with them signs and how to use fraction strips to student minutes to explore and observe and listen to any potential misconceptions.

Work Time: Give student reflection sheet and have to complete their work or with a partner. Student that will require them to know the numerator and fractions.

Closing: Allow three or four with the class using a document camera.

- What is the denominator?
- What is the numerator?
- How did you know?
- How could you model?
- How could you model?

## Comparing Fractions

1. What happens to the size of each fraction as the denominator increases?

2. Name five fractions that are larger than  $\frac{1}{2}$ .

3. Name five fractions that are smaller than  $\frac{1}{2}$ .

4. Which fractions are smaller than  $\frac{1}{2}$ ?

Use your fraction strips to compare the following fractions.



## Build a Fraction

Standards: 3.NF.3

Materials:

- Die
- Build a Fraction recording sheet
- Fraction bars

Mini Lesson: Model with student fraction bars. It is important to find paper to model their fraction bars correctly. Make sure directions and the mathematical play the game.

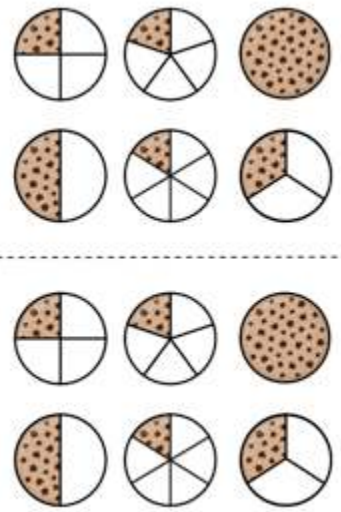
Work Time: Have students work in pairs rolling two dice. The student to build a fraction. The smaller numerator and the larger denominator should record this digit on the recording sheet. Then student fractions using fraction bars. The largest fraction wins the round. Her name on the recording sheet. Ten rounds with this game.

Closing: Allow three or four with the class using a document camera.

- Were you able to predict what fraction before modeling it?
- predictions?

## BUILD A FRACTION

Roll	Player 1	Player 2
1	Sign Roll	Fraction
2		
3		
4		
5		
6		
7		
8		
9		
10		



## Finding Equivalent Fractions

What fraction can you use to find an equivalent to  $\frac{1}{2}$ ?

What fraction can you use to find an equivalent to  $\frac{1}{3}$ ?

What fraction can you use to find an equivalent to  $\frac{1}{4}$ ?

What fraction can you use to find an equivalent to  $\frac{1}{5}$ ?

What fraction can you use to find an equivalent to  $\frac{1}{6}$ ?

What fraction can you use to find an equivalent to  $\frac{1}{7}$ ?

What fraction can you use to find an equivalent to  $\frac{1}{8}$ ?

What fraction can you use to find an equivalent to  $\frac{1}{9}$ ?

What fraction can you use to find an equivalent to  $\frac{1}{10}$ ?

## Line 'em Up

Student a piece of construction paper horizontally. Divide the paper into three rows and outline. Explain that each row will be used to place one set of fractions.

Put out one type of fraction on the construction paper. After student repeat the process.

What fraction can you use to find an equivalent to  $\frac{1}{2}$ ?

What fraction can you use to find an equivalent to  $\frac{1}{3}$ ?

What fraction can you use to find an equivalent to  $\frac{1}{4}$ ?

What fraction can you use to find an equivalent to  $\frac{1}{5}$ ?

What fraction can you use to find an equivalent to  $\frac{1}{6}$ ?

What fraction can you use to find an equivalent to  $\frac{1}{7}$ ?

What fraction can you use to find an equivalent to  $\frac{1}{8}$ ?

What fraction can you use to find an equivalent to  $\frac{1}{9}$ ?

What fraction can you use to find an equivalent to  $\frac{1}{10}$ ?

## Gumball Machine

There is a jar of 20 gumballs. 12 are red and 8 are blue. What fraction of the gumballs are red?

There is a jar of 20 gumballs. 12 are red and 8 are blue. What fraction of the gumballs are blue?

A jar contains 10 gumballs. 6 are red and 4 are blue. What fraction of the gumballs are red?

A jar contains 10 gumballs. 6 are red and 4 are blue. What fraction of the gumballs are blue?

A jar contains 10 gumballs. 6 are red and 4 are blue. What fraction of the gumballs are red?

A jar contains 10 gumballs. 6 are red and 4 are blue. What fraction of the gumballs are blue?

## Pattern Block Fractions

Standards: 3.NF.3

Materials:

- Pattern blocks
- Pattern Block Fractions recording sheet

Mini Lesson: Review equivalent fractions, and today students will find equivalent fraction blocks. If students have not used pattern blocks, allow minutes to manipulate and experiment with beginning the lesson. Show students how to use pattern blocks to create fractions. I like to use triangles and trapezoids and explain that a triangle is a trapezoid. To several examples together to understanding.

Work Time: Have students complete the Pattern Block Fractions recording sheet individually or with a partner. Students should model the questions and answer pattern blocks as they work. The first page of the recording sheet has basic fraction questions. The second page guides students into finding equivalent fractions.

Closing: Allow three or four students to share with the class using a document camera. Ask:

- Why are there two possible answers?
- How did you know this was an equivalent fraction?

## Pattern Block

24. Use the pattern blocks to show the fraction  $\frac{1}{2}$ .

25. Use the pattern blocks to show the fraction  $\frac{1}{3}$ .

26. Use the pattern blocks to show the fraction  $\frac{1}{4}$ .

27. Use the pattern blocks to show the fraction  $\frac{1}{5}$ .

28. Use the pattern blocks to show the fraction  $\frac{1}{6}$ .

29. Use the pattern blocks to show the fraction  $\frac{1}{7}$ .

30. Use the pattern blocks to show the fraction  $\frac{1}{8}$ .

31. Use the pattern blocks to show the fraction  $\frac{1}{9}$ .

32. Use the pattern blocks to show the fraction  $\frac{1}{10}$ .

33. Use the pattern blocks to show the fraction  $\frac{1}{11}$ .

34. Use the pattern blocks to show the fraction  $\frac{1}{12}$ .

35. Use the pattern blocks to show the fraction  $\frac{1}{13}$ .

36. Use the pattern blocks to show the fraction  $\frac{1}{14}$ .

37. Use the pattern blocks to show the fraction  $\frac{1}{15}$ .

38. Use the pattern blocks to show the fraction  $\frac{1}{16}$ .

39. Use the pattern blocks to show the fraction  $\frac{1}{17}$ .

40. Use the pattern blocks to show the fraction  $\frac{1}{18}$ .

41. Use the pattern blocks to show the fraction  $\frac{1}{19}$ .

42. Use the pattern blocks to show the fraction  $\frac{1}{20}$ .

43. Use the pattern blocks to show the fraction  $\frac{1}{21}$ .

44. Use the pattern blocks to show the fraction  $\frac{1}{22}$ .

45. Use the pattern blocks to show the fraction  $\frac{1}{23}$ .

46. Use the pattern blocks to show the fraction  $\frac{1}{24}$ .



1. Which fraction of the figure does the blue block represent?

2. Which fraction of the figure does the blue block represent?

3. Which fraction of the figure does the blue block represent?

4. Which fraction of the figure does the blue block represent?

5. Which fraction of the figure does the blue block represent?

6. Which fraction of the figure does the blue block represent?

7. Which fraction of the figure does the blue block represent?

8. Which fraction of the figure does the blue block represent?

9. Which fraction of the figure does the blue block represent?

10. Which fraction of the figure does the blue block represent?

ONE-HALF

ONE-FOURTH

$\frac{1}{2}$



$\frac{2}{4}$



$\frac{2}{6}$

$\frac{2}{8}$

$\frac{2}{10}$

