TEKSING TOWARD STAAR

MATHEMATICS ®

GRADE 3

TEKS/STAAR-BASED

LESSONS

TEACHER GUIDE

Six Weeks 1

TEKSING TOWARD STAAR SCOPE AND SEQUENCE
Grade 3 Mathematics

SIX WEEKS 1

Lesson	TEKS-BASED LESSON CONTENT	STAAR Category Standard	Spiraled Practice	Student (SA) and Hands-On (HO) Activity	Problem Solving	Skills and Concepts Homework
Lesson 1 ____ days	**3.2A**/compose and decompose numbers up to 100,000 as a sum of so many ten thousands, so many thousands, so many hundreds, so many tens, and so many ones using objects, pictorial models, and numbers, including expanded notation as appropriate **3.2B**/describe the mathematical relationships found in the base-10 place value system through the hundred thousands place	Category 1 Readiness Category 1 Supporting	SP 1 SP 2	SA 1 SA 2 SA 3 SA 4 HO 1	PS 1 PS 2 PS 3 PS 4	Homework 1 Homework 2 Homework 3 Homework 4
Lesson 2 ____ days	**3.2C/**represent a number on a number line as being between two consecutive multiples of 10; 100; 1,000; or 10,000 and use words to describe relative size of numbers in order to round whole numbers **3.4B/**round to the nearest 10 or 100 or use compatible numbers to estimate solutions to addition and subtraction problems	Category 1 Supporting Category 2 Supporting	SP 3 SP 4	SA 1 HO 1 HO 2 SA 2 HO 3	PS 1 PS 2	Homework 1A Homework 1B Homework 2A Homework 2B
Lesson 3 ____ days	**3.2D/**compare and order whole numbers up to 100,000 and represent the comparisons using the symbols >, <, or =	Category 1 Readiness	SP 5 SP 6	SA 1 SA 2 HO 1	PS 1 PS 2	Homework 1 Homework 2
Lesson 4 ____ days	**3.5A/**represent one- and two-step problems involving addition and subtraction of whole numbers to 1,000 using pictorial models, number lines, and equations **3.4A/**solve with fluency one-step and two-step problems involving addition and subtraction within 1,000 using strategies based on place value, properties of operations, and the relationships between addition and subtraction	Category 2 Readiness Category 2 Readiness	SP 7 SP 8	SA 1 SA 2 HO 1 SA 3 SA 4 SA 5 HO 2 SA 6	PS 1 PS 2 PS 3 PS 4 PS 5 PS 6	Homework 1 Homework 2 Homework 3 Homework 4 Homework 5 Homework 6
Lesson 5 ____ days	**3.7C/**determine the solutions to problems involving addition and subtraction of time intervals in minutes using pictorial models or tools such as a 15-minute even plus a 30-minute event equals 45 minutes	Category 3 Supporting	SP 9 SP 10	HO 1 SA 1 SA 2	PS 1 PS 2	Homework 1 Homework 2
Lesson 6 ____ days	**3.3A/**represent fractions greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 using concrete objects and pictorial models, including strip diagrams and number lines **3.7A/**represent fractions of halves, fourths, and eights as distances from zero on a number line **3.3B/**determine the corresponding fraction greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 given a specified point on a number line	Category 1 Supporting Category 1 Supporting Category 1 Supporting	SP 11 SP 12	HO 1 HO 2 HO 3 SA 1	PS 1 PS 2	Homework 1 Homework 2
Lesson 7 ____ days	**3.6A/**classify and sort two-…dimensional figures based on attributes using formal geometric language	Category 3 Readiness	SP 13 SP 14	HO 1 SA 1 HO 2	PS 1 PS 2	Homework 1 Homework 2

SIX WEEKS 1

Lesson	TEKS-BASED LESSON CONTENT	STAAR Category Standard	Spiraled Practice	Student (SA) and Hands-On (HO) Activity	Problem Solving	Skills and Concepts Homework
Lesson 8 ____ days	**3.7B/**determine the perimeter of a polygon or a missing length when given perimeter and remaining side lengths in problems	Category 3 Readiness	SP 15 SP 16	HO 1 SA 2 HO2 SA2 HO3	PS 1 PS 2	Homework 1 Homework 2
Lesson 9 ____ days	**3.8A/**summarize a data set with multiple categories using a frequency table…pictograph… **3.8B/**solve one- and two-step problems using categorical data represented with a frequency table…pictograph…	Category 4 Readiness Category 4 Supporting	SP 17 SP 18	HO 1 SA 1 HO 2 SA 2	PS 1 PS 2	Homework 1 Homework 2
Lesson 10 ____ days	**3.9A/**explain the connection between human capital/labor and income	Category 4 Supporting	SP 19 SP 20	SA 1	PS 1	Homework 1
Review	**Six Weeks 1 Open-Ended Review**					
Assessment	**Six Weeks 1 Assessment**					

TEACHER NOTES:

GRADE 3 MATERIALS LIST - SIX WEEKS 1

LESSON	MATERIALS NEEDED
1	**1. Math Background Part I** Per pair of students: 250 stir sticks and rubber bands, 1 set of base-10 blocks, 2 thousands cubes, 10 flats, 10 rods, 10 units **2. Problem-Solving 1** Per student: 1 copy of Problem-Solving Plan for math notebook, 1 copy of Problem-Solving Questions Per pair of students: 1,000 stir sticks, rubber bands, and a gallon baggie **3. Student Activity 1** Per pair of students: 1 set of base-10 sticks made during Problem-Solving 1, 1 set of base-10 blocks (3 thousand cubes, 9 hundred flats, 9 ten rods, 9 unit cubes) **4. Hands-On Activity 1** Per student: 1 Place Value Game Board Per pair of students: 10-section spinner (copy the spinner on cardstock and laminate), 1 sharp pencil and 1 small paper clip to make the pointer for the spinner
2	**1. Hands-On Activity 1** Per pair: Rounding Roller Coaster Models 1, 2, 3, and 4 per pair of students (Be sure to use master in Cardstock Masters folder - Copy on cardstock, laminate and cut along dotted lines), 1 set of numbers (copy on cardstock, copy *TEKSING TOWARD STAAR* logo on back, laminate, cut out and place in a zipper baggie) **2. Hands-On Activity 2** Per pair: 1 local restaurant menu (make copies of a real menu from a local restaurant - use a menu that does not list prices in whole dollar amounts)
3	**1. Student Activity 3** Per pair of students: 2 sheets of white cardstock, 1 set of period labels on cardstock (copy thousands period on pink, ones period on yellow), 1 set of pocket labels on cardstock (copy thousands on pink, and ones on yellow), 1 set of number cards (copy on white cardstock and students cut apart), 1 set of word cards (copy on white cardstock and students cut apart), scissors, tape and glue
4	**1. Hands-On Activity 2** Per group of 4: 1 set of Addition and Subtraction Expression Cards (copy on cardstock, copy logo on back, then laminate, cut apart and put in a zipper baggie), 4 Story Problem Record Sheets **2. Hands-On Activity 3** Per pair: 6 number cubes, 2 Number Cube Subtraction Record Sheets, blank paper

GRADE 3 MATERIALS LIST - SIX WEEKS 1

LESSON	MATERIALS NEEDED
5	**1. Hands-On Activity 1** Per group of 4 students: 2 analog clocks, 2 digital clocks
6	**1. Concrete Models of Fractions - Fractional Part of a Whole Object** Per student: 2 square pieces of $8\frac{1}{2}$ inch by $8\frac{1}{2}$ inch white copy paper, 1 red crayon and 1 blue crayon, scissors **Concrete Models of Fractions - Fractional Part of a Set of Objects** Per student: 6 pennies, pattern blocks (4 green triangles, 2 red trapezoids) **2. Hands-On Activity 1** Per student **-** scissors, blue crayon and red crayon **3. Hands-On Activity 2** Per pair of students: zipper baggie containing 4 red color tiles, 4 blue color tiles, 6 pennies, 3 yellow cubes, and 3 green cubes **4. Problem-Solving 1** Per pair of students: 8 blue and 8 red color tiles **5. Hands-On Activity 3** Per pair of students: Fraction Model Kit that includes fraction number cards, fraction word cards, two 4" by 8" white paper rectangles, two 4" by 4" white paper squares, 8 red color tiles, 8 blue color tiles, 8 pennies, set of pattern blocks (8 yellow hexagons, 8 blue rhombuses, 8 red trapezoids, 8 green triangles) **6. Student Activity 1** Per pair of students: zipper baggie containing 1 set of fraction bars, 1 colored pencil
7	**1. Hands-On Activity 1** Per pair of students: 1 set of two-dimensional figures cut-out pages, 2 pair of scissors, 1 zipper gallon baggie, 2 pencils **3. Hands-On Activity 2** Per group of 4: 1 set of Geometry Go Fishing Cards (copy each page on cardstock, then copy Geometry Go-Fishing logo on the opposite side, then cut apart), 1 Geometry Go-Fishing Attributes Chart, (copy on cardstock and laminate), 1 number cube

GRADE 3 MATERIALS LIST - SIX WEEKS 1

LESSON	MATERIALS NEEDED
8	**1. Problem-Solving 1** Per pair of students: 1 set of Polygon 1 and Polygon 2 (copy Teacher Notes: Problem-Solving 1 on cardstock - each page makes 3 sets), 2 cardstock copies of STAAR Grade 3 Mathematics Reference Materials **2. Hands-On Activity 1** Per group of 4: 4 cardstock copies of Reference Materials, 1 bag of 4 items (choose simple items that will be easy to sketch, describe and measure lengths - label this bag Set 1 and label items #1, #2, #3, and #4; 1 bag of 4 items (choose simple items that will be easy to sketch, describe and measure lengths - label this bag Set 2 and label items #1, #2, #3, and #4 **3. Student Activity 1** Per pair of students: 2 cardstock copies of Reference Materials **4. Problem-Solving 2** Per pair of students: 1 set of Polygon 1 and Polygon 2 (copy Teacher Notes: Problem-Solving 2 on cardstock - each page makes 4 sets), 2 cardstock copies of STAAR Grade 3 Mathematics Reference Materials **5. Student Activity 2** Per pair of students: 2 cardstock copies of Reference Materials **6. Hands-On Activity 2** Per group of 4: Pattern Blocks (4 of each figure), 8 sheets Pattern Block Triangle Paper Per teacher: 1 set of overhead Pattern Blocks
9	**1. Hands-On Activity 1** Per pair of students: 2 number cubes labeled 1-6 **2. Hands-On Activity 2** Per pair of students: 1 "Picture Perfect Table" page (copy on white paper, 1 Picture Perfect Pictograph" page (copy on white paper), 1 page of milk carton symbols (copy on white paper), 2 pair of scissors, 1 glue stick
10	**1. Teacher Notes: Problem-Solving 1** Per pair of students: Make 1 copy of this page on cardstock, cut along the dashed lines, then laminate for each pair of students, then cut along the lines

GRADE 3 TEKS-BASED ASSESSMENTS – SIX WEEKS 1
TEKS Correlation and Answer Key for Mini-Assessments

Mini-Assessment And TEKS Assessed	TEKS and Answer Key									
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Lesson 1 MA 3.2A/3.2B	B 3.2A	H 3.2A	B 3.2A	J 3.2A	D 3.2A	G 3.2B	B 3.2B	H 3.2B	D 3.2B	J 3.2B
Lesson 2 MA 3.2C	C	H	A	H	D	H	G	J	D	G
Lesson 3 MA 3.2D	B	J	D	J	D	J	D	G	A	J
Lesson 4 MA 3.5A/3.4A	A 3.5A	J 3.5A	D 3.5A	F 3.5A	C 3.4A	34 3. 4A	C 3. 4A	J 3. 4A	A 3. 4A	69 3. 4A
Lesson 5 MA 3.7C	B	H	A	H	C	G	B	F	D	J
Lesson 6 MA 3.3A/3.7A/3.3B	D 3.3B	F 3.3A	D 3.3A	G 3.7A	B 3.3A	G 3.3A	D 3.3B	H 3.3A	D 3.3A	J 3.7A
Lesson 7 MA 3.6A	C	H	B	H	C	H	D	J	B	J
Lesson 8 MA 3.7B	B	F	C	G	D	F	C	H	A	F
Lesson 9 MA 3.8A/3.8B	C 3.8A	G 3.8A	C 3.8A	F 3.8A	A 3.8A	F 3.8B	C 3.8B	H 3.8B	B 3.8B	F 3.8B
Lesson 10 MA 3.9A	A	H	C	H	C	J	B	J	D	G

Lesson 1

3.2A/3.2B LESSON & ASSESSMENT

Lesson Focus

For TEKS 3.2A students are expected to compose and decompose numbers up to 100,000 as a sum of so many ten thousands, so many thousands, so many hundreds, so many tens, and so many ones using objects, pictorial models, and numbers, including expanded notation as appropriate.

For TEKS 3.2B students are expected to describe the mathematical relationships found in the base-10 place value system through the hundred thousands place.

For these TEKS students should be able to apply mathematical process standards to represent and compare whole numbers and understand relationships related to place value.

For STAAR Category 1 students should be able to demonstrate an understanding of how to represent and manipulate numbers and expressions.

Process Standards Incorporated Into Lesson

3.1.B Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of a solution.

3.1.E Create and use representations to organize, record, and communicate mathematical ideas.

3.1.F Analyze mathematical relationships to connect and communicate mathematical ideas.

Materials Needed for Lesson

1. **Math Background Part I**
   Per pair of students: 250 stir sticks and rubber bands, 1 set of base-10 blocks - 2 thousands cubes, 10 flats, 10 rods, 10 units
2. **Problem-Solving 1**
   Per student: 1 copy of Problem-Solving Plan for math notebook, 1 copy of Problem-Solving Questions
   Per pair of students: 1,000 stir sticks, rubber bands, and a gallon baggie
3. **Student Activity 1**
   Per pair of students: 1 set of base-10 sticks made during Problem-Solving 1, 1 set of base-10 blocks (3 large cubes, 9 flats, 9 rods, 9 small cubes)
4. **Hands-On Activity 1**
   Per student: 1 Place Value Game Board
   Per pair of students: 10-section spinner (copy the spinner on cardstock and laminate), 1 sharp pencil and 1 small paper clip to make the pointer for the spinner

Vocabulary for Lesson

PART I	PART II	PART III
digit	expanded form	periods
standard form	expanded notation	
place value		
word form		

Math Background Part I - Place Value

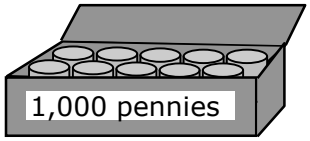
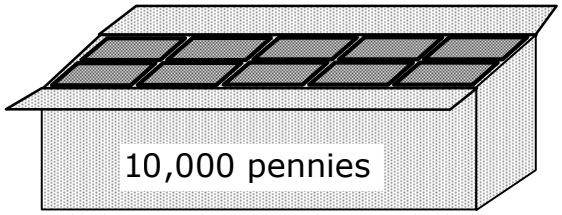
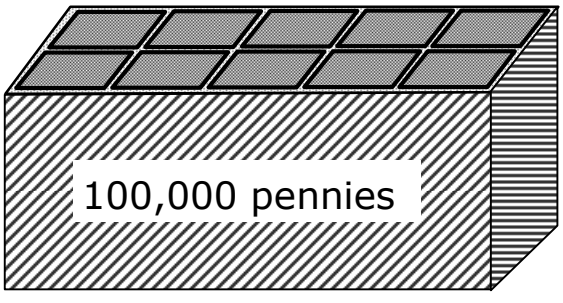
Our whole number system is based on a simple pattern of tens. Each place has ten times the value of the place to its right.

EXAMPLE 1: A place value chart can be used to show the value of numbers. Each place in the chart has a value of 10 times the place to its right.

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
10 ten thousands	10 thousands	10 hundreds	10 tens	10 ones	

- tens place = 10 ones
- hundreds place = 10 tens
- thousands place = 10 hundreds
- ten thousands place = 10 thousands
- hundred thousands place = 10 ten thousands

EXAMPLE 2:
Imagine 100,000 pennies.

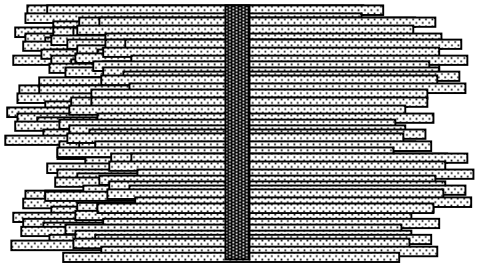
This container holds 100 pennies.	100	
This box holds 10 containers of 100 pennies.	1,000	
This carton holds 10 boxes of 1,000 pennies.	10,000	
This crate holds 10 cartons of 10,000 pennies.	100,000	

Every **digit** in a number has a value. Digits are the symbols used to represent whole numbers in **standard form**. The digits are 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9. The position, or place, a digit is in tells you the value of the digit. This value is called **place value**.

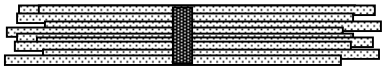
There are many different ways to look at numbers to help you understand place value.

• **One way is to use objects to model place value.**

Bundles of sticks can be used to model place value.



This bundle has 100 sticks and represents 1 hundred.



This bundle has 10 sticks and represents 1 ten.

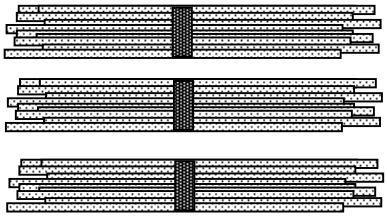
This is 1 stick and represents 1 one.

- **Write:** 111 **(standard form)**
- **Say:** *one hundred eleven* **(word form)**

EXAMPLE 1: In the number 32, the 3 represents 3 tens and the 2 represents 2 ones. Represent 32 using a model.

• **Think:** 3 tens + 2 ones

Use bundles of sticks to create the model.



3 tens

2 ones

• **Write:** 32

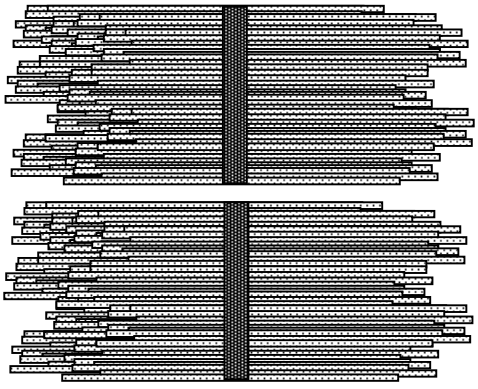
• **Say:** *thirty-two*

(NOTE: Remember to use a hyphen when you use words to write 2-digit numbers greater than 20 that have a digit other than zero in the ones place.**)**

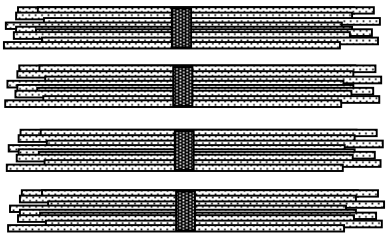
EXAMPLE 2: In the number 247, the 2 represents 2 hundreds, the 4 represents 4 tens and the 7 represents 7 ones. Represent 247 using a model.

• **Think:** 2 hundreds + 4 tens + 7 ones

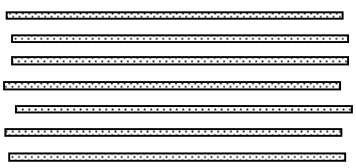
Use bundles of sticks to create the model.



2 hundreds



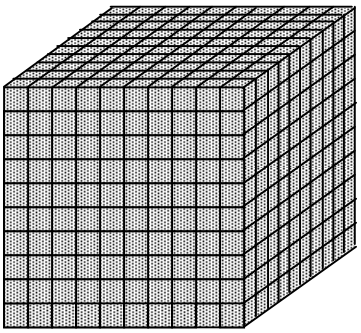
4 tens



7 ones

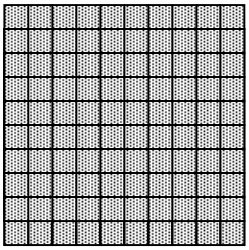
- **Write:** 247
- **Say:** *two hundred forty-seven*

- **Another way to model place value is to use base-10 blocks.**



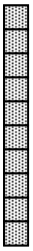
This base-10 cube is made of 1,000 unit cubes.

It has a value of 1.000.



This base-10 flat is made of 100 unit cubes.

It has a value of 100.



This base-10 rod is made of 10 unit cubes.

It has a value of 10.

This base-10 unit is made of 1 cube.

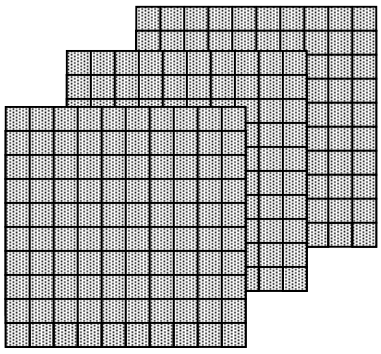
It has a value of 1.

- **Write:** 1,111
- **Say:** *one thousand, one hundred eleven*

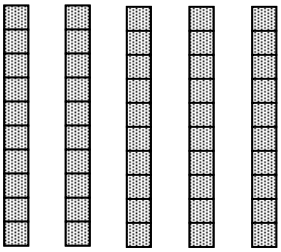
EXAMPLE 1: In the number 358 the 3 represents 3 hundreds, the 5 represents 5 tens and the 8 represents 8 ones. Represent 358 using a model.

- **Think:** 3 hundreds + 5 tens + 8 ones

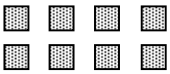
Use base-10 blocks to create the model.



3 hundreds



5 tens



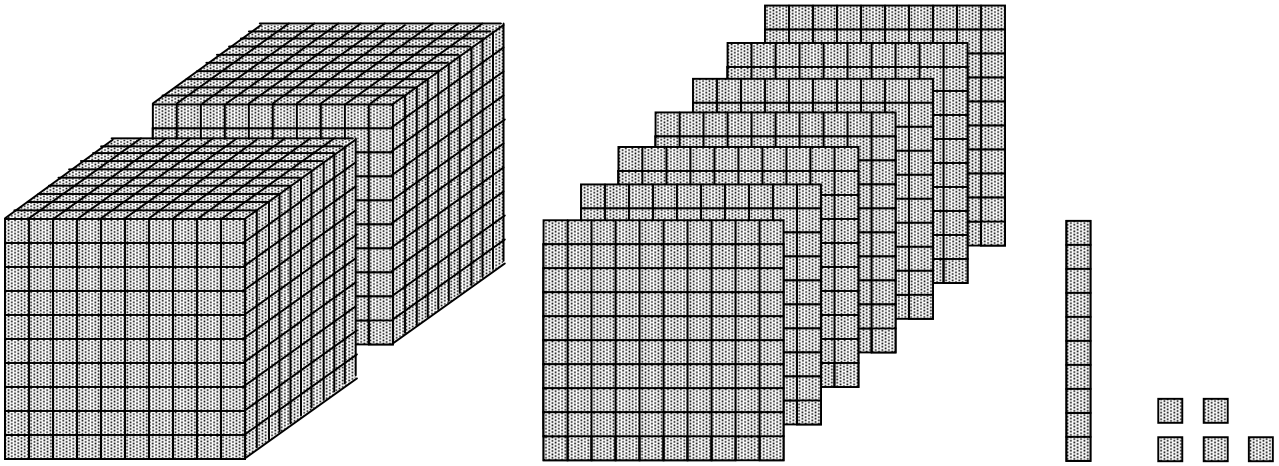
8 ones

- **Write:** 358 **(standard form)**
- **Say:** *three hundred fifty-eight* **(word form)**

EXAMPLE 2: In the number 2,715 the 2 represents 2 thousands, the 7 represents 7 hundreds, the 1 represents 1 ten and the 5 represents 5 ones. Represent 2,715 using a model.

- **Think:** 2 thousands + 7 hundreds + 1 ten + 5 ones

Use base-10 blocks to create the model.



2 thousands 7 hundreds 1 ten 5 ones

- **Write:** 2,715
- **Say:** *two thousand, seven hundred fifteen*

TEACHER NOTE: Seat students in pairs before you project "Place Value", then distribute these materials to each pair for use as you project the math background: 250 coffee stirrers and rubber bands to create 2 bundles of 100, 4 bundles of 10; set of base-10 blocks - 2 thousand cubes, 10 flats, 10 rods, 10 units

Place Value

Our whole number system is based on a simple pattern of tens.

Each place has ten times the value of the place to its right.

EXAMPLE 1

A place value chart can be used to show the value of numbers.

Each place in the chart has a value of 10 times the place to its right.

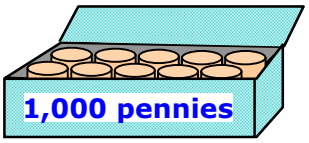
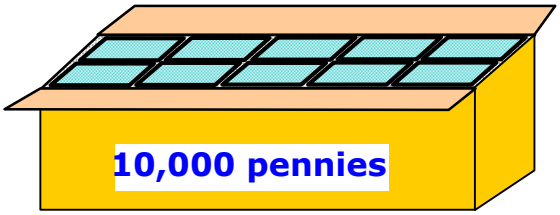
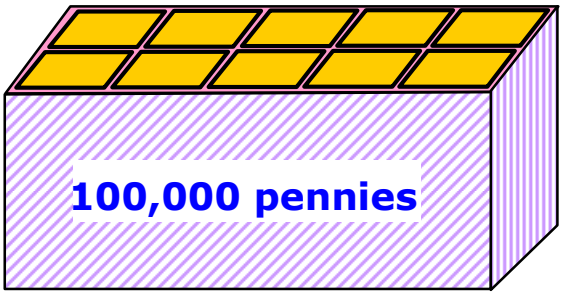
Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
10 ten thousands	10 thousands	10 hundreds	10 tens	10 ones	

- tens place = 10 ones
- hundreds place = 10 tens
- thousands place = 10 hundreds
- ten thousands place = 10 thousands
- hundred thousands place = 10 ten thousands

Each place has ten times the value of the place to its right.

EXAMPLE 2

Imagine 100,000 pennies.

This container holds 100 pennies.	**100**	
This box holds 10 containers of 100 pennies.	**1,000**	
This carton holds 10 boxes of 1,000 pennies.	**10,000**	
This crate holds 10 cartons of 10,000 pennies.	**100,000**	

Every **digit** in a number has a value.

Digits are the symbols used to represent whole numbers in **standard form**.

The digits are 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9.

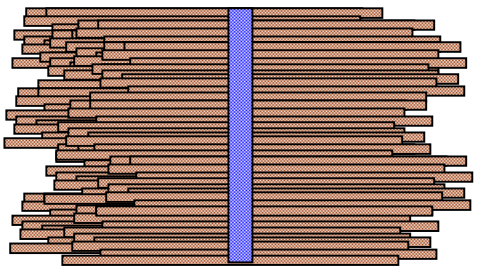
The position, or place, a digit is in tells you the value of the digit.

This value is called **place value**.

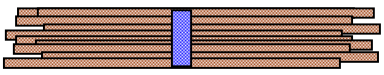
There are many different ways to look at numbers to help you understand place value.

- One way is to use objects to model place value.

Bundles of sticks can be used to model place value.



This bundle has 100 sticks and represents **1 hundred**.



This bundle has 10 sticks and represents **1 ten**.

This is 1 stick and represents **1 one**.

- **Write:** 111 **(standard form)**
- **Say:** *one hundred eleven* **(word form)**

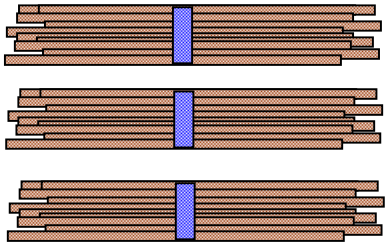
EXAMPLE 1

In the number 32 the 3 represents 3 tens and the 2 represents 2 ones.

Represent 32 using a concrete model.

- **Think:** 3 tens + 2 ones

Use bundles of sticks to create the model.



3 tens

2 ones

- **Write:** 32
- **Say:** *thirty-two*

NOTE

Remember to use a hyphen when you use words to write 2-digit numbers greater than 20 that have a digit other than zero in the ones place.

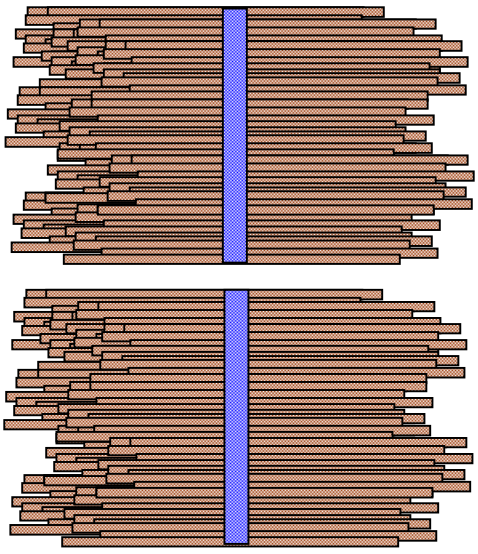
EXAMPLE 2

In the number 247, the 2 represents 2 hundreds, the 4 represents 4 tens and the 7 represents 7 ones.

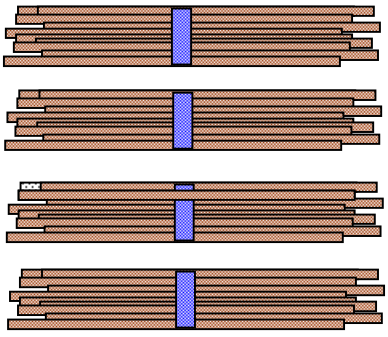
Represent 247 using a model.

- **Think:** 2 hundreds + 4 tens + 7 ones

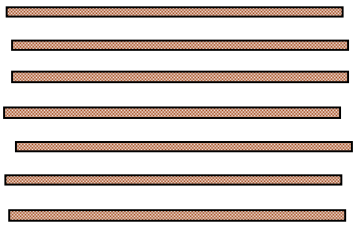
Use bundles of sticks to create the model.



2 hundreds



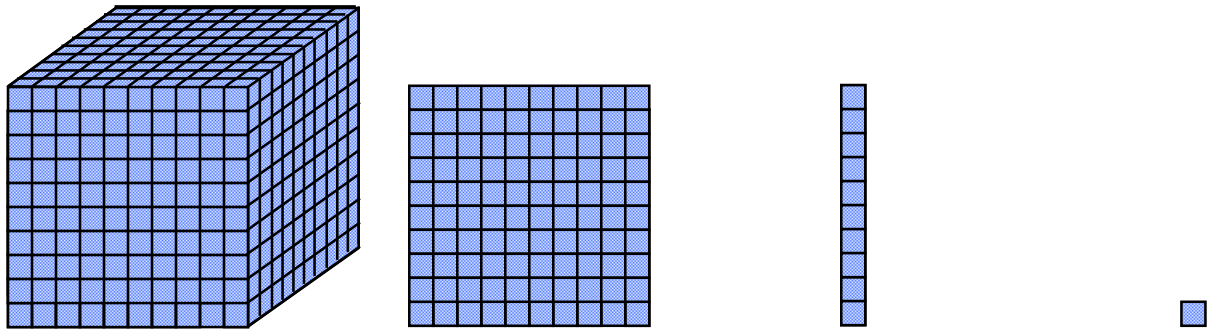
4 tens



7 ones

- **Write:** 247
- **Say:** *two hundred forty-seven*

- Another way to model place value is to use base-10 blocks.



This base-10 cube is made of 1,000 unit cubes. It has a value of 1,000.	This base-10 flat is made of 100 unit cubes. It has a value of 100.	This base-10 rod is made of 10 unit cubes. It has a value of 10.	This base-10 unit is made of 1 cube. It has a value of 1.

- **Write:** 1,111
- **Say:** *one thousand, one hundred eleven*

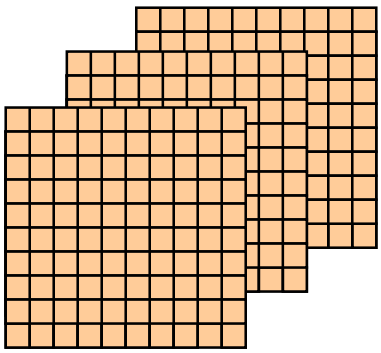
EXAMPLE 1

In the number 358 the 3 represents 3 hundreds, the 5 represents 5 tens and the 8 represents 8 ones.

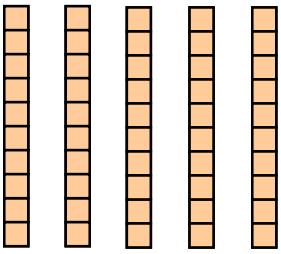
Represent 358 using a model.

- **Think:** 3 hundreds + 5 tens + 8 ones

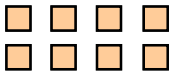
Use base-10 blocks to create the model.



3 hundreds



5 tens



8 ones

- **Write:** 358 **(standard form)**
- **Say:** *three hundred fifty-eight* **(word form)**

EXAMPLE 2

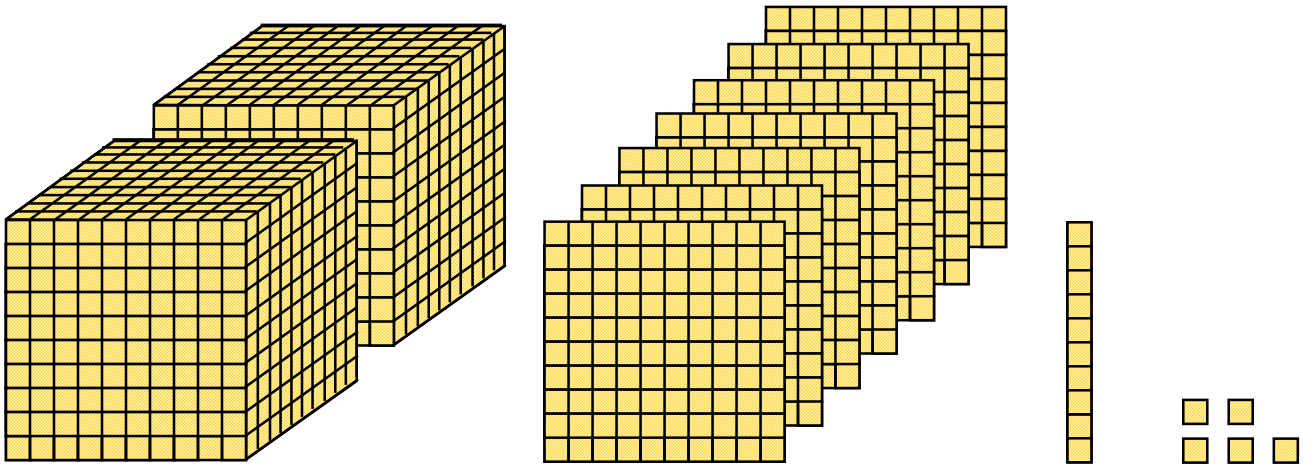
In the number 2,715 the 2 represents 2 thousands, the 7 represents 7 hundreds, the 1 represents 1 ten and the 5 represents 5 ones.

Represent 2,715 using a model.

- **Think:**

  2 thousands + 7 hundreds + 1 ten + 5 ones

Use base-10 blocks to create the model.



2 thousands **7 hundreds** **1 ten** **5 ones**

- **Write:** 2,715
- **Say:** *two thousand, seven hundred fifteen.*

Problem-Solving Model

Step	Description of Step
1	**Analyze the given information.** •Summarize the problem in your own words. •Describe the main idea of the problem. •Identify information needed to solve the problem.
2	**Formulate a plan or strategy.** •Draw a picture or a diagram. •Find a pattern. •Guess and check. •Act it out. •Create or use a chart or a table. •Work a simpler problem. •Work backwards. •Make an organized list. •Use logical reasoning. •Brainstorm. •Write a number sentence or an equation.
3	**Determine a solution.** •Estimate the solution to the problem. •Solve the problem.
4	**Justify the solution.** •Explain why your solution solves the problem.
5	**Evaluate the process and the reasonableness of your solution.** •Make sure the solution matches the problem. •Solve the problem in a different way.

Problem-Solving Questions

Directions:

- **Work with a partner.**
- **Write your answers on notebook paper.**
- **Answer questions 1-3.**
- **Complete the solution to the problem.**
- **Answer questions 4-10.**

1. What is the main idea of this problem?
2. What are the supporting details in this problem?
3. What skills, concepts and understanding of math vocabulary are needed to be able to answer this problem?
4. Did this problem involve mathematics arising in everyday life, society, or the work place?
5. What is a good problem solving strategy for this problem?
6. Can you explain how you used any math tools, mental math, estimation or number sense to solve this problem?
7. Did this problem involve using multiple representations (symbols, diagrams, graphs, math language)?
8. Did you use any relationships to solve this problem?
9. How can you justify your solution to the problem?
10. How can you check for reasonableness of your solution to this problem?

Problem-Solving 1

Your teacher will give you and a partner 1,000 stir sticks, rubber bands, and a gallon baggie.

1. Put a rubber band around 100 sticks to represent a value of 100. Make 9 of these.

2. Put a rubber band around 10 sticks to represent a value of 10. Make 9 of these.

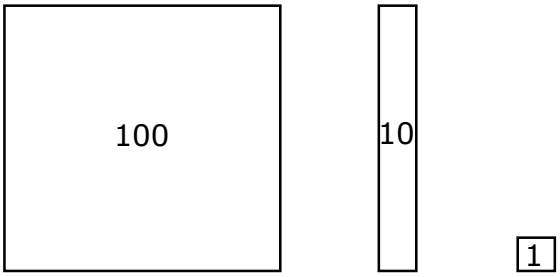
3. You will need single sticks to represent a value of 1. You will need 9 of these.

Write your answers on notebook paper.

4. Use the stir sticks to model 936.

Think about the meaning of each digit.

Use these symbols to represent your model.



5. Say the words that represent the model.

6. Write the words that represent the model.

7. Be sure to put your set of base-10 sticks into the gallon baggie. You will use them again.

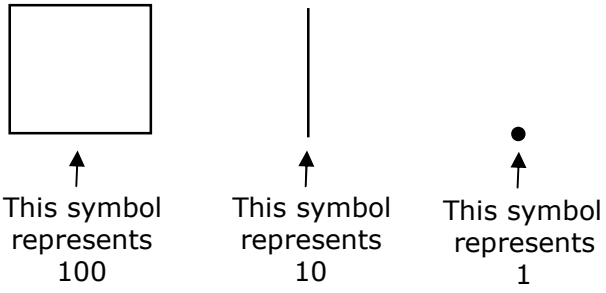
Student Activity 1

BASE-10 MODELS

MATERIALS: 1 set of base-10 sticks made during Problem-Solving 1, 1 set of base-10 blocks (3 thousands cubes, 9 hundreds flats, 9 ten rods, 9 unit cubes)

PART I: Work with a partner to represent numbers. Use the base-10 sticks.

You will draw a quick sketch to represent each of your models. Use these symbols for your quick sketch.



PROBLEM 1: Use your set of base-10 sticks to model the number 57. Draw a quick sketch to represent your model in the space below.

PROBLEM 2: Use your set of base-10 sticks to model the number 689. Draw a quick sketch to represent your model in the space below.

PROBLEM 3: Use your set of base-10 sticks to model the number 73. Draw a quick sketch to represent your model in the space below.

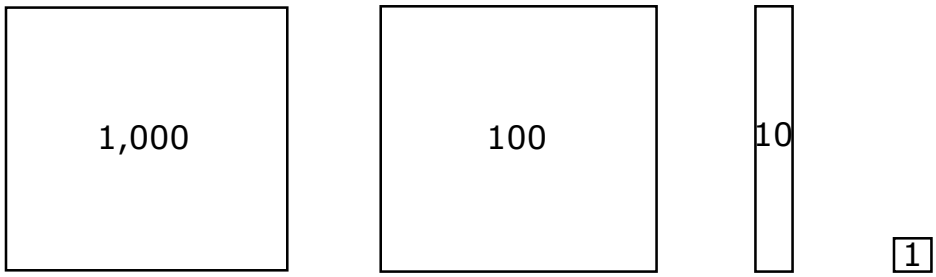
PROBLEM 4: Use your set of base-10 sticks to model the number 506. Draw a quick sketch to represent your model in the space below.

PROBLEM 5: Use your set of base-10 sticks to model the number 840. Draw a quick sketch to represent your model in the space below.

Be sure to put your base-10 sticks back into the gallon baggie when you are finished.

PART II: Work with your partner to represent numbers. Use base-10 blocks.

Use these pictures to represent a thousands cube, a hundreds flat, a ten rod, and a unit cube:



PROBLEM 1: Use your set of base-10 blocks to model the number 49. Draw a picture to represent your model in the space below.

PROBLEM 2: Use your set of base-10 blocks to model the number 587. Draw a picture to represent your model in the space below.

PROBLEM 3: Use your set of base-10 blocks to model the number 1,064. Draw a picture to represent your model in the space below.

PROBLEM 4: Use your set of base-10 blocks to model the number 706. Draw a picture to represent your model in the space below.

PROBLEM 5: Use your set of base-10 blocks to model the number 2,323. Draw a picture to represent your model in the space below.

PROBLEM 6: Use your set of base-10 blocks to model the number 860. Draw a picture to represent your model in the space below.

PROBLEM 7: Use your set of base-10 blocks to model the number 1,503. Draw a picture to represent your model in the space below.

PROBLEM 8: Use your set of base-10 blocks to model the number 704. Draw a picture to represent your model in the space below.

PROBLEM 9: Use your set of base-10 blocks to model the number 1,072. Draw a picture to represent your model in the space below.

PROBLEM 10: Use your set of base-10 blocks to model the number 3,820. Draw a picture to represent your model in the space below.

Your teacher will tell you where to return your set of base-10 blocks.

PART III: Work with your partner to answer this question.

What did you learn from this activity?

NAME_____ DATE_____ SCORE ___/5

3.2A/3.2B Skills and Concepts Homework 1

Ask someone to help you find 100 small items (beans, rice, stir sticks, crayons, paper clips, etc.) to use to complete your homework. Put the 100 items in a baggie or a container.

1. Use your 100 small items to model 13. Be sure to create your model in sets of 10 and a set of ones. Draw a sketch of your model in the space below.

   Write 13 in words.

2. Use your 100 small items to model 28. Be sure to create your model in sets of 10 and a set of ones. Draw a sketch of your model in the space below.

   Write 28 in words.

3. Use your 100 small items to model 45. Be sure to create your model in sets of 10 and a set of ones. Draw a sketch of your model in the space below.

   Write 45 in words.

4. Use your 100 small items to model 67. Be sure to create your model in sets of 10 and a set of ones. Draw a sketch of your model in the space below.

   Write 67 in words.

5. Use your 100 small items to model 89. Be sure to create your model in sets of 10 and a set of ones. Draw a sketch of your model in the space below.

   Write 89 in words.

Math Background Part II - Using a Place Value Chart to Understand Numbers

This place value chart shows the relationships in the base-10 place value system.

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
			2	4	6

200 + 40 + 6

EXAMPLE 1: Look at 246 in the place value chart.

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
			2	4	6

200 + 40 + 6

The place value chart shows the value of each digit.

- The digit 2 is in the hundreds place so it represents 2 hundreds and has a value of 200.
- The digit 4 is in the tens place so it represents 4 tens and has a value of 40.
- The digit 6 is in the ones place so it represents 6 ones and has a value of 6.

EXAMPLE 2: Look at 4,257 in the place value chart.

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
		4	2	5	6

4,000 + 200 + 50 + 6

The place value-chart shows the value of each digit.

- The digit 4 is in the thousands place so it represents 4 thousands and has a value of 4,000.
- The digit 2 is in the hundreds place so it represents 2 hundreds and has a value of 200.
- The digit 5 is in the tens place so it represents 5 tens and has a value of 50.
- The digit 7 is in the ones place so it represents 7 ones and has a value of 7.

EXAMPLE 3: Look at 34,084 in the place value chart. (**NOTE:** Don't forget zeros!)

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
	3	4	0	8	4

30,000 + 4,000 + 0 + 80 + 4

The place value chart shows the value of each digit.

- The digit 3 is in the ten thousands place so it represents 3 ten thousands and has a value of 30,000.
- The digit 4 is in the thousands place so it represents 4 thousands and has a value of 4,000.
- The digit 0 is in the hundreds place so it represents 0 hundreds and has a value of 0.
- The digit 8 is in the tens place so it represents 8 tens and has a value of 80.
- The digit 4 is in the ones place so it represents 4 ones and has a value of 4.

EXAMPLE 4: Look at 140,386 in the place value chart. (**NOTE:** Don't forget zeros!)

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
1	4	0	3	8	6

100,000 + 40,000 + 0 + 300 + 80 + 6

The place value chart shows the value of each digit.

- The digit 1 is in the hundred thousands place so it represents 1 hundred thousand and has a value of 100,000.
- The digit 4 is in the ten thousands place so it represents 4 ten thousands and has a value of 40,000.
- The digit 0 is in the thousands place so it represents 0 thousands and has a value of 0.
- The digit 3 is in the hundreds place so it represents 3 hundreds and has a value of 300.
- The digit 8 is in the tens place so it represents 8 tens and has a value of 80.
- The digit 6 is in the ones place so it represents 6 ones and has a value of 6.

Using a Place Value Chart to Understand Numbers

A place value chart shows the value of each digit in a number.

EXAMPLE 1

Look at 246 in the place value chart.

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
			2	**4**	**6**

200 + 40 + 6

The place value chart shows the value of each digit.

- The digit 2 is in the hundreds place so it represents 2 hundreds and has a value of 200.
- The digit 4 is in the tens place so it represents 4 tens and has a value of 40.
- The digit 6 is in the ones place so it represents 6 ones and has a value of 6.

EXAMPLE 2

Look at 4,257 in the place value chart.

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
		4	**2**	**5**	**7**

4,000 + 200 + 50 + 7

The place value-chart shows the value of each digit.

- The digit 4 is in the thousands place so it represents 4 thousands and has a value of 4,000.
- The digit 2 is in the hundreds place so it represents 2 hundreds and has a value of 200.
- The digit 5 is in the tens place so it represents 5 tens and has a value of 50.
- The digit 7 is in the ones place so it represents 7 ones and has a value of 7.

EXAMPLE 3

Look at 34,084 in the place value chart.

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
	3	**4**	**0**	**8**	**4**

30,000 + 4,000 + 0 + 80 + 4

The place value chart shows the value of each digit.

- The digit 3 is in the ten thousands place so it represents 3 ten thousands and has a value of 30,000.
- The digit 4 is in the thousands place so it represents 4 thousands and has a value of 4,000.
- The digit 0 is in the hundreds place so it represents 0 hundreds and has a value of 0.
- The digit 8 is in the tens place so it represents 8 tens and has a value of 80.
- The digit 4 is in the ones place so it represents 4 ones and has a value of 4.

EXAMPLE 4

Look at 140,386 in the place value chart.
(NOTE: Don't forget zeros!**)**

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
1	**4**	**0**	**3**	**8**	**6**

100,000 + 40,000 + 0 + 300 + 80 + 6

The chart shows the value of each digit.

- The digit 1 is in the hundred thousands place so it represents 1 hundred thousand and has a value of 100,000.
- The digit 4 is in the ten thousands place so it represents 4 ten thousands and has a value of 40,000.
- The digit 0 is in the thousands place so it represents 0 thousands and has a value of 0.
- The digit 3 is in the hundreds place so it represents 3 hundreds and has a value of 300.
- The digit 8 is in the tens place so it represents 8 tens and has a value of 80.
- The digit 6 is in the ones place so it represents 6 ones and has a value of 6.

Problem-Solving 2

Write your answers on notebook paper.

How can you use a place value chart like the one below to represent the value of 987,605?

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones

_____ + _____ + _____ + _____ + _____ + _____

1. Make a sketch of the place value chart on your notebook paper.

2. Fill in your chart to represent 987,605.

3. Explain the value of the digit 9 in your chart.

4. Explain the value of the digit 8 in your chart.

5. Explain the value of the digit 7 in your chart.

6. Explain the value of the digit 6 in your chart.

7. Explain the value of the digit 0 in your chart.

8. Explain the value of the digit 5 in your chart.

Student Activity 2

Work with a partner to complete Student Activity 2.

PROBLEM 1: Record 246 in the place value chart.

Hundreds	Tens	Ones

_____ + _____ + ____

The place value chart shows the value of each digit.

- The digit ___ is in the hundreds place so it represents ___ hundreds and has a value of _____.
- The digit ___ is in the tens place so it represents ___ tens and has a value of _____.
- The digit ___ is in the ones place so it represents ___ ones and has a value of ___.

PROBLEM 2: Record 3,146 in the place value chart.

Thousands	Hundreds	Tens	Ones

_____ + _____ + _____ + ____

The place value chart shows the value of each digit.

- The digit ___ is in the thousands place so it represents ___ thousands and has a value of _____.
- The digit ___ is in the hundreds place so it represents ___ hundreds and has a value of _____.
- The digit ___ is in the tens place so it represents ___ tens and has a value of _____.
- The digit ___ is in the ones place so it represents ___ ones and has a value of ___.

PROBLEM 3: Record 23,073 in the place value chart. (**NOTE:** Don't forget zeros!)

Ten Thousands	Thousands	Hundreds	Tens	Ones

_____ + _____ + _____ + _____ + ____

The place value chart shows the value of each digit.

- The digit ___ is in the ten thousands place so it represents ___ ten thousands and has a value of _____.

- The digit ___ is in the thousands place so it represents ___ thousands and has a value of _____.
- The digit ___ is in the hundreds place so it represents ___ hundreds and has a value of _____.
- The digit ___ is in the tens place so it represents ___ tens and has a value of ____.
- The digit ___ is in the ones place so it represents ___ ones and has a value of ___.

PROBLEM 4: Record 250,497 in the place value chart. (**NOTE:** Don't forget zeros!)

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones

_____ + _____ + _____ + _____ + ____ + __

The place value chart shows the value of each digit.

- The digit ___ is in the hundred thousands place so it represents ___ hundred thousands and has a value of _____.
- The digit ___ is in the ten thousands place so it represents ___ ten thousands and has a value of _____.
- The digit ___ is in the thousands place so it represents ___ thousands and has a value of _____.
- The digit ___ is in the hundreds place so it represents ___ hundreds and has a value of _____.
- The digit ___ is in the tens place so it represents ___ tens and has a value of _____.
- The digit ___ is in the ones place so it represents ___ ones and has a value of ___.

NAME_____ DATE_____ SCORE ___/5

3.2A/3.2B Skills and Concepts Homework 2

1. Write fourteen thousand, six hundred fifty-seven in standard form. Make a place value chart to prove your answer is correct.

2. Write 704,000 in words. Explain why your answer is correct.

3. Write twenty-eight thousand, three hundred ninety-one in expanded notation. Make a place value chart to prove your answer is correct.

4. What is the value of the digit 3 in the number 356,048? Make a place value chart to prove your answer is correct.

5. Erin wrote a number with a 2 in the thousands place, a 7 in the hundreds place, and a 5 in the tens place. What number could Erin have written? Make a place value chart to prove your answer is correct.

Math Background Part III - Writing Numbers in Expanded Notation

Understanding how to write numbers in **expanded form**, or **expanded notation**, is another way to help you understand place value. Expanded form and expanded notation are ways to write numbers to show the value of each digit.

EXAMPLE 1: Write the number 43,809 in expanded notation.

Look at 43,809 in the place value chart.

Ten Thousands	Thousands	Hundreds	Tens	Ones
4	3	8	0	9

$4 \times 10{,}000 + 3 \times 1{,}000 + 8 \times 100 + 0 \times 10 + 9 \times 1$

The place value chart shows the value of each digit.

- The digit 4 is in the ten thousands place so it represents 4 ten thousands and has a value of 40,000.
- The digit 3 is in the thousands place so it represents 3 thousands and has a value of 3,000.
- The digit 8 is in the hundreds place so it represents 8 hundreds and has a value of 800.
- The digit 0 is in the tens place so it represents 0 tens and has a value of 0.
- The digit 9 is in the ones place so it represents 9 ones and has a value of 9.

The value of the number 43,809 is 40,000 + 3,000 + 800 + 0 + 9.

EXAMPLE 2: Write the number 205,497 in expanded notation.

Look at 205,497 in the place value chart.

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
2	0	5	4	9	7

$2 \times 100{,}000 + 0 \times 10{,}000 + 5 \times 1{,}000 + 4 \times 100 + 9 \times 10 + 7 \times 1$

The place value chart shows the value of each digit.

- The digit 2 is in the hundred thousands place so it represents 2 hundred thousands and has a value of 200,000.
- The digit 0 is in the ten thousands place so it represents 0 ten thousands and has a value of 0.
- The digit 5 is in the thousands place so it represents 5 thousands and has a value of 5,000.
- The digit 4 is in the hundreds place so it represents 4 hundreds and has a value of 400.
- The digit 9 is in the tens place so it represents 9 tens and has a value of 90.
- The digit 7 is in the ones place so it represents 7 ones and has a value of 7.

The value of the number 205,497 is 200,000 + 0 + 5,000 + 400 + 90 + 7.

Writing Numbers in Expanded Notation

Writing numbers in **expanded form,** or **expanded notation**, is another way to help you understand place value.

EXAMPLE 1

Write 43,809 in expanded notation.

Look at 43,809 in the place value chart.

Ten Thousands	Thousands	Hundreds	Tens	Ones
4	**3**	**8**	**0**	**9**

4 × 10,000 + 3 × 1,000 + 8 × 100 + 0 × 10 + 9 × 1

The chart shows the value of each digit.

- The digit 4 is in the ten thousands place so it represents 4 ten thousands and has a value of 40,000.
- The digit 3 is in the thousands place so it represents 3 thousands and has a value of 3,000.
- The digit 8 is in the hundreds place so it represents 8 hundreds and has a value of 800.

Ten Thousands	Thousands	Hundreds	Tens	Ones
4	**3**	**8**	**0**	**9**

4 × 10,000 + 3 × 1,000 + 8 × 100 + 0 × 10 + 9 × 1

- The digit 0 is in the tens place so it represents 0 tens and has a value of 0.
- The digit 9 is in the ones place so it represents 9 ones and has a value of 9.

The value of the number 43,809 is

40,000 + 3,000 + 800 + 0 + 9.

EXAMPLE 2

Write 205,497 in expanded notation.

Look at 205,497 in the place value chart.

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
2	**0**	**5**	**4**	**9**	**7**

$2 \times 100{,}000 + 0 \times 10{,}000 + 5 \times 1{,}000 + 4 \times 400 + 9 \times 10 + 1 \times 7$

The chart shows the value of each digit.

- The digit 2 is in the hundred thousands place so it represents 2 hundred thousand and has a value of 200,000.
- The digit 0 is in the ten thousands place so it represents 0 ten thousands and has a value of 0.
- The digit 5 is in the thousands place so it represents 5 thousands and has a value of 5,000.
- The digit 4 is in the hundreds place so it represents 4 hundreds and has a value of 400.

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
2	**0**	**5**	**4**	**9**	**7**

$2 \times 100{,}000 + 0 \times 10{,}000 + 5 \times 1{,}000 + 4 \times 400 + 9 \times 10 + 1 \times 7$

- The digit 9 is in the tens place so it represents 9 tens and has a value of 90.
- The digit 7 is in the ones place so it represents 7 ones and has a value of 7.
- The value of the number 205,497 is

  200,000 + 0 + 5,000 + 400 + 90 + 7.

Problem-Solving 3

Write your answers on notebook paper.

The table below shows the heights of three mountains in Texas.

Mountains in Texas	
Mountain	Height
El Capitan	8,085 feet
Bartlett Peak	8,508 feet
Guadalupe Peak	8,749 feet

1. What is the expanded notation for the height of El Capitan?

2. What is the word form for the height of El Capitan?

3. What is the expanded notation for the height of Bartlett Peak?

4. What is the word form for the height of Bartlett Peak?

5. What is the expanded notation for the height of Guadalupe Peak?

6. What is the word form for the height of Guadalupe Peak?

Mountains in Texas	
Mountain	Height
El Capitan	8,085 feet
Bartlett Peak	8,508 feet
Guadalupe Peak	8,749 feet

7. What is the value of the digit 8 in the height of Guadalupe Peak?

8. What is the value of the digit 0 in the height of El Capitan?

9. What is the value of the digit 5 in the height of Bartlett Peak?

10. What is the value of the digit 4 in the height of Guadalupe Peak?

Student Activity 3

Work with a partner to complete Student Activity 3.

PROBLEM 1: Write the number 357 in expanded notation.

Record 357 in the place value chart.

Hundreds	Tens	Ones

__ × _____ + __ × ___ + __ × __

The place value chart shows the value of each digit.

- The digit ___ is in the hundreds place so it represents 3 _____ and has a value of _____.
- The digit ___ is in the _____ place so it represents ___ tens and has a value of _____.
- The digit ___ is in the ones place so it represents 7 _____ and has a value of ___.

The value of the number 357 is _____ + _____ + __.

PROBLEM 2: Write the number 2,035 in expanded notation.

Record 2,035 in the place value chart.

Thousands	Hundreds	Tens	Ones

__ × _____ + __ × _____ + __ × ___ + __ × __

The place value chart shows the value of each digit.

- The digit ___ is in the thousands place so it represents ___ thousands and has a value of _____.
- The digit ___ is in the hundreds place so it represents 0 _____ and has a value of _____.
- The digit ___ is in the _____ place so it represents ___ tens and has a value of _____.
- The digit ___ is in the ones place so it represents 5 _____ and has a value of ___.

The value of the number 2,035 is _____ + _____ + _____ + ___.

PROBLEM 3: Write the number 34,084 in expanded notation.

Ten Thousands	Thousands	Hundreds	Tens	Ones

__ × _____ + __ × _____ + __ × ____ + __ × ___ + __ × __

The place value chart shows the value of each digit.

- The digit ___ is in the ten thousands place so it represents 3 _____ and has a value of _____.
- The digit 4 is in the _____ place so it represents ___ thousands and has a value of _____.
- The digit 0 is in the hundreds place so it represents 0 _____ and has a value of _____.
- The digit ___ is in the _____ place so it represents ___ tens and has a value of _____.
- The digit ___ is in the ones place so it represents 4 _____ and has a value of ___.

The value of the number 34,084 is _____ + _____ + _____ + ____ + __.

PROBLEM 4: Write the number 140,386 in expanded notation.

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones

__ × _____ + __ × _____ + __ × _____ + __ × _____ + __ × ___ + __ × __

The place value chart shows the value of each digit.

- The digit ___ is in the hundred thousands place so it represents ___ hundred thousands and has a value of _____.
- The digit ___ is in the ten thousands place so it represents ___ ten thousands and has a value of _____.
- The digit ___ is in the thousands place so it represents ___ thousands and has a value of _____.
- The digit ___ is in the hundreds place so it represents ___ hundreds and has a value of _____.
- The digit ___ is in the tens place so it represents ___ tens and has a value of _____.
- The digit ___ is in the ones place so it represents ___ ones and has a value of ___.

The value of 140,386 is _____ + _____ + _____ + _____ + ___ + __.

NAME_____ DATE_____ SCORE ___/5

3.2A/3.2B Skills and Concepts Homework 3

1. Write two hundred forty-three in standard form. Make a place value chart to prove your answer is correct.

2. Write a number in standard form that has the same value as 500 + 30 + 4. Explain why your answer is correct.

3. Write seven hundred eight in standard form. Make a place value chart to prove your answer is correct.

4. Write 763,456 in expanded notation. Make a place value chart to prove your answer is correct.

5. Write a number in standard form that has the same value as 400 + 60 + 8. Explain why your answer is correct.

Math Background Part IV - Using Place Value to Read Numbers to 999,999

When you read numbers, always start on the left. Numbers are read in groups of three digits called **periods**.

Thousands Period			Ones Period		
Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
4	6	9	4	6	0

EXAMPLE: Read the number 528. This number is a three-digit number.

Look at 528 in a place value chart.

Ones Period		
Hundreds	Tens	Ones
5	2	8

Write: 528

Read the numbers from left to right.
Say: *five hundred twenty-eight*

Many numbers have more than three digits. The digits in these numbers are arranged in groups of three called **periods**. A comma is used to separate each **period**.

EXAMPLE 1: Read the number 2,685. This number is a four-digit number.
(**NOTE:** A comma is used to separate periods.)

Look at 2,685 in the place value chart.

Thousands	Hundreds	Tens	Ones
2	6	8	5

To read this number:

• first, say the one-digit number to the left of the comma, *two*;

• next, say the name of the period, *thousand;*

• then, say the three-digit number to the right of the comma, *six hundred eighty-five*.

Read the number 2,685 as *two thousand, six hundred eighty-five*.

EXAMPLE 2: Read the number 45,073. This is a five-digit number.
(**NOTE:** A comma is used to separate periods.)

Look at 45,073 in the place value chart.

Ten Thousands	Thousands	Hundreds	Tens	Ones
4	5	0	7	3

The 0 shows there are no hundreds.

To read this number:

• first, say the two-digit number to the left of the comma, *forty-five*;

• next, say the name of the period, ***thousand***;

• then, say the three-digit number to the right of the comma, ***seventy-three***.

Read the number 45,073 as ***forty-five thousand, seventy-three***.

EXAMPLE 3: Read the number 342,805. This is a six-digit number.
(**NOTE:** A comma is used to separate periods.)

Look at 342,805 in the place value chart.

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
3	4	2	8	0	5

The 0 shows there are no tens.

To read this number:

- first, say the three-digit number to the left of the comma, *three hundred forty-two*;
- next, say the name of the period, *thousand;*
- then, say the three-digit number to the right of the comma, *eight hundred five.*

Read the number 342,805 as *three hundred forty-two thousand, eight hundred five*.

Using Place Value to Read Numbers to 999,999

When you read numbers, always start on the left. Numbers are read in groups of three digits called **periods**.

Thousands Period			Ones Period		
Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
4	**6**	**9**	**4**	**6**	**0**

EXAMPLE

Read the number 528.

This number is a three-digit number.

Look at 528 in a place value chart.

Ones Period		
Hundreds	Tens	Ones
5	**2**	**8**

Write: 528

Read the numbers from left to right.

Say: *five hundred twenty-eight*

Many numbers have more than three digits.

The digits in these numbers are arranged in groups of three called **periods**.

A comma is used to separate each **period**.

EXAMPLE 1

Read the number 2,685.

This number is a four-digit number.

NOTE: A comma is used to separate periods.

Look at 2,685 in the place value chart.

Thousands	Hundreds	Tens	Ones
2	**6**	**8**	**5**

To read this number:

- first, say the one-digit number to the left of the comma, ***two***;
- next, say the name of the period, ***thousand***;
- then, say the three-digit number to the right of the comma, ***six hundred eighty-five***.

Read the number 2,685 as

two thousand, six hundred eighty-five.

EXAMPLE 2

Read the number 45,073.

This is a five-digit number.

NOTE: A comma is used to separate periods.

Look at 45,073 in the place value chart.

Ten Thousands	Thousands	Hundreds	Tens	Ones
4	**5**	**0**	**7**	**3**

The 0 shows there are no hundreds.

To read this number:

- first, say the two-digit number to the left of the comma, ***forty-five***;
- next, say the name of the period, ***thousand***;
- then, say the three-digit number to the right of the comma, ***seventy-three***.

Read the number 45,073 as

forty-five thousand, seventy-three.

EXAMPLE 3

Read the number 342,805.

This is a six-digit number.

NOTE: A comma is used to separate periods.

Look at 342,805 in the place value chart.

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
3	**4**	**2**	**8**	**0**	**5**

The 0 shows there are no tens.

To read this number:

- first, say the three-digit number to the left of the comma, ***three hundred forty-two***;
- next, say the name of the period, ***thousand***;
- then, say the three-digit number to the right of the comma, ***eight hundred five.***

Read the number 342,805 as

three hundred forty-two thousand, eight hundred five.

Problem-Solving 4

Write your answers on notebook paper.

1. Write 374,074 in words.

2. What is the value of the 3 in 374,074?

3. Write 740,297 in words.

4. What is the value of the 4 in 740,297?

5. Write 497,407 in words.

6. What is the value of the 9 in 497,407?

7. Write 173,784 in words.

8. What is the value of the 3 in 173,784?

9. Write 734,870 in words.

10. What is the value of the 3 in 734,870?

11. Write 427,718 in words.

12. What is the value of the 4 in 427,718?

Student Activity 4

Work with a partner to complete Student Activity 4.

PROBLEM 1: Read the number 419. This number is a _____-digit number.

Record the number 419 in the place value chart.

Hundreds	Tens	Ones

Write: _____

Read the numbers from _____ to _____.

Say: _____

PROBLEM 2: Read the number 3,974. This number is a _____-digit number.

A _____ is used to separate _____.

Record 3,974 in the place value chart.

Thousands	Hundreds	Tens	Ones

To read this number:

• first, say the _____-digit number to the _____ of the comma, _____;

• next, say the name of the period, _____;

• then, say the _____-digit number to the _____ of the comma, _____.

Read the number 3,974 as

_____.

PROBLEM 3: Read the number 45,073. This is a _____-digit number.

A _____ is used to separate _____.

Record the number 45,073 in the place value chart.

Ten Thousands	Thousands	Hundreds	Tens	Ones

The ___ shows there are no hundreds.

To read this number:

• first, say the _____-digit number to the _____ of the comma,

_____;

• next, say the name of the period, _____;

• then, say the _____-digit number to the right of the comma,

_____.

Read the number 45,073 as

_____.

PROBLEM 4: Read the number 563,906. This is a _____-digit number.
A _____ is used to separate _____.

Record the number 563,906 in the place value chart.

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones

The ____ shows there are no _____.

To read this number:

• first, say the _____-digit number to the _____ of the comma,

_____;

• next, say the name of the period, _____;

• then, say the _____-digit number to the right of the comma,

_____.

Read the number 563,906 as

_____.

NAME_____ DATE_____ SCORE ___/5

3.2A/3.2B Skills and Concepts Homework 4

1. Write seventeen thousand, two hundred forty-three in standard form. Make a place value chart to prove your answer is correct.

2. Write a number that has the same value as 700,000 + 50,000 + 30 + 4. Explain why your answer is correct.

3. Write six hundred seventy-four thousand, eight in expanded notation. Make a place value chart to prove your answer is correct.

4. What is the value of the digit 7 in the number 276,048? Make a place value chart to prove your answer is correct.

5. When you go from right to left in a number, how are the values of the places related to each other? Explain how you know your answer is correct.

Teacher Notes: Hands-On Activity 1

Materials: 1 Place Value Game Board per student, 1 10-section spinner per group of 4 (copy the spinner on cardstock and laminate), 1 sharp pencil and 1 small paper clip for each group to make the pointer for the spinner

Procedure: Students work in groups of 4.

- Distribute a 10-section spinner to each group of 4 students. The students will use a sharp pencil and a paper clip formed as shown on the spinner page to make the pointer for the spinner.
- Students complete Hands-On Activity 1.

Ask the following question before the students begin working on the activity:

How can you make the greatest number and win the Place Value Game?

Listen for the following as you roam the room during the activity:

- Do the students accurately read the 6-digit numbers? Do they use the appropriate number naming patterns? (**NOTE:** Students should use "and" only to indicate a decimal point, so they should not be using "and" when they read a number in this game.)
- Do the students clearly describe the strategy used to create large numbers?
- Do the students use ideas of place value to explain and justify his or her strategies and responses?

Look for the following as you roam the room during the activity:

- Do the students demonstrate a good grasp of the number system and place value?
- Do the students use place value and patterns in number relationships to compare and order 6-digit numbers?
- Do the students demonstrate an understanding of place value in strategies for the game?
- Can the students identify the different values of the different places in a number?
- Do the students recognize the relative values of the places in a number (e.g., each place is ten times greater than the place on its right?

PLACE VALUE GAME BOARD

ROUND 1

_____ _____ _____, _____ _____ _____

ROUND 2

_____ _____ _____, _____ _____ _____

ROUND 3

_____ _____ _____, _____ _____ _____

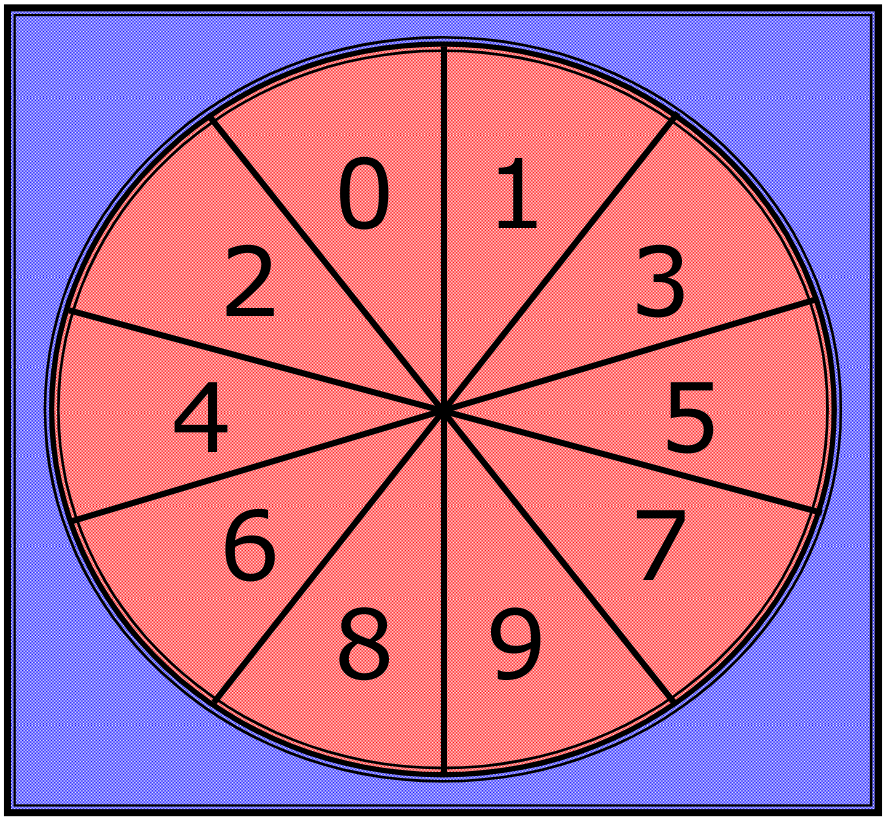
ROUND 4

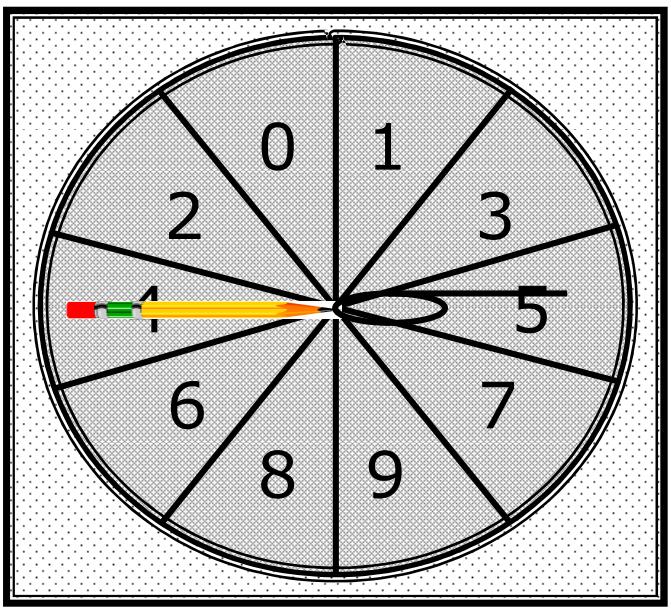
_____ _____ _____, _____ _____ _____

ROUND 5

_____ _____ _____, _____ _____ _____

PLACE VALUE GAME SPINNER





Shape a paper clip to form the pointer.

Place the point of a pencil in the center of the pointer and in the center of the spinner.

Spin the paper clip around the pencil point.

Hands-On Activity 1

Place Value Game

Materials: Place Value Game Board per student, 10-section spinner per group of 4

Procedure – Round 1

- Work in groups of 4. Your teacher will give you 1 spinner for your group. Each student in the group will record on their own Place Value Game Board.
- Each student will spin the spinner. The student that spins the lowest number is Student 1. The student that spins the next lowest number is Student 2. The student that spins the highest number is Student 3. The student that spins the next highest number is Student 4.
- Student 1 spins the spinner. Each student writes the digit that comes up on the spinner in one space on his or her Place Value Game Board. Once the digit is written, it cannot be erased or moved.

  EXAMPLE: Student 1 rolls a 7. Each student writes a 7 in one of the places on their Place Value Game Board - ROUND 1.

  ____ **7** ____, ____ ____ ____

- Student 2 spins the spinner. Each student writes the digit that comes up on the spinner in one space on his or her Place Value Game Board. Once the digit is written, it cannot be erased or moved.
- Student 3 spins the spinner. Each student writes the digit that comes up on the spinner in one space on his or her Place Value Game Board. Once the digit is written, it cannot be erased or moved.
- Student 4 spins the spinner. Each student writes the digit that comes up on the spinner in one space on his or her Place Value Game Board. Once the digit is written, it cannot be erased or moved.
- Student 1 spins the spinner. Each student writes the digit that comes up on the spinner in one space on his or her Place Value Game Board. Once the digit is written, it cannot be erased or moved.
- Student 2 spins the spinner. Each student writes the digit that comes up on the spinner in one space on his or her Place Value Game Board. Once the digit is written, it cannot be erased or moved.

Procedure – Round 2

- Student 3 spins the spinner. Each student writes the digit that comes up on the spinner in one space on his or her Place Value Game Board. Once the digit is written, it cannot be erased or moved.
- Student 4 spins the spinner. Each student writes the digit that comes up on the spinner in one space on his or her Place Value Game Board. Once the digit is written, it cannot be erased or moved.
- Student 1 spins the spinner. Each student writes the digit that comes up on the spinner in one space on his or her Place Value Game Board. Once the digit is written, it cannot be erased or moved.
- Student 2 spins the spinner. Each student writes the digit that comes up on the spinner in one space on his or her Place Value Game Board. Once the digit is written, it cannot be erased or moved.
- Student 3 spins the spinner. Each student writes the digit that comes up on the spinner in one space on his or her Place Value Game Board. Once the digit is written, it cannot be erased or moved.
- Student 4 spins the spinner. Each student writes the digit that comes up on the spinner in one space on his or her Place Value Game Board. Once the digit is written, it cannot be erased or moved.

Procedure – Round 3

- Student 1 spins the spinner. Each student writes the digit that comes up on the spinner in one space on his or her Place Value Game Board. Once the digit is written, it cannot be erased or moved.
- Student 2 spins the spinner. Each student writes the digit that comes up on the spinner in one space on his or her Place Value Game Board. Once the digit is written, it cannot be erased or moved.
- Student 3 spins the spinner. Each student writes the digit that comes up on the spinner in one space on his or her Place Value Game Board. Once the digit is written, it cannot be erased or moved.
- Student 4 spins the spinner. Each student writes the digit that comes up on the spinner in one space on his or her Place Value Game Board. Once the digit is written, it cannot be erased or moved.
- Student 1 spins the spinner. Each student writes the digit that comes up on the spinner in one space on his or her Place Value Game Board. Once the digit is written, it cannot be erased or moved.
- Student 2 spins the spinner. Each student writes the digit that comes up on the spinner in one space on his or her Place Value Game Board. Once the digit is written, it cannot be erased or moved.

Procedure – Round 4

- Student 3 spins the spinner. Each student writes the digit that comes up on the spinner in one space on his or her Place Value Game Board. Once the digit is written, it cannot be erased or moved.
- Student 4 spins the spinner. Each student writes the digit that comes up on the spinner in one space on his or her Place Value Game Board. Once the digit is written, it cannot be erased or moved.
- Student 1 spins the spinner. Each student writes the digit that comes up on the spinner in one space on his or her Place Value Game Board. Once the digit is written, it cannot be erased or moved.
- Student 2 spins the spinner. Each student writes the digit that comes up on the spinner in one space on his or her Place Value Game Board. Once the digit is written, it cannot be erased or moved.
- Student 3 spins the spinner. Each student writes the digit that comes up on the spinner in one space on his or her Place Value Game Board. Once the digit is written, it cannot be erased or moved.
- Student 4 spins the spinner. Each student writes the digit that comes up on the spinner in one space on his or her Place Value Game Board. Once the digit is written, it cannot be erased or moved.

Procedure – Round 5

- Student 1 spins the spinner. Each student writes the digit that comes up on the spinner in one space on his or her Place Value Game Board. Once the digit is written, it cannot be erased or moved.
- Student 2 spins the spinner. Each student writes the digit that comes up on the spinner in one space on his or her Place Value Game Board. Once the digit is written, it cannot be erased or moved.
- Student 3 spins the spinner. Each student writes the digit that comes up on the spinner in one space on his or her Place Value Game Board. Once the digit is written, it cannot be erased or moved.
- Student 4 spins the spinner. Each student writes the digit that comes up on the spinner in one space on his or her Place Value Game Board. Once the digit is written, it cannot be erased or moved.
- Student 1 spins the spinner. Each student writes the digit that comes up on the spinner in one space on his or her Place Value Game Board. Once the digit is written, it cannot be erased or moved.
- Student 2 spins the spinner. Each student writes the digit that comes up on the spinner in one space on his or her Place Value Game Board. Once the digit is written, it cannot be erased or moved.

Answer the following questions about your Place Value Game Board:

- Write the number you wrote for Round 1 in words in the space below.

- Write the number you wrote for Round 3 in words in the space below.

- Write the number you wrote for Round 5 in words in the space below.

- What is the number with the greatest value that could have been written for Round 2?

- What is the number with the greatest value that could have been written for Round 4?

- What strategy would you use the next time you play this game?

- Rearrange the digits in your smallest number to make the largest number you can.

_____

- Rearrange the digits in your largest number to make the smallest number you can.

_____

Work with your group to answer the following questions:

- Which Student in your group made the number with the greatest value in Round 2?

_____ How do you know this is the number with the greatest value?

- Which Student in your group made the number with the greatest value in Round 5?

_____ How do you know this is the number with the greatest value?

- Which Student in your group made the number with the least value in Round 3?

_____ How do you know this is the number with the least value?

- Which Student in your group made the number with the least value in Round 4?

_____ How do you know this is the number with the least value?

NAME_____ DATE_____ SCORE ___/10

3.2A/3.2B Mini-Assessment

1. Which number has the same value as 70,000 + 4,000 + 800 + 3?

A 70,483

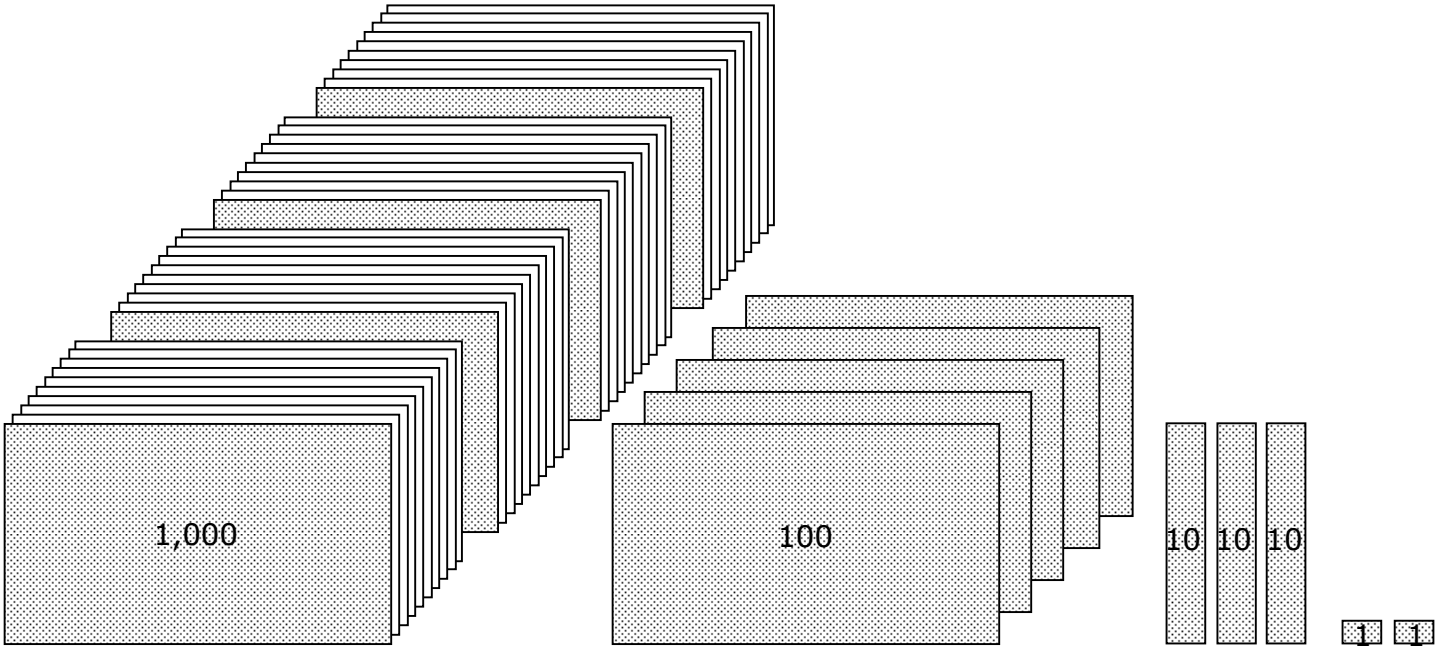
B 74,803

C 70,843

D 74,830

---

2. Keisha created the place value model shown below.



Which number has the same value as the model?

F 1,132

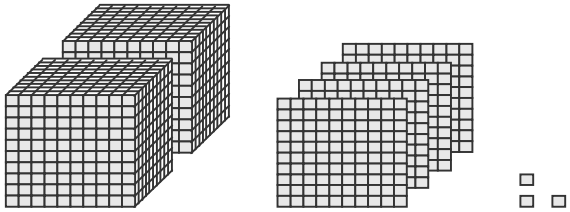
G 10,132

H 4,532

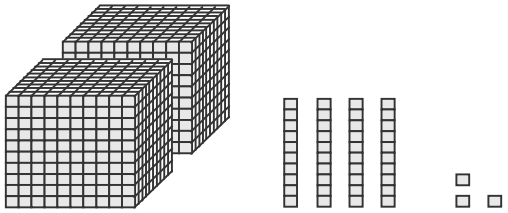
J Not here

3. Which model has the same value as 2,000 + 40 + 3?

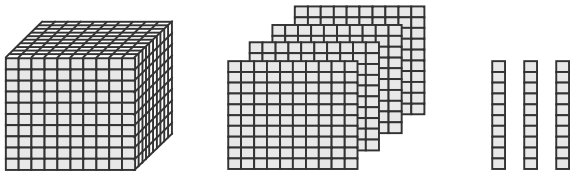
A



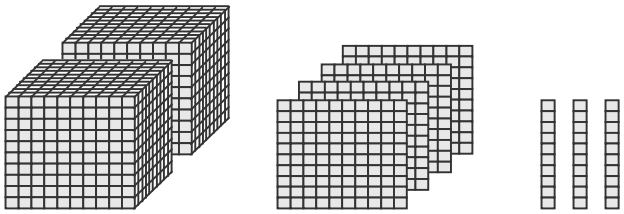
B



C



D



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4. Grocery stores donated 63,063 cans of food to a local food bank during the holiday season. Which of the following has the same value as 63,063?

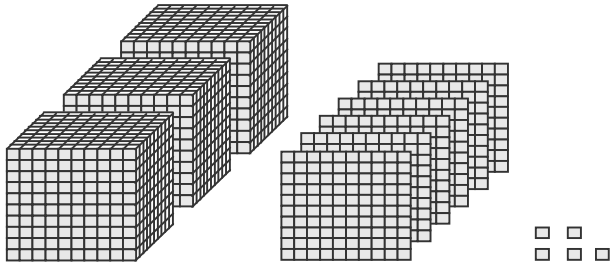
F 6,000 + 300 + 60 + 3

G 60,000 + 30 + 3 + 6 + 3

H 6,000 + 300 + 60 + 3

J 60,000 + 3,000 + 60 + 3

5. Sean created the place value model shown below.



Which of the following has the same value as the model?

A 2,505

B 3,065

C 365

D 3,605

---

6. In 2011 the population of Mission, Texas, was 79,368. Which digit in the number 79,368 has a value 10 times greater than the value of the tens place?

F 7

G 3

H 6

J 9

---

7. The total area of the state of Texas is 696,241 square kilometers. Which digit is in the thousands place in the number 696,241?

A 2

B 6

C 4

D 9

8. Which number represents 2 ten thousands, 5 thousands, 8 hundreds, and 3 ones?

   F 2,583

   G 25,830

   H 25,803

   J Not here

---

9. What is the value of the digit 3 in 93,084?

   A 30

   B 1,000

   C 300

   D 3,000

---

10. Arial wrote a number with a 6 in the ten thousands place, a 2 in the thousands place, a 7 in the hundreds place, and a 9 in the ones place. Which number could Arial have written?

    F 6,279

    G 62,079

    H 60,279

    J 62,709

Lesson 6

3.3A/3.3B/3.7A LESSON & ASSESSMENT

Lesson Focus

For TEKS 3.3A students are expected to represent fractions greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 using concrete objects and pictorial models, including strip diagrams and number lines. Concrete models should be linear in nature to build toward use of strip diagrams and number lines.

For TEKS 3.3B students are expected to determine the corresponding fraction greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 given a specified point on a number line. The focus is on the part to whole representations using tick marks on a number line.

For these TEKS students should be able to apply mathematical process standards to represent and explain fractional units.

For TEKS 3.7A students are expected to represent fractions of halves, fourths, and eighths as distances from zero on a number line. The focus is on the length of the portion of a number between 0 and the location of the point.

For STAAR Category 1 students should be able to demonstrate an understanding of how to represent and manipulate numbers and expressions.

Process Standards Incorporated Into Lesson

3.1.A Apply mathematics to problems arising in everyday life, society, and the workplace.

3.1.C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.

3.1.D Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.

3.1.E Create and use representations to organize, record, and communicate mathematical ideas.

3.1.F Analyze mathematical relationships to connect and communicate mathematical ideas.

Materials Needed for Lesson

1. Concrete Models of Fractions - Fractional Part of a Whole Object

Per student: 2 square pieces of $8\frac{1}{2}$ inch by $8\frac{1}{2}$ inch white copy paper, 1 red crayon and 1 blue crayon, scissors

Concrete Models of Fractions - Fractional Part of a Set of Objects

Per student: 6 pennies, pattern blocks (4 green triangles, 2 red trapezoids)

2. Hands-On Activity 1

Per student **-** scissors, blue crayon and red crayon

3. **Hands-On Activity 2**
   Per pair of students: zipper baggie containing 4 red color tiles, 4 blue color tiles, 6 pennies, 3 yellow cubes, and 3 green cubes
4. **Problem-Solving 1**
   Per pair of students: 8 blue and 8 red color tiles
5. **Hands-On Activity 3**
   Per pair of students: Fraction Model Kit that includes fraction number cards, fraction word cards, two 4" by 8" white paper rectangles, two 4" by 4" white paper squares, 8 red color tiles, 8 blue color tiles, 8 pennies, set of pattern blocks (8 yellow hexagons, 8 blue rhombuses, 8 red trapezoids, 8 green triangles)
6. **Student Activity 1**
   Per pair of students: zipper baggie containing 1 set of fraction bars, 1 colored pencil

Vocabulary for Lesson

Part I	Part II
fraction	number line
numerator	fraction bars
denominator	equal distances
whole object	equal lengths
set of objects	
equal parts	

Math Background Part I - Fractions

A **fraction** is a number that describes a part of a whole or a part of a group by using **equal** parts.

Parts of a Fraction

The parts of a fraction are the **numerator** and the **denominator**. The **denominator** is the bottom number of a fraction and tells how many **equal** parts are in the whole. The **numerator** is the top number of a fraction and tells how many of the **equal** parts the fraction represents.

Using Concrete Objects to Model Fractions

Concrete objects can be used to model fractions that represent part of a whole object or part of a set of objects.

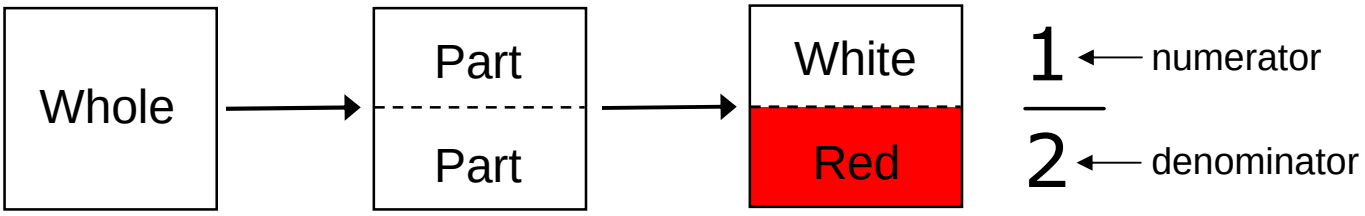
Fractional Part of a Whole Object

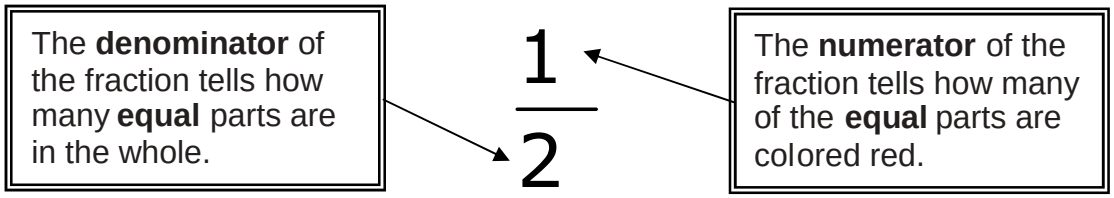
Use objects to model fractions that represent part of a whole object.

EXAMPLE 1: Construct a concrete model to represent a fractional part of a whole object.

Give each student a square piece of white paper. The square represents a whole.

Students will fold the paper in half to make 2 equal parts. Students will leave the top part of the square white and will color the bottom part red. What fraction of the piece of paper is colored red?





- The fraction $\frac{1}{2}$ is read as ***one half***.
- The fraction $\frac{1}{2}$ represents that 1 out of 2 equal parts of the piece of paper are colored red.
- The piece of paper shows $\frac{1}{2}$ of the paper is red.

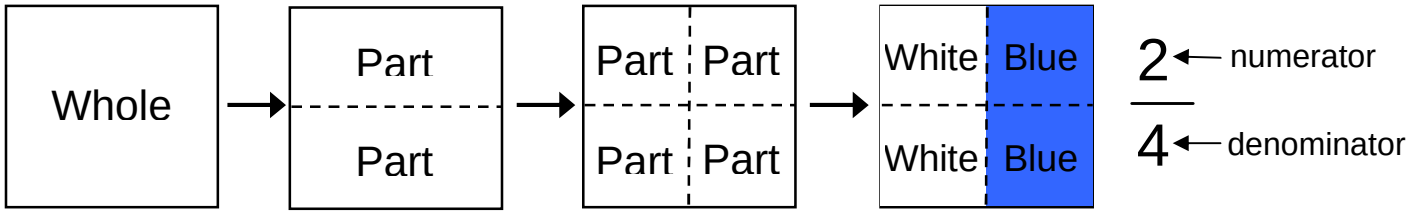
Students will use scissors to cut their square into 2 parts - 1 white part and 1 red part. They will place the white part on top of the red part to verify they have 2 equal parts.

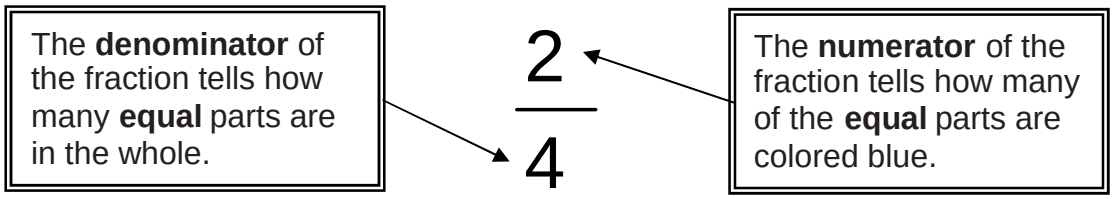
EXAMPLE 2: Construct a concrete model to represent a fractional part of a whole object.

Give each student a square piece of white paper. The square represents a whole.

Students will fold the paper in half horizontally to make 2 equal parts. Then they will fold the paper in half vertically to make 4 equal parts.

Students will leave the 2 parts on the left side white and will color the 2 parts on the right side blue. What fraction of the piece of paper is colored blue?





- The fraction $\frac{2}{4}$ is read as ***two fourths***.
- The fraction $\frac{2}{4}$ represents that 2 out of 4 equal parts of the piece of paper are colored blue.
- The piece of paper shows $\frac{2}{4}$ of the piece of paper is blue.

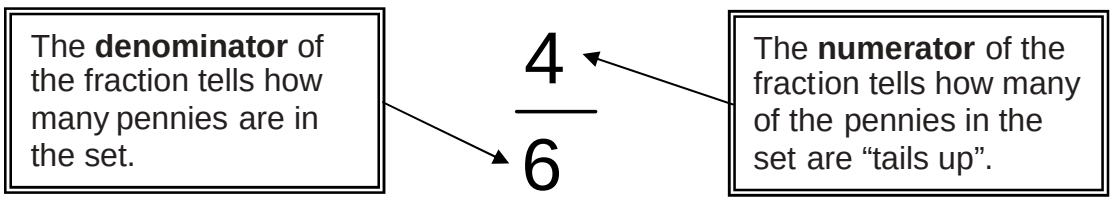
Students will use scissors to cut their square into 4 equal parts - 2 white parts and 2 blue parts. They will stack the 4 parts to verify they have 4 equal parts.

Fractional Part of a Set of Objects

Use objects to model fractions that represent part of a set of objects.

EXAMPLE 1: Construct a concrete model to represent a fractional part of a set of objects. Give each student a set of 6 pennies. Students will turn the pennies so that 2 of the pennies are "heads up" and 4 of the pennies are "tails up". What fraction of the set of pennies is "tails up"?

$\frac{4}{6}$ ← numerator / denominator



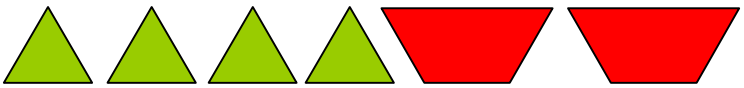
• The fraction $\frac{4}{6}$ is read as ***four sixths.***

• The fraction $\frac{4}{6}$ represents that 4 out of 6 of the pennies in the set are "tails up".

• The set of pennies shows that $\frac{4}{6}$ of the pennies are "tails up".

EXAMPLE 2: Construct a concrete model to represent a fractional part of a set of objects. Give each student pattern blocks: 4 green triangles and 2 red trapezoids.

Students will use the pattern blocks to create a set with 4 green pattern blocks and 2 red pattern blocks. What fraction of the set of pattern blocks is red?



$\frac{2}{6}$ ← numerator

denominator

The **denominator** of the fraction tells how many pattern blocks are in the set.

$\frac{2}{6}$

The **numerator** of the fraction tells how many of the pattern blocks in the set are red.

• The fraction $\frac{2}{6}$ is read as ***two sixths.***

• The fraction $\frac{2}{6}$ represents that 2 out of 6 of the pattern blocks in the set are red.

• The set of pattern blocks shows that $\frac{2}{6}$ of the pattern blocks are red.

Fractions

A **fraction** is a number that describes a part of a whole or a part of a group by using **equal** parts.

Parts of a Fraction

The parts of a fraction are the **numerator** and the **denominator**.

The **denominator** is the bottom number of a fraction and tells how many **equal** parts are in the whole.

The **numerator** is the top number of a fraction and tells how many of the **equal** parts the fraction represents.

Using Concrete Objects to Model Fractions

Concrete objects can be used to model fractions that represent part of a whole object or part of a set of objects.

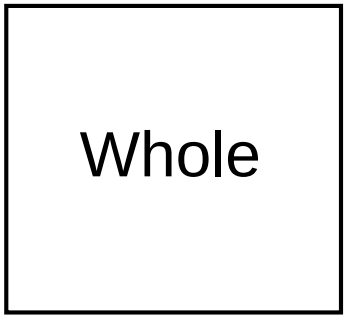
Fractional Part of a Whole Object

Use objects to model fractions that represent part of a whole object.

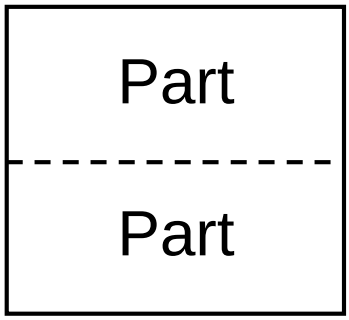
EXAMPLE 1

Construct a concrete model to represent a fractional part of a whole object.

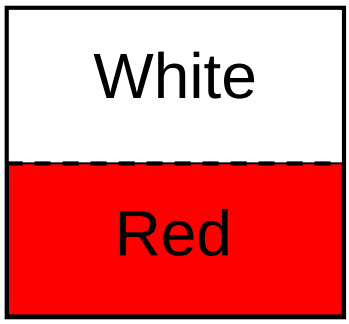
Your teacher will give you a square piece of white paper. The square represents 1 whole.

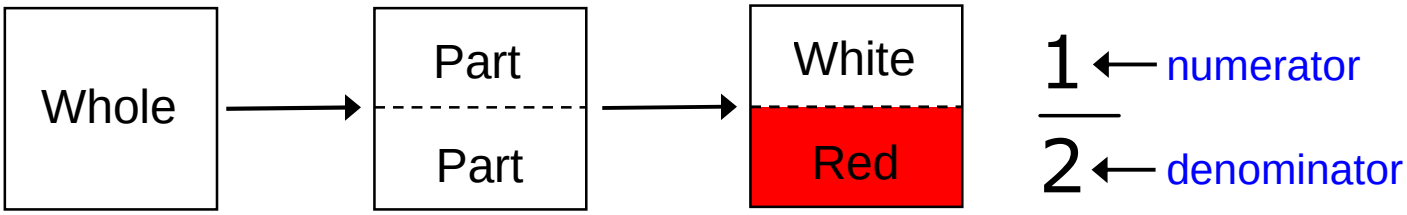


Fold the paper in half to make 2 equal parts.



Leave the top part of the square white and color the bottom part red.





The **denominator** of the fraction tells how many **equal** parts are in the whole.

$\frac{1}{2}$

The **numerator** of the fraction tells how many of the **equal** parts are colored red.

- The fraction $\frac{1}{2}$ is read as ***one half***.
- The fraction $\frac{1}{2}$ represents that 1 out of 2 equal parts of the piece of paper are colored red.
- The piece of paper shows $\frac{1}{2}$ of the paper is red.

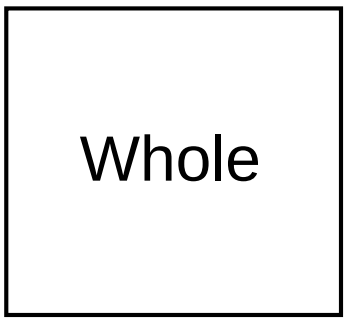
Use scissors to cut your square into **2** parts - 1 **white** part and 1 **red** part.

Place the **white** part on top of the **red** part to verify that you have 2 **equal** parts.

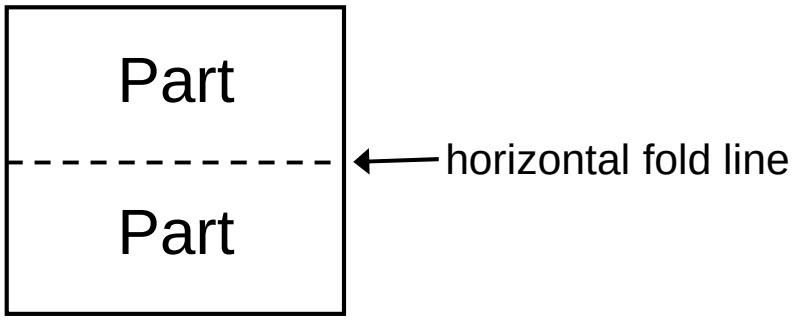
EXAMPLE 2

Construct a concrete model to represent a fractional part of a whole object.

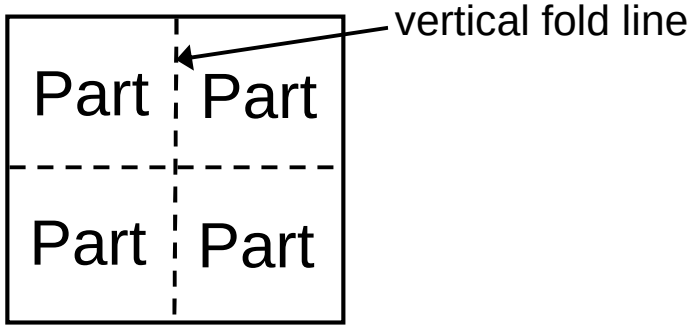
Your teacher will give you a square piece of white paper. The square represents 1 whole.



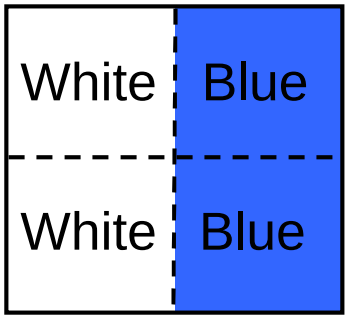
Fold the paper in half **horizontally** to make 2 equal parts.



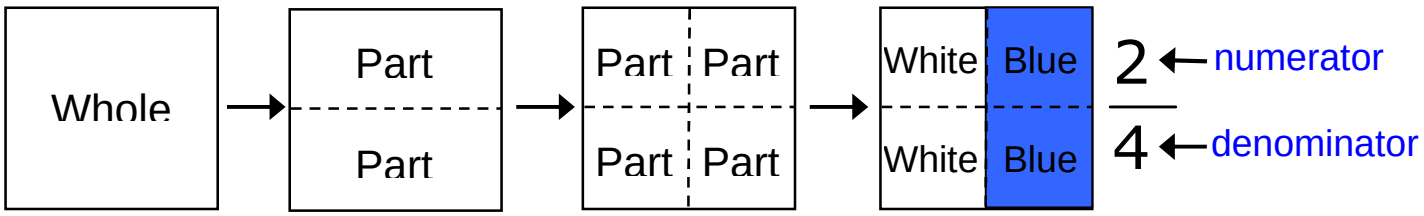
Next fold the paper in half **vertically** to make 4 equal parts.

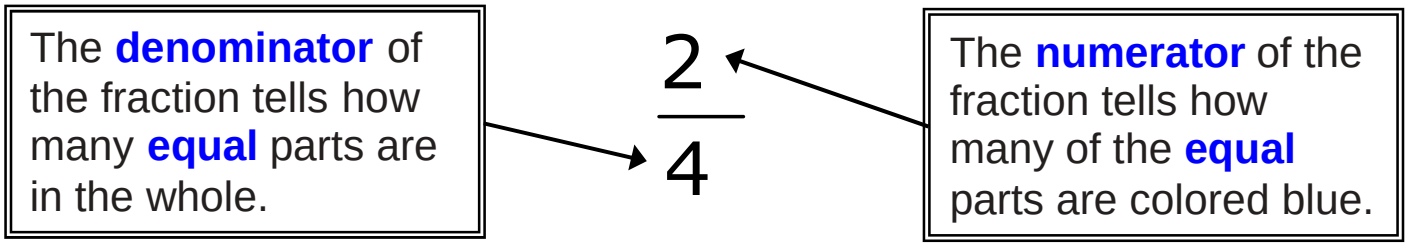


Leave the 2 parts on the left side white and color the 2 parts on the right side blue.



What fraction of the piece of paper is colored blue?





- The fraction $\frac{2}{4}$ is read as ***two fourths***.
- The fraction $\frac{2}{4}$ represents that 1 out of 2 equal parts of the piece of paper are colored blue.
- The piece of paper shows $\frac{2}{4}$ of the piece of paper is blue.

Use scissors to cut your square into 4 equal parts - 2 white parts and 2 blue parts.

Stack the 4 parts to verify that you have 4 equal parts.

Fractional Part of a Set of Objects

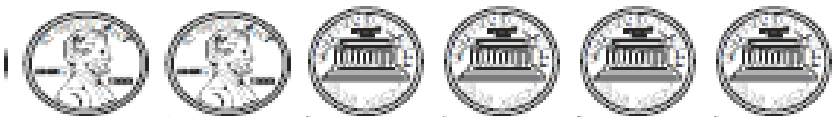
Use objects to model fractions that represent part of a set of objects.

EXAMPLE 1

Construct a concrete model to represent a fractional part of a set of objects.

Your teacher will give you a set of 6 pennies.

Turn the pennies so that 2 of the pennies are "heads up" and 4 of the pennies are "tails up".



What fraction of the set of pennies is "tails up'?

$\frac{4}{6}$ ← numerator

denominator

The **denominator** of the fraction tells how many pennies are in the set.

$\frac{4}{6}$

The **numerator** of the fraction tells how many of the pennies in the set are "tails up".

$\frac{4}{6}$ ← numerator

denominator

- The fraction $\frac{4}{6}$ is read as ***four sixths***.
- The fraction $\frac{4}{6}$ represents that 4 out of 6 of the pennies in the set are "tails up".
- The set of pennies shows that $\frac{4}{6}$ of the pennies are "tails up".

EXAMPLE 2

Construct a concrete model to represent a fractional part of a set of objects.

Your teacher will give you 4 green triangles a and 5 red trapezoids.

Use the pattern blocks to create a set with 4 green pattern blocks and 2 red pattern blocks.

What fraction of the set of pattern blocks is red?

$\frac{2}{6}$ ← numerator

$\frac{2}{6}$ ← denominator

The **denominator** of the fraction tells how many pattern blocks are in the set.

$\frac{2}{6}$

The **numerator** of the fraction tells how many of the pattern blocks in the set are red.

- The fraction $\frac{2}{6}$ is read as ***two sixths***.
- The fraction $\frac{2}{6}$ represents that 2 out of 6 of the pattern blocks in the set are red.
- The set of pattern blocks shows that $\frac{2}{6}$ of the pattern blocks are red.

Problem-Solving 1

Your teacher will give you and your partner a baggie with color tiles to use for this activity.

1. Use 8 blue color tiles to model 1 whole rectangle with 8 equal parts.

2. Draw a sketch of your model.

3. Replace blue color tiles with red color tiles to model $\frac{1}{2}$ of the whole rectangle in red and $\frac{1}{2}$ of the whole rectangle in blue.

4. Draw a sketch of your model.

5. How many tiles in your model are blue?

6. How many tiles in your model are red?

7. What fraction represents the blue part of the whole in your model?

8. Explain why the answer to question 7 is correct.

9. What fraction represents the red part of the whole in your model?

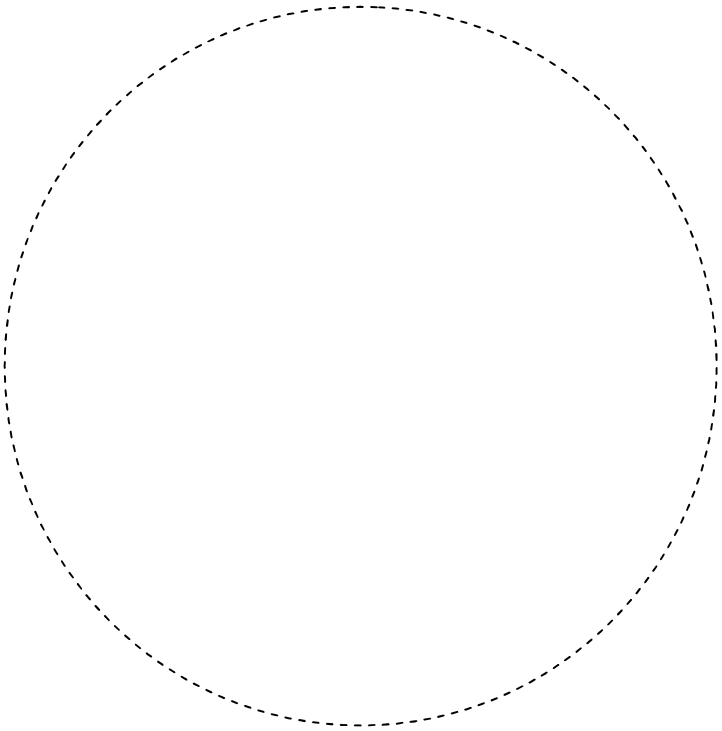
10. Explain why the answer to question 7 is correct.

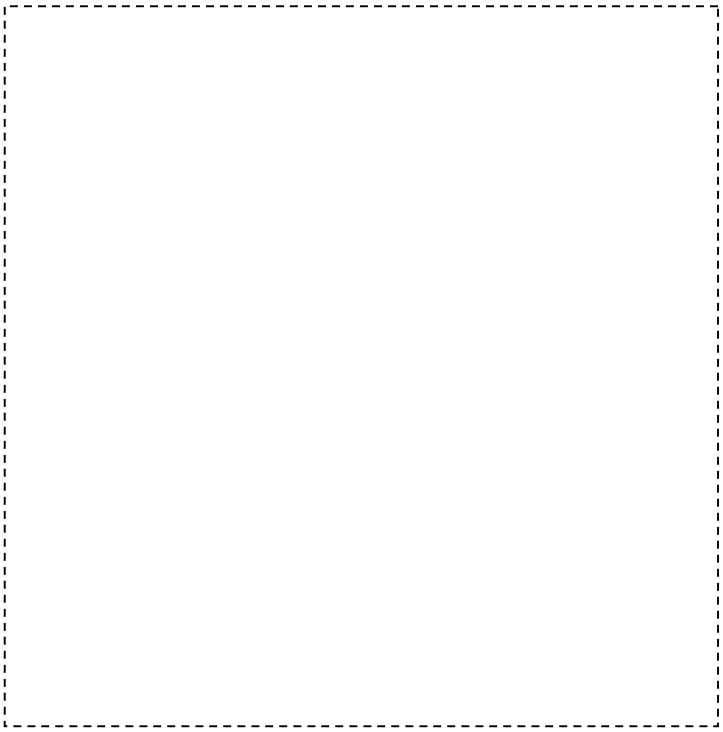
Hands-On Activity 1

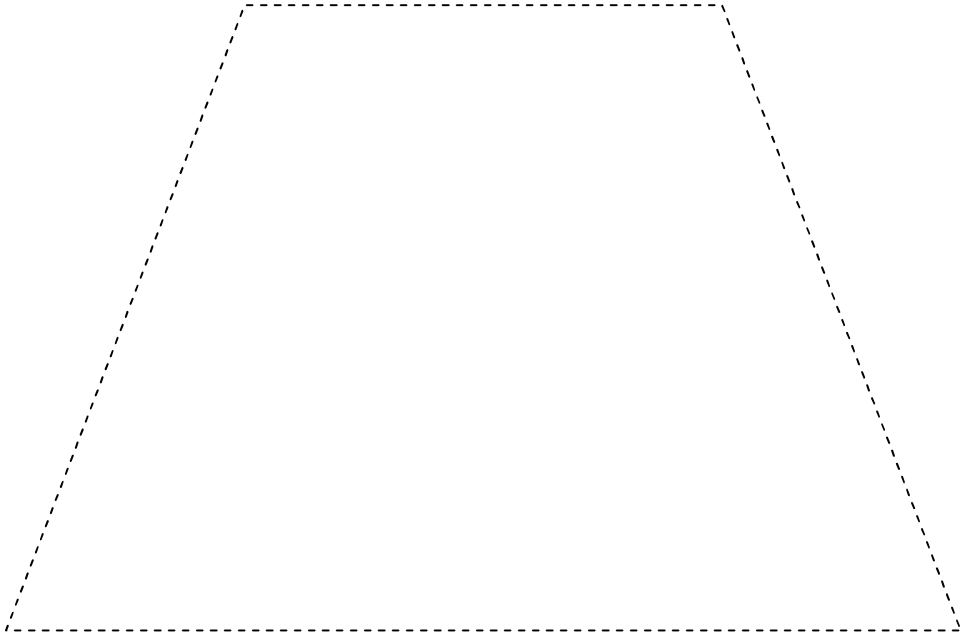
Fractional Parts of Whole Objects

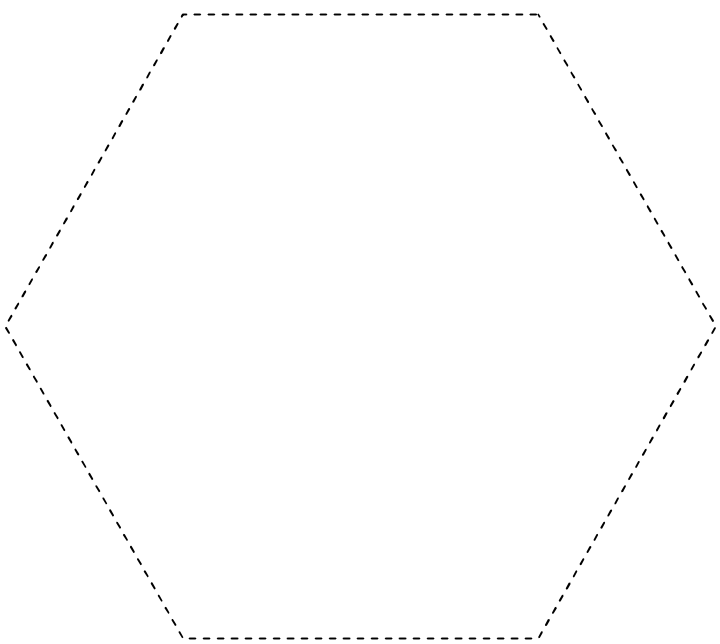
Materials: 2 pair of scissors, 2 blue crayons, 2 red crayons.

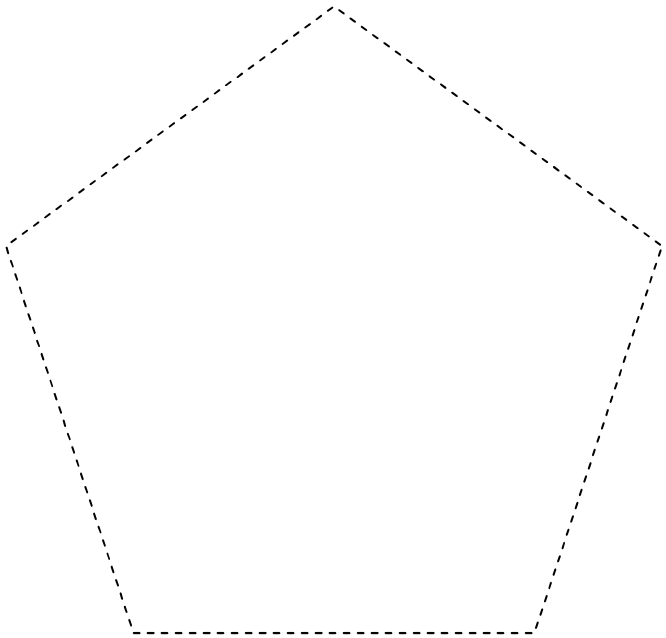
Procedure: Work with a partner to complete **Hands-On Activity 1**.
Cut along the lines to cut out the figures on this page and the next page.
You and your partner both need a set of these figures.
You will use them for this activity.





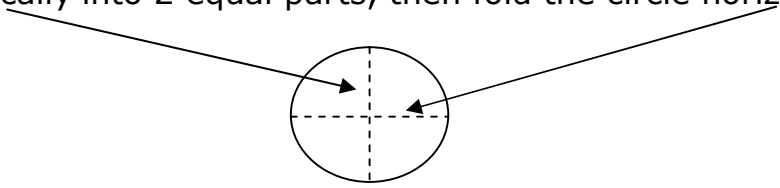






PART I

Fold your circle vertically into 2 equal parts, then fold the circle horizontally into two equal parts.



Your circle has 4 equal parts now. Color 2 of the parts red.

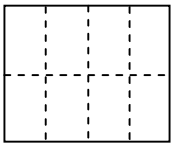
The red parts are __ out of the __ equal parts. The fraction that represents the red parts is $\frac{\square}{\square}$.

The numerator of the fraction is _____. What does the numerator represent in your model?

The denominator of the fraction is _____. What does the denominator represent in your model?

PART II

Fold the square into 8 equal parts.



Color 3 of the parts blue.

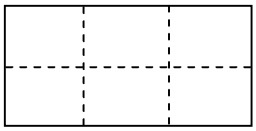
The blue parts are __ out of the __ equal parts. The fraction that represents the blue parts is $\frac{\square}{\square}$.

The numerator of the fraction is _____. What does the numerator represent in your model?

The denominator of the fraction is _____. What does the denominator represent in your model?

PART III

Fold the rectangle into 6 equal parts.



Color 3 of the parts red.

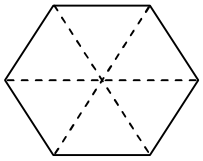
The red parts are __ out of the __ equal parts. The fraction that represents the red parts is $\frac{\square}{\square}$.

The numerator of the fraction is _____. What does the numerator represent in your model?

The denominator of the fraction is _____. What does the denominator represent in your model?

PART IV

Divide the hexagon into 6 equal parts.



Color 5 of the parts blue.

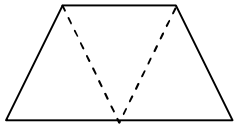
The blue parts are __ out of the __ equal parts. The fraction that represents the blue parts is $\frac{\square}{\square}$.

The numerator of the fraction is _____. What does the numerator represent in your model?

The denominator of the fraction is _____. What does the denominator represent in your model?

PART V

Fold the trapezoid into 3 equal parts.



Color 2 of the parts red.

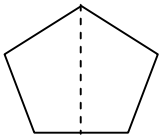
The red parts are __ out of the __ equal parts. The fraction that represents the red parts is $\frac{\square}{\square}$.

The numerator of the fraction is _____. What does the numerator represent in your model?

The denominator of the fraction is _____. What does the denominator represent in your model?

PART VI

Fold the pentagon into 2 equal parts.



Color 1 of the parts blue.

The blue parts are __ out of the __ equal parts. The fraction that represents the blue parts is $\frac{\square}{\square}$.

The numerator of the fraction is _____. What does the numerator represent in your model?

The denominator of the fraction is _____. What does the denominator represent in your model?

What did you learn from this activity?

Hands-On Activity 2

Fractional Parts of Sets of Objects

Materials: Your teacher will give each partner pair a zipper baggie with 4 red color tiles, 4 blue color tiles, 6 pennies, 3 yellow cubes, and 3 green cubes

Procedure: Work with a partner to complete **Hands-On Activity 2**.

PART I

Create a set with 4 red color tiles and 4 blue color tiles. Draw a sketch of your set of tiles. Label the red tiles with R and the blue tiles with B.

The red tiles are __ out of the __ equal parts. The fraction that represents the red parts of the set is $\frac{\square}{\square}$.

The numerator of the fraction is _____. What does the numerator represent in your model?

The denominator of the fraction is _____. What does the denominator represent in your model?

PART II

Create a set with 5 pennies "heads up" and 1 penny "tails up".
Draw a sketch of your set of pennies. Label the "heads up" pennies with H and the "tails up" penny with T.

The "tails up" penny is __ out of the __ equal parts. The fraction that represents the "tails up" part of the set of pennies is $\frac{\square}{\square}$.

The numerator of the fraction is _____. What does the numerator represent in your model?

The denominator of the fraction is _____. What does the denominator represent in your model?

PART III

Create a set with 1 yellow cube and 2 green cubes. Draw a sketch of your set of cubes. Label the yellow cubes with Y and the green cubes with G.

The green cubes are __ out of the __ equal parts. The fraction that represents the green cube parts of the set is $\frac{\square}{\square}$.

The numerator of the fraction is _____. What does the numerator represent in your model?

The denominator of the fraction is _____. What does the denominator represent in your model?

PART IV

Create a set with 1 red color tile and 1 blue color tile. Draw a sketch of your set of tiles. Label the red tile with R and the blue tile with B.

The blue tile is __ out of the __ equal parts. The fraction that represents the blue part of the set is $\frac{\square}{\square}$.

The numerator of the fraction is _____. What does the numerator represent in your model?

The denominator of the fraction is _____. What does the denominator represent in your model?

PART V

Create a set with 1 penny "heads up" and 5 pennies "tails up".
Draw a sketch of your set of pennies. Label the "heads up" penny with H and the "tails up" pennies with T.

The "tails up" pennies are __ out of the __ equal parts. The fraction that represents the "tails up" part of the set of pennies is $\frac{\square}{\square}$.

The numerator of the fraction is _____. What does the numerator represent in your model?

The denominator of the fraction is _____. What does the denominator represent in your model?

PART VI

Create a set with 3 yellow cubes and 1 green cube. Draw a sketch of your set of cubes. Label the yellow cubes with Y and the green cube with G.

The yellow cubes are __ out of the __ equal parts. The fraction that represents the yellow cube parts of the set is $\frac{\square}{\square}$.

The numerator of the fraction is _____. What does the numerator represent in your model?

The denominator of the fraction is _____. What does the denominator represent in your model?

What did you learn from this activity?

Teacher Notes: Hands-On Activity 3

Materials: Book such as *Fractions are Parts of Things* by J. Richard Dennis
Fraction Model Kit for each pair of students: fraction number cards (laminate and cut apart), fraction word cards (laminate and cut apart), two 4" by 10" white paper rectangles, two 4" by 4" white paper squares, 4 red color tiles and 4 blue color tiles, 8 pennies, set of pattern blocks (2 yellow hexagons, 3 blue rhombuses, 2 red trapezoids, 6 green triangles)

Procedure: Students work in partner pairs.

- After reading a book such as *Fractions are Parts of Things* by J. Richard Dennis, pairs of students use a variety of concrete objects to model fractions shown on fraction cards.
- Display the "Fractions are Parts of Things" projection page and have each student in a partner pair choose materials to model the fraction shown on the transparency.

  Say: Tell your partner about your fraction model.
  - What part of your model represents the denominator of the fraction?
  - What part of your model represents the numerator of the fraction?
  - Explain to your partner why your model can also represent the fraction $\frac{4}{7}$.

Listen for the following as you roam the room during the activity:

- Do students use appropriate language to talk about a fraction?
- Do students have an understanding of the concept of a fraction describing part of a whole?

Look for the following as you roam the room during the activity:

- Can the students construct a concrete model of a fraction?
- Do the students notice that a particular model can represent more than one fraction: (For example, if there are three heads and one tail showing, then the fraction models $\frac{3}{4}$ of the coins show heads. Also, this models $\frac{1}{4}$ of the coins show tails.)
- Do the students correctly match two fractions with each model?

Fractions are Parts of Things

- Each partner will choose materials from your fraction kit to model this fraction:

$$\frac{4}{6}$$

Talk with your partner about the model.

- What fraction is represented by the model?
- What part of the model represents the denominator of the fraction?
- What part of the model represents the numerator of the fraction?
- How do you write the fraction $\frac{4}{6}$ in words?

FRACTION NUMBER CARDS 1

(Copy masters in Teacher Guide - Cardstock Masters folder on CD - copy on cardstock, copy *TEKSING TOWARD STAAR* logo on back, then cut apart along the dashed lines. Make one set of cards per pair of students.)

$\frac{1}{2}$	$\frac{2}{2}$
$\frac{1}{3}$	$\frac{2}{3}$
$\frac{3}{3}$	$\frac{1}{4}$
$\frac{2}{4}$	$\frac{3}{4}$

FRACTION NUMBER CARDS 2

$\frac{4}{4}$	$\frac{1}{6}$
$\frac{2}{6}$	$\frac{3}{6}$
$\frac{4}{6}$	$\frac{5}{6}$
$\frac{6}{6}$	$\frac{1}{8}$
$\frac{2}{8}$	$\frac{3}{8}$

FRACTION NUMBER CARDS 3

$\frac{4}{8}$	$\frac{5}{8}$
$\frac{6}{8}$	$\frac{7}{8}$
$\frac{8}{8}$	

FRACTION WORD CARDS 1

(Copy masters in Teacher Guide - Cardstock Masters folder on CD - copy on cardstock, copy *TEKSING TOWARD STAAR* logo on back, then cut apart along the dashed lines. Make one set of cards per pair of students.)

one half	two halves
one third	two thirds
three thirds	one fourth
two fourths	three fourths

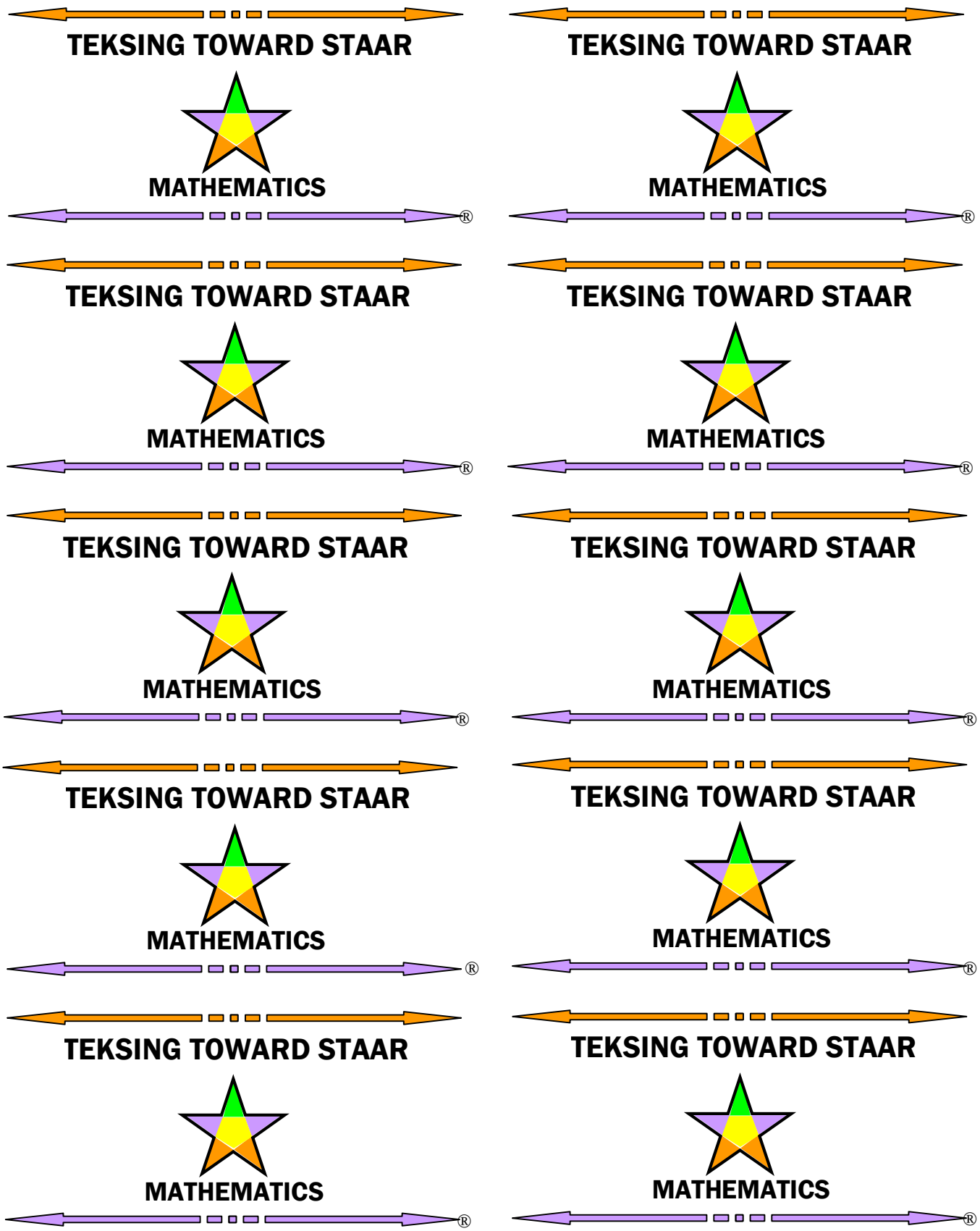
FRACTION WORD CARDS 2

four fourths	one sixth
two sixths	three sixths
four sixths	five sixths
six sixths	one eighth
two eighths	three eighths

FRACTION WORD CARDS 3

four eighths	five eighths
six eighths	seven eighths
eight eighths	

This page should be copied on the back of the Fraction Number Cards and Fraction Name Cards. Be sure to use the master from the Cardstock Masters folder on the CD.



Hands-On Activity 3

Fractions are Parts of Things

Materials: Fraction Model Kit for each pair of students includes fraction number cards, fraction word cards, two 4" by 8" white paper rectangles, two 4" by 4" white paper squares, 8 red color tiles, 8 blue color tiles, 8 pennies, set of pattern blocks (8 yellow hexagons, 8 blue rhombuses, 8 red trapezoids, 8 green triangles)

Procedure: Work with a partner for this activity.

- Your teacher will give you a Fraction Model Kit. Place the Fraction Number Cards face down in a pile on the desk. Spread the Fraction Word Cards out face up in the center of the table. Leave the other materials in the kit until they are needed.
- Flip a coin the decide who is Student 1 and who is Student 2. The first student to land the coin "heads up" is Student 1.

ROUND 1

- Student 1 takes the top card from the Fraction Number Cards pile on the desk.
- Student 2 chooses materials from the kit and models the fraction number card. Then Student 2 explains why the model matches the fraction number card. Tell what part of the model represents the denominator and what part of the model represents the numerator.
- Student 1 finds a Fraction Word Card that matches the model.
- Student 2 finds another Fraction Word Card that matches the model.
- Student 1 explains why the second word card also matches the model. Tell what part of the model represents the denominator and what part of the model represents the numerator.
- Student 2 places the cards from Round 1 in a discard pile and Student 1 places the model materials back into the fraction kit.

ROUND 2

- Student 2 takes the top card from the Fraction Number Cards pile on the desk.
- Student 1 chooses materials from the kit and models the fraction number card. Then Student 1 explains why the model matches the fraction number card. Tell what part of the model represents the denominator and what part of the model represents the numerator.
- Student 2 finds a Fraction Word Card that matches the model.
- Student 1 finds another Fraction Word Card that matches the model.
- Student 2 explains why the second word card also matches the model. Tell what part of the model represents the denominator and what part of the model represents the numerator.
- Student 1 places the cards from Round 2 in a discard pile and Student 2 places the model materials back into the fraction kit.

ROUND 3

- Student 1 takes the top card from the Fraction Number Cards pile on the desk.
- Student 2 chooses materials from the kit and models the fraction number card. Then Student 2 explains why the model matches the fraction number card. Tell what part of the model represents the denominator and what part of the model represents the numerator.
- Student 1 finds a Fraction Word Card that matches the model.
- Student 2 finds another Fraction Word Card that matches the model.
- Student 1 explains why the second word card also matches the model. Tell what part of the model represents the denominator and what part of the model represents the numerator.
- Student 2 places the cards from Round 3 in a discard pile and Student 1 places the model materials back into the fraction kit.

ROUND 4

- Student 2 takes the top card from the Fraction Number Cards pile on the desk.
- Student 1 chooses materials from the kit and models the fraction number card. Then Student 1 explains why the model matches the fraction number card. Tell what part of the model represents the denominator and what part of the model represents the numerator.
- Student 2 finds a Fraction Word Card that matches the model.
- Student 1 finds another Fraction Word Card that matches the model.
- Student 2 explains why the second word card also matches the model. Tell what part of the model represents the denominator and what part of the model represents the numerator.
- Student 1 places the cards from Round 4 in a discard pile and Student 2 places the model materials back into the fraction kit.

ROUND 5

- Student 1 takes the top card from the Fraction Number Cards pile on the desk.
- Student 2 chooses materials from the kit and models the fraction number card. Then Student 2 explains why the model matches the fraction number card. Tell what part of the model represents the denominator and what part of the model represents the numerator.
- Student 1 finds a Fraction Word Card that matches the model.
- Student 2 finds another Fraction Word Card that matches the model.
- Student 1 explains why the second word card also matches the model. Tell what part of the model represents the denominator and what part of the model represents the numerator.
- Student 2 places the cards from Round 5 in a discard pile and Student 1 places the model materials back into the fraction kit.

Work with your partner to answer the questions about the Fractions Are Parts of Things game. Write your answer in the space below the question.

1. How did you decide the total number of objects to use in a model?

2. How did you decide the number of objects you needed to represent the denominator in the model?

3. How did you decide the number of objects you needed to represent the numerator in the model?

4. Why did you need a different representation for the numerator? (For example: why did you use some pennies that were "heads up" and some pennies that were "tails up"?

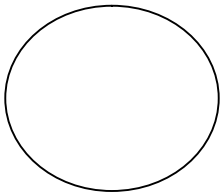
5. Why can two different fraction numbers be represented by each model?

6. What did you learn about fractions during this activity?

NAME_____ DATE_____ SCORE ___/5

3.3A/3.3B/3.7A Skills and Concepts Homework 1

1. Divide the circle into 4 equal parts. Color 3 of the parts red.



The red parts are __ out of the __ equal parts. The fraction that represents the red parts is $\frac{\square}{\square}$.

The numerator of the fraction is _____. What does the numerator represent in your model?

The denominator of the fraction is _____. What does the denominator represent in your model?

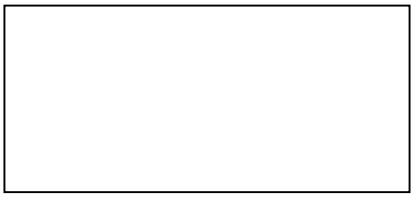
2. Divide the square into 8 equal parts. Color 5 of the parts blue.

The blue parts are __ out of the __ equal parts. The fraction that represents the parts that are **NOT** blue is $\frac{\square}{\square}$.

The numerator of the fraction is _____. What does the numerator represent in your model?

The denominator of the fraction is _____. What does the denominator represent in your model?

3. Divide the rectangle into 6 equal parts. Color 3 of the parts red.

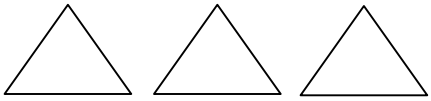


The red parts are __ out of the __ equal parts. The fraction that represents the red parts is $\frac{\square}{\square}$.

The numerator of the fraction is _____. What does the numerator represent in your model?

The denominator of the fraction is _____. What does the denominator represent in your model?

4. A set of triangle is shown below. Color 2 of the triangles in the set blue.

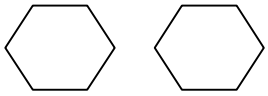


The blue parts are __ out of the __ equal parts. The fraction that represents the parts that are **NOT** blue is $\frac{\square}{\square}$.

The numerator of the fraction is _____. What does the numerator represent in your model?

The denominator of the fraction is _____. What does the denominator represent in your model?

5. A set of hexagons is shown below. Color 2 of the hexagons in the set red.



The red parts of the set are __ out of the __ equal parts. The fraction that represents the parts that are red is $\frac{\square}{\square}$.

The numerator of the fraction is _____. What does the numerator represent in your model?

The denominator of the fraction is _____. What does the denominator represent in your model?

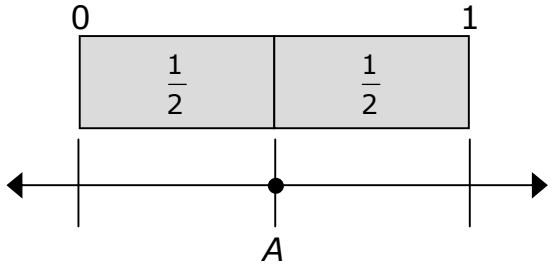
Math Background Part II - Fractions on a Number Line

A number line can be used to show fractions. The length from 0 to 1 on the number line represents one whole. The number line can be divided into any number of equal parts, or lengths.

Fractions Greater Than One and Less Than or Equal to One

If you are given a specified point on a number line, you can determine a corresponding fraction greater than zero and less than or equal to one.

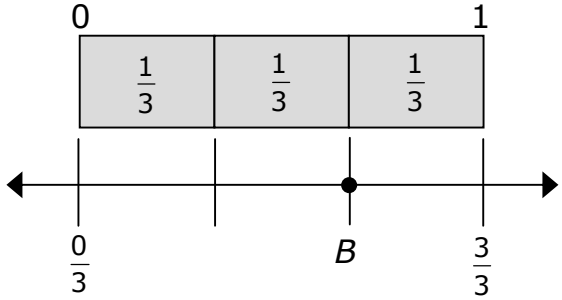
EXAMPLE 1: The model shows two fraction bars above a number line. Point *A* is located on the number line. What fraction does Point *A* represent?



- The number line is divided into 2 equal sections.
- There are 2 equal fraction bars above the number line.
- The first fraction bar on the left is the same length as the first section marked on the number line.
- The next fraction bar is the same length as the second section marked on the number line and ends at 1.
- This means that the two fraction bars are equal to 1 whole.
- This also means that the two fraction bars are equal to $\frac{2}{2}$ on the number line.
- The end of 1 fraction bar marked $\frac{1}{2}$ is at the same place as the second mark on the number line.

So, Point *A* represents the fraction $\frac{1}{2}$ on this number line.

EXAMPLE 2: The model shows three fraction bars above a number line. Point *B* is located on the number line. What fraction does Point *B* represent?

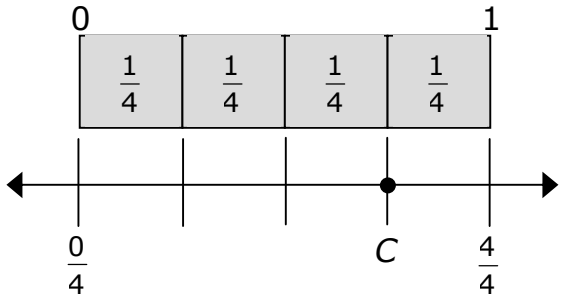


- The number line is divided into 3 equal sections.

- There are 3 equal fraction bars above the number line.
- The first fraction bar is the same length as the first section on the number line.
- The next fraction bar is the same length as the second section on the number line.
- The next fraction bar is the same length as the third section on the number line.
- This means that the three fraction bars are equal to 1 whole.
- This also means that the three fraction bars are equal to $\frac{3}{3}$ on the number line.
- The end of the second fraction bar marked $\frac{1}{3}$ is at the same place as the end of the second section after zero and $\frac{0}{3}$ on the number line.

So, Point *B* represents the fraction $\frac{2}{3}$ on this number line. This means that Point *B* is located at $\frac{2}{3}$ of the distance on the number line between 0 or $\frac{0}{3}$ and 1 or $\frac{3}{3}$.

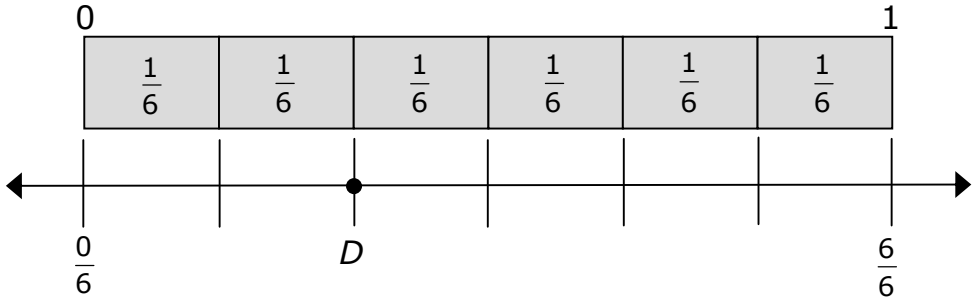
EXAMPLE 3: The model shows four fraction bars above a number line. Point *C* is located on the number line. What fraction does Point *C* represent?



- The number line is divided into 4 equal sections.
- There are 4 equal fraction bars above the number line.
- The first fraction bar is the same length as the first section on the number line.
- The next fraction bar is the same length as the second section on the number line.
- The next fraction bar is the same length as the third section on the number line.
- The next fraction bar is the same length as the fourth section on the number line.
- This means that the four fraction bars are equal to 1 whole.
- This also means that the four fraction bars are equal to $\frac{4}{4}$ on the number line.
- The end of the third fraction bar marked $\frac{1}{4}$ is at the same place as the end of the third section after 0 and $\frac{0}{4}$ on the number line.

So, Point *C* represents the fraction $\frac{3}{4}$ on this number line. This means that Point *C* is located at $\frac{3}{4}$ of the distance on the number line between 0 or $\frac{0}{4}$ and 1 or $\frac{4}{4}$.

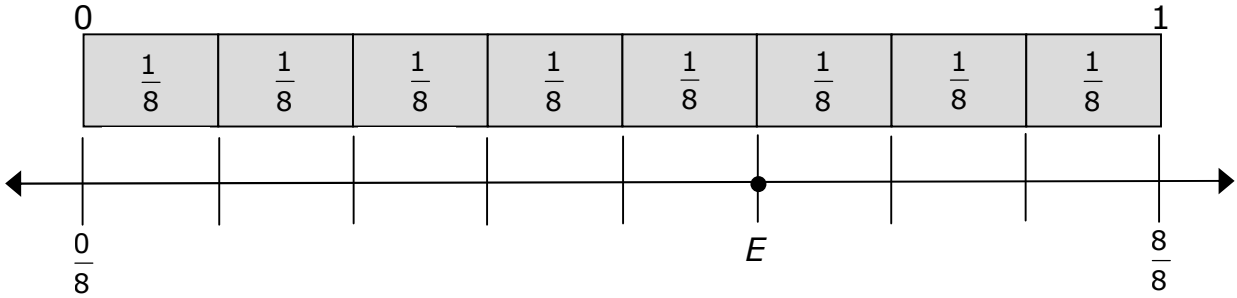
EXAMPLE 4: The model shows six fraction bars above a number line. Point *D* is located on the number line. What fraction does Point *D* represent?



- The number line is divided into 6 equal sections.
- There are 6 equal fraction bars above the number line.
- The first fraction bar is the same length as the first number line section, so the first section on the number line is $\frac{1}{6}$ of the length of the number line.
- The next fraction bar is the same length as the second number line section, so the second section is $\frac{2}{6}$ of the length of the number line.

So, Point *D* represents the fraction $\frac{2}{6}$ on this number line. This means that Point *D* is located at $\frac{2}{6}$ of the distance on the number line between 0 or $\frac{0}{6}$ and 1 or $\frac{6}{6}$.

EXAMPLE 5: The model shows eight fraction bars above a number line. Point *E* is located on the number line. What fraction does Point *E* represent?



- The number line is divided into 8 equal sections.
- There are 8 equal fraction bars above the number line.
- The first fraction bar is the same length as the first number line section, so the first section on the number line is $\frac{1}{8}$ of the length of the number line.
- The next fraction bar is the same length as the second number line section, so the second section is $\frac{2}{8}$ of the length of the number line.

- The next fraction bar is the same length as the third number line section, so the third section is $\frac{3}{8}$ of the length of the number line.
- The next fraction bar is the same length as the fourth number line section, so the fourth section is $\frac{4}{8}$ of the length of the number line.
- The next fraction bar is the same length as the fifth number line section, so the fifth section is $\frac{5}{8}$ of the length of the number line.

So, Point *E* represents the fraction $\frac{5}{8}$ on this number line. This means that Point *E* is located at $\frac{5}{8}$ of the distance on the number line between 0 or $\frac{0}{8}$ and 1 or $\frac{8}{8}$.

Fractions on a Number Line

A number line can be used to show fractions.

The length from 0 to 1 on the number line represents one whole.

The number line can be divided into any number of equal parts, or lengths.

Fractions Greater Than One and Less Than or Equal to One

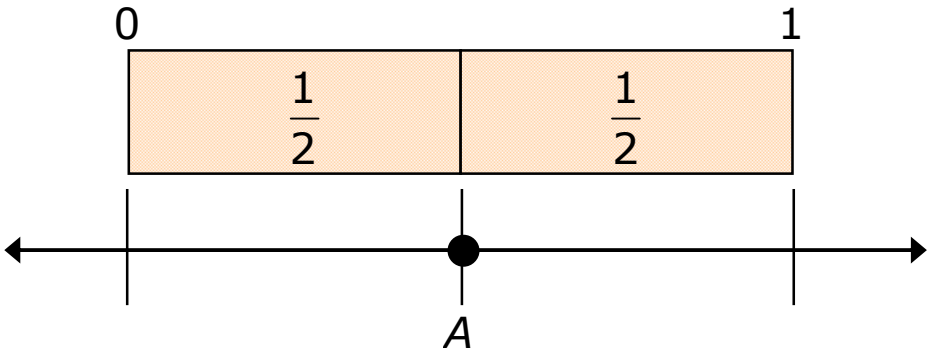
If you are given a specified point on a number line, you can determine a corresponding fraction greater than zero and less than or equal to one.

EXAMPLE 1

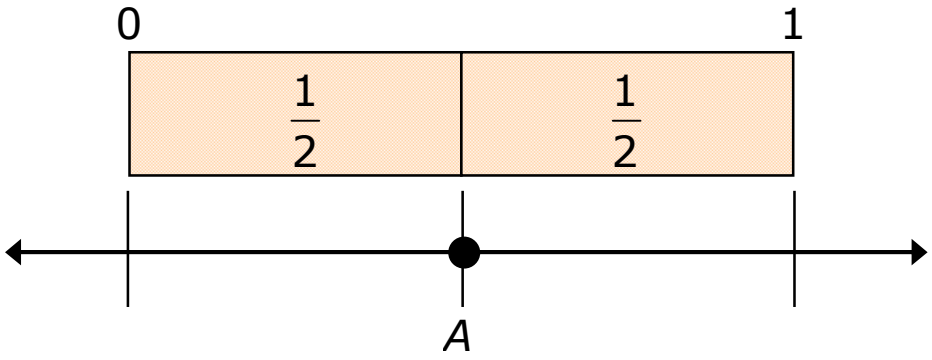
The model shows two fraction bars above a number line.

Point *A* is located on the number line.

What fraction does Point *A* represent?



- The number line is divided into 2 equal sections.
- There are 2 equal fraction bars above the number line.
- The first fraction bar on the left is the same length as the first section marked on the number line.
- The next fraction bar is the same length as the second section marked on the number line and ends at 1.



- This means that the two fraction bars are equal to 1 whole.
- This also means that the two fraction bars are equal to $\frac{2}{2}$ on the number line.
- The end of 1 fraction bar marked $\frac{1}{2}$ is at the same place as the second mark on the number line.

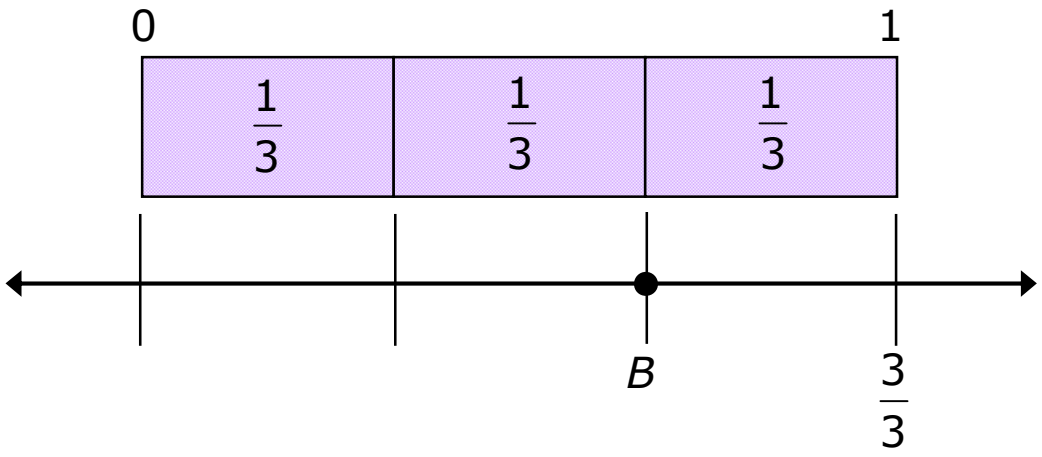
So, Point *A* represents the fraction $\frac{1}{2}$ on this number line.

EXAMPLE 2

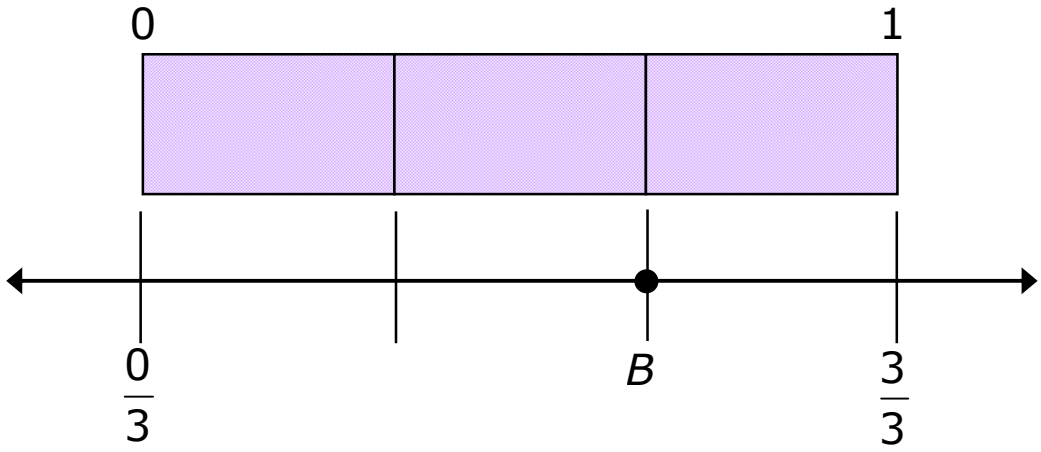
The model shows three fraction bars above a number line.

Point *B* is located on the number line.

What fraction does Point *B* represent?



- The number line is divided into 3 equal sections.
- There are 3 equal fraction bars above the number line.
- The first fraction bar is the same length as the first section on the number line.
- The next fraction bar is the same length as the second section on the number line.
- The next fraction bar is the same length as the third section on the number line.

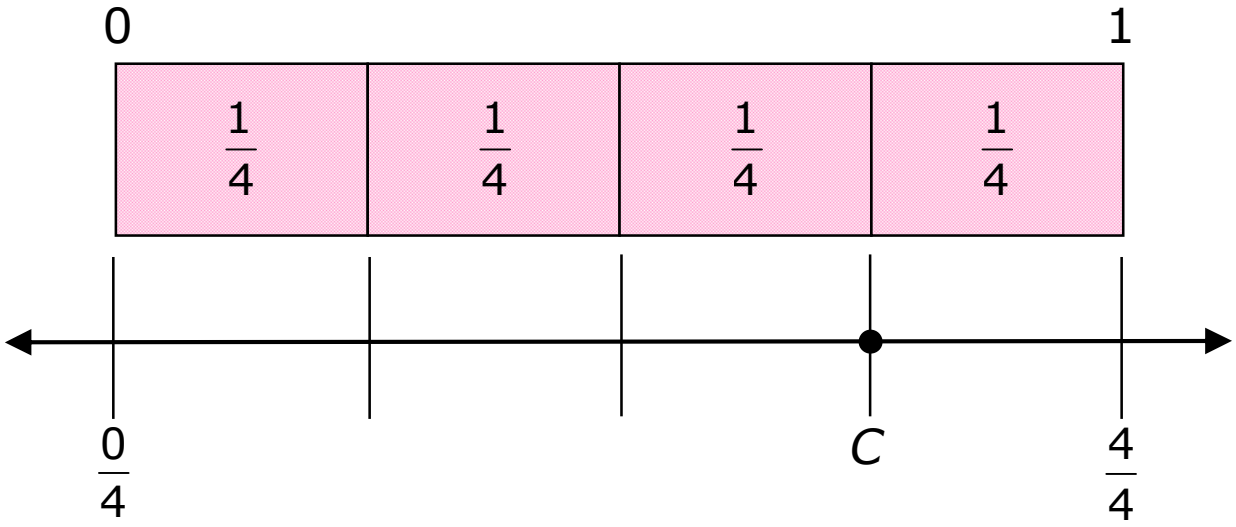


- This means that the three fraction bars are equal to 1 whole.
- This also means that the three fraction bars are equal to $\frac{3}{3}$ on the number line.
- The end of the second fraction bar marked $\frac{1}{3}$ is at the same place as the end of the second section after zero and $\frac{0}{3}$ on the number line.

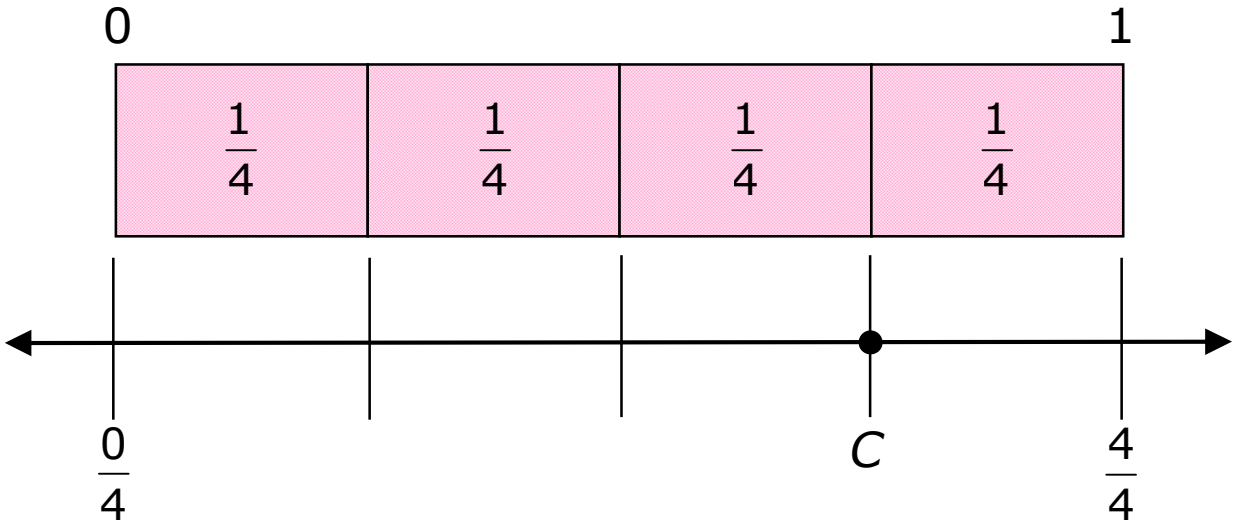
So, Point *B* represents the fraction $\frac{2}{3}$ on this number line. This means that Point *B* is located at $\frac{2}{3}$ of the distance on the number line between 0 or $\frac{0}{3}$ and 1 or $\frac{3}{3}$.

EXAMPLE 3

The model shows four fraction bars above a number line. Point *C* is located on the number line. What fraction does Point *C* represent?



- The number line is divided into 4 equal sections.
- There are 4 equal fraction bars above the number line.
- The first fraction bar is the same length as the first section on the number line.
- The next fraction bar is the same length as the second section on the number line.
- The next fraction bar is the same length as the third section on the number line.
- The next fraction bar is the same length as the fourth section on the number line.



- This means that the four fraction bars are equal to 1 whole.
- This also means that the four fraction bars are equal to $\frac{4}{4}$ on the number line.
- The end of the third fraction bar marked $\frac{1}{4}$ is at the same place as the end of the third section after 0 and $\frac{0}{4}$ on the number line.

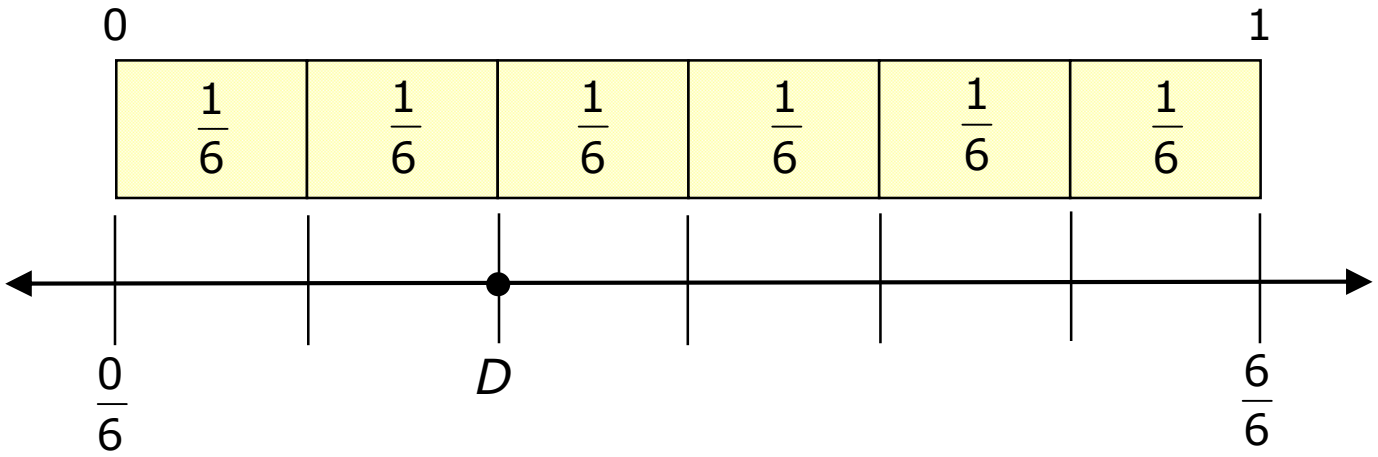
So, Point *C* represents the fraction $\frac{3}{4}$ on this number line. This means that Point *C* is located at $\frac{3}{4}$ of the distance on the number line between 0 or $\frac{0}{4}$ and 1 or $\frac{4}{4}$.

EXAMPLE 4

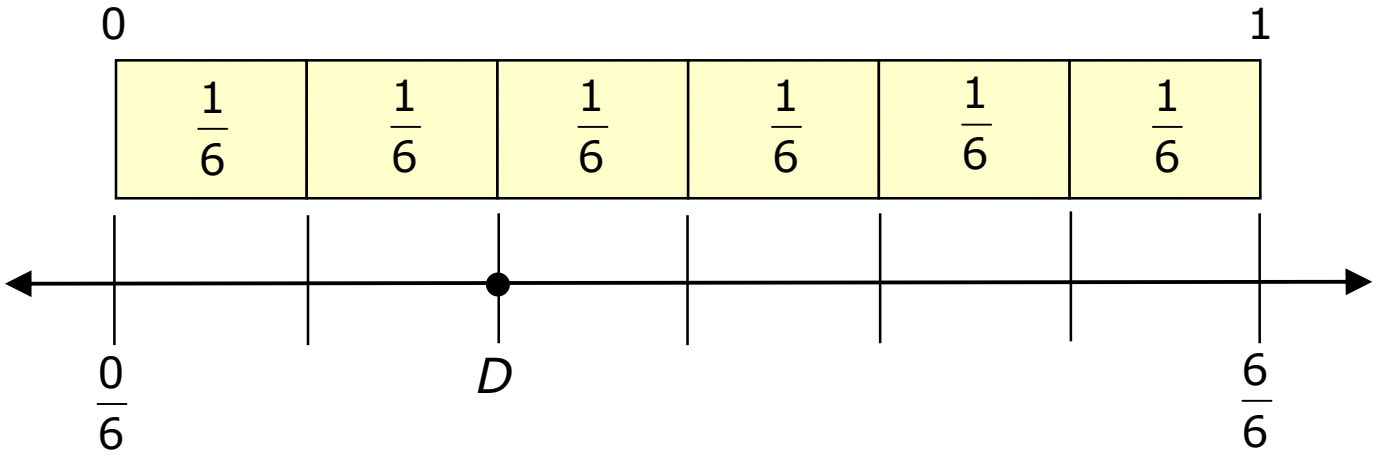
The model shows six fraction bars above a number line.

Point *D* is located on the number line.

What fraction does Point *D* represent?



- The number line is divided into 6 equal sections.
- There are 6 equal fraction bars above the number line.
- The first fraction bar is the same length as the first number line section, so the first section on the number line is $\frac{1}{6}$ of the length of the number line.



- The next fraction bar is the same length as the second number line section, so the second section is $\frac{2}{6}$ of the length of the number line.

So, Point *D* represents the fraction $\frac{2}{6}$ on this number line.

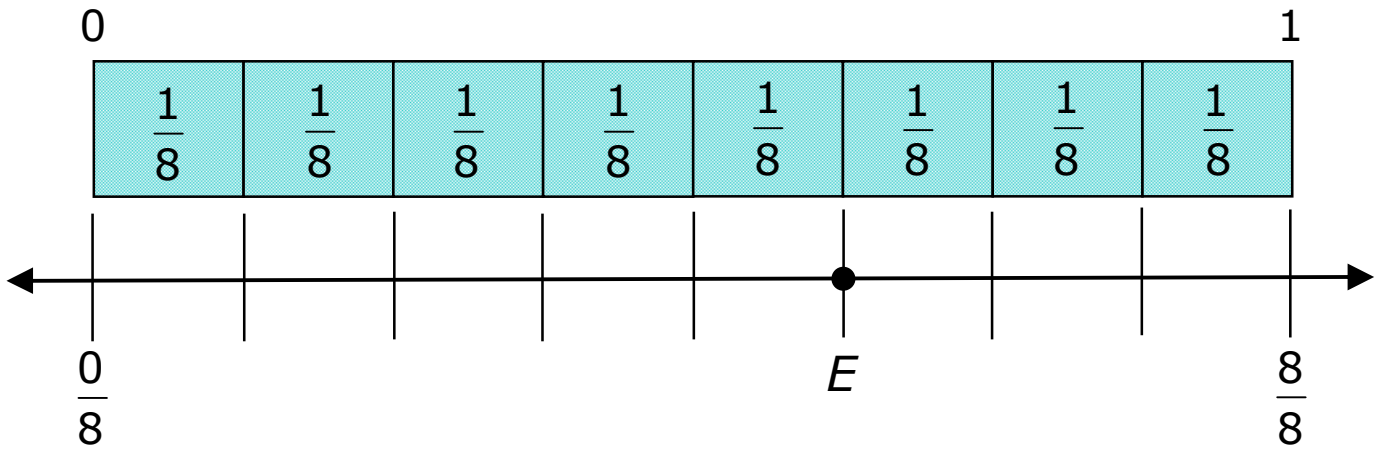
This means that Point *D* is located at $\frac{2}{6}$ of the distance on the number line between 0 or $\frac{0}{6}$ and 1 or $\frac{6}{6}$.

EXAMPLE 5

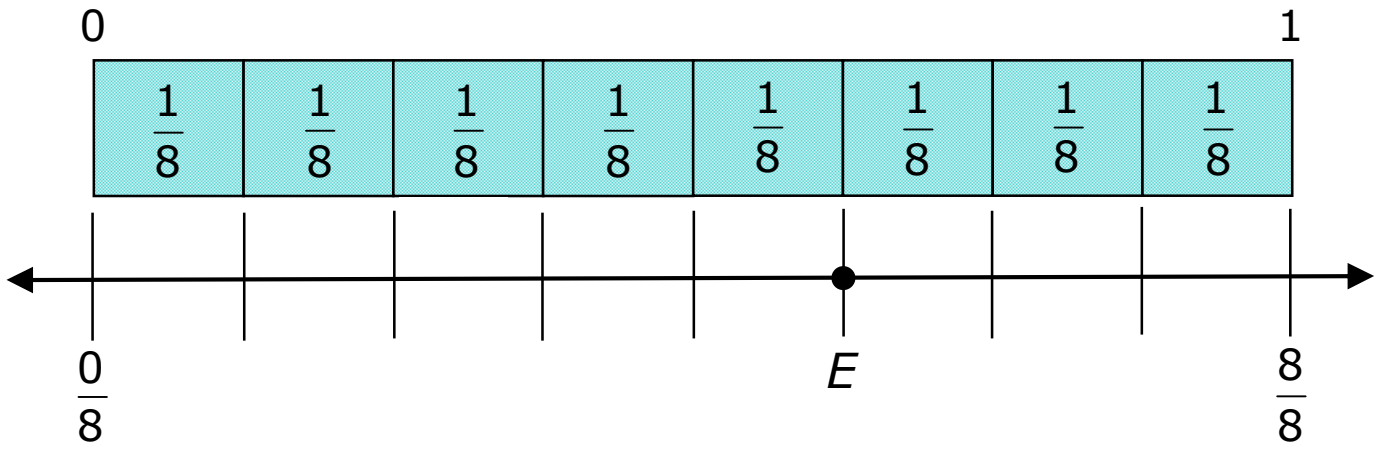
The model shows eight fraction bars above a number line.

Point *E* is located on the number line.

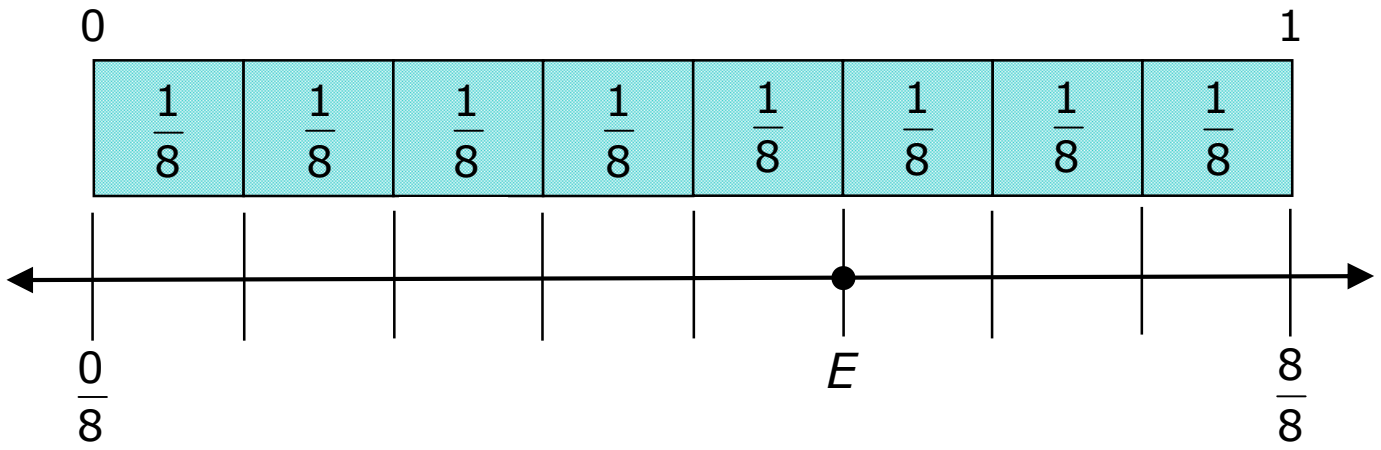
What fraction does Point *E* represent?



- The number line is divided into 8 equal sections.
- There are 8 equal fraction bars above the number line.
- The first fraction bar is the same length as the first number line section, so the first section on the number line is $\frac{1}{8}$ of the length of the number line.



- The next fraction bar is the same length as the second number line section, so the second section is $\frac{2}{8}$ of the length of the number line.
- The next fraction bar is the same length as the third number line section, so the third section is $\frac{3}{8}$ of the length of the number line.
- The next fraction bar is the same length as the fourth number line section, so the fourth section is $\frac{4}{8}$ of the length of the number line.



- The next fraction bar is the same length as the fifth number line section, so the fifth section is $\frac{5}{8}$ of the length of the number line.

So, Point *E* represents the fraction $\frac{5}{8}$ on this number line.

This means that Point *E* is located at $\frac{5}{8}$ of the distance on the number line between 0 or $\frac{0}{8}$ and 1 or $\frac{8}{8}$.

Problem-Solving 2

The Garcia family is traveling on summer vacation to Big Bend National Park in Texas.

They will stop for gas when they are $\frac{1}{4}$ and $\frac{3}{4}$ of the way from their house to Big Bend.

Represent these distances on a number line.

STEP 1: Draw a blank number line.

Draw four equal fraction strips end-to-end above the line.

STEP 2: At the end of each fraction strip, draw a mark on the line to divide the line into four equal sections.

Each of these marks represents $\frac{1}{4}$ of the distance on the number line.

STEP 3: Count the fourths from zero to 1 and label the distances from zero as $\frac{1}{4}$, $\frac{2}{4}$, $\frac{3}{4}$, and $\frac{4}{4}$.

STEP 4: Draw a point at $\frac{1}{4}$ to represent the distance from 0 to $\frac{1}{4}$.

Label this point *G1* to represent the first stop on the trip for gas.

STEP 5: Draw a point at $\frac{3}{4}$ to represent the distance from 0 to $\frac{3}{4}$.

Label this point *G2* to represent the second stop on the trip for gas.

1. Explain why you have represented the distances the Garcia family will stop for gas when they are $\frac{1}{4}$ of the distance from their house to Big Bend.

2. Explain why you have represented the distances the Garcia family will stop for gas when they are $\frac{3}{4}$ of the distance from their house to Big Bend.

Teacher Notes: Student Activity 1

Materials: Copy on cardstock, laminate and cut out 1 set of fraction bars for each pair of students, then place the set of fraction bars in a zipper baggie.

1 whole

$\frac{1}{2}$	$\frac{1}{2}$

$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$

$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$

$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$

$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$

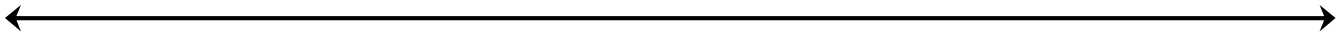
Student Activity 1

Work with a partner to complete Student Activity 1.

Materials: 1 set of fraction strips, 1 map pencil

You can use a number line to show fractions.
- The length from 0 to 1 on a number line represents one whole.
- The line can be divided into any number of equal parts, or lengths.
- The labels for the lengths on the line will begin with a fraction that represents zero equal parts. EXAMPLE: $\frac{0}{2}$
- The labels for the lengths on the line will end with a fraction that represents 1 whole. EXAMPLE: $\frac{2}{2}$

PROBLEM 1: Draw a point to represent $\frac{2}{3}$ on the number line.



Step 1: Lay the correct fraction strip above the number line.

Step 2: Use the fraction bar to help you draw lines on the number line to represent the correct number of equal lengths. Make lines for the beginning of each section and the end of the last section.

Step 3: Correctly label each mark on the number line with a fraction. Label under the number line.

Remember to label the first mark with a fraction that represents zero equal sections and label the last mark with a fraction that represents 1 whole.

Step 4: Now draw a point on the number line to represent $\frac{2}{3}$.

The number line shows _____ equal lengths.

The first mark on the number line represents what fraction? _____

The last mark on the number line represents what fraction? _____

How many sections are needed to represent $\frac{2}{3}$ of the length of the number line? _____

How did you know where to draw the point to represent $\frac{2}{3}$?

How did you know which mark to label $\frac{2}{3}$?

PROBLEM 2: Draw a point to represent $\frac{3}{8}$ on the number line.

Step 1: Lay the correct fraction strip above the number line.

Step 2: Use the fraction bar to help you draw lines on the number line to represent the correct number of equal lengths. Make lines for the beginning of each section and the end of the last section.

Step 3: Correctly label each mark on the number line with a fraction. Label under the number line.

Remember to label the first mark with a fraction that represents zero equal sections and label the last mark with a fraction that represents 1 whole.

Step 4: Now draw a point on the number line to represent $\frac{3}{8}$.

The number line shows _____ equal lengths.

The first mark on the number line represents what fraction? _____

The last mark on the number line represents what fraction? _____

How many sections are needed to represent $\frac{3}{8}$ of the length of the number line? _____

How did you know where to draw the point to represent $\frac{3}{8}$?

How did you know which mark to label $\frac{3}{8}$?

How did you know which mark to label $\frac{0}{8}$?

How did you know which mark to label $\frac{8}{8}$?

Describe your number line.

PROBLEM 3: Draw a point to represent $\frac{1}{2}$ on the number line.

Step 1: Lay the correct fraction strip above the number line.

Step 2: Use the fraction bar to help you draw lines on the number line to represent the correct number of equal lengths. Make lines for the beginning of each section and the end of the last section.

Step 3: Correctly label each mark on the number line with a fraction. Label under the number line.

Remember to label the first mark with a fraction that represents zero equal sections and label the last mark with a fraction that represents 1 whole.

Step 4: Now draw a point on the number line to represent $\frac{1}{2}$.

The number line shows _____ equal lengths.

The first mark on the number line represents what fraction? _____

The last mark on the number line represents what fraction? _____

How many sections are needed to represent $\frac{1}{2}$ of the length of the number line? _____

How did you know where to draw the point to represent $\frac{1}{2}$?

How did you know which mark to label $\frac{1}{2}$?

How did you know which mark to label $\frac{0}{2}$?

How did you know which mark to label $\frac{2}{2}$?

Describe your number line.

PROBLEM 4: Draw a point to represent $\frac{5}{6}$ on the number line.

Step 1: Lay the correct fraction strip above the number line.

Step 2: Use the fraction bar to help you draw lines on the number line to represent the correct number of equal lengths. Make lines for the beginning of each section and the end of the last section.

Step 3: Correctly label each mark on the number line with a fraction. Label under the number line.

Remember to label the first mark with a fraction that represents zero equal sections and label the last mark with a fraction that represents 1 whole.

Step 4: Now draw a point on the number line to represent $\frac{5}{6}$.

The number line shows _____ equal lengths.

The first mark on the number line represents what fraction? _____

The last mark on the number line represents what fraction? _____

How many sections are needed to represent $\frac{5}{6}$ of the length of the number line? _____

How did you know where to draw the point to represent $\frac{5}{6}$?

How did you know which mark to label $\frac{5}{6}$?

How did you know which mark to label $\frac{0}{6}$?

How did you know which mark to label $\frac{6}{6}$?

Describe your number line.

PROBLEM 5: Draw a point to represent $\frac{1}{4}$ on the number line.

Step 1: Lay the correct fraction strip above the number line.

Step 2: Use the fraction bar to help you draw lines on the number line to represent the correct number of equal lengths. Make lines for the beginning of each section and the end of the last section.

Step 3: Correctly label each mark on the number line with a fraction. Label under the number line.

Remember to label the first mark with a fraction that represents zero equal sections and label the last mark with a fraction that represents 1 whole.

Step 4: Now draw a point on the number line to represent $\frac{1}{4}$.

The number line shows _____ equal lengths.

The first mark on the number line represents what fraction? _____

The last mark on the number line represents what fraction? _____

How many sections are needed to represent $\frac{1}{4}$ of the length of the number line? _____

How did you know where to draw the point to represent $\frac{1}{4}$?

How did you know which mark to label $\frac{1}{4}$?

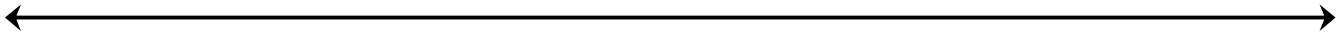
How did you know which mark to label $\frac{0}{4}$?

How did you know which mark to label $\frac{4}{4}$?

Describe your number line.

PROBLEM 5: There is a walking track on the playground of an elementary school. Four laps around the track is a distance of 1 mile. Third grade students walk $\frac{2}{4}$ mile on the track during morning recess. How many laps do they walk around the track? Complete the number line and draw a point to represent $\frac{2}{4}$ on the number line.

PROBLEM 6: Nate rides his bicycle on the City Park bike path. He stops at $\frac{3}{8}$ and $\frac{5}{8}$ of the total length of the bike path. Complete the number line and draw points to represent $\frac{3}{8}$ and $\frac{5}{8}$ on the number line.

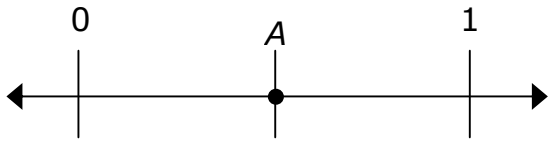


PROBLEM 7: Margie made a full pitcher of fresh lemonade. The pitcher holds 6 cups. Complete the number line and draw points to represent how full the pitcher is when it holds 2 cups and when it holds 5 cups.

NAME_____ DATE_____ SCORE ___/5

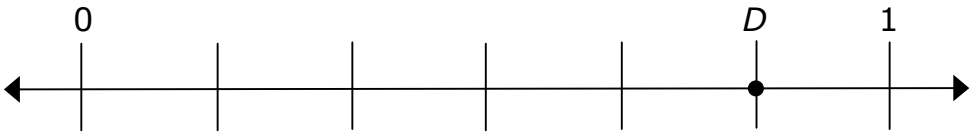
3.3A/3.3B/3.7A Skills and Concepts Homework 2

1. Correctly label the fractional part of the line represented by each mark on the number line. Label the fractions below the number line.



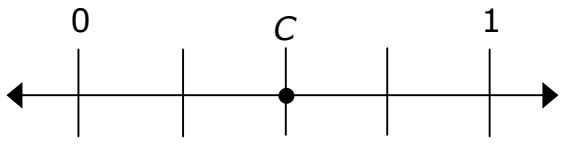
What fraction does Point *A* represent? _____ Explain how you know your answer is correct.

2. Correctly label the fractional part of the line represented by each mark on the number line. Label the fractions below the number line.



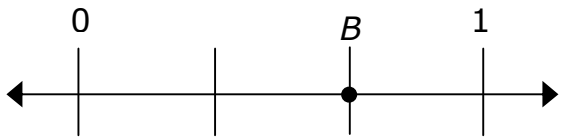
What fraction does Point *D* represent? _____ Explain how you know your answer is correct.

3. Correctly label the fractional part of the line represented by each mark on the number line. Label the fractions below the number line.



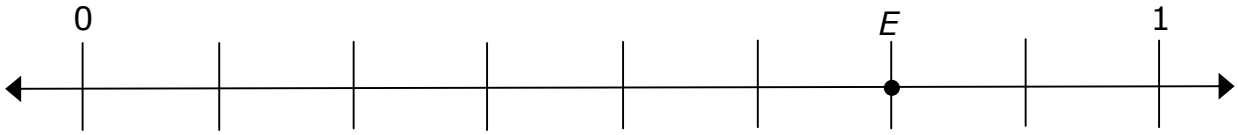
What fraction does Point *C* represent? _____ Explain how you know your answer is correct.

4. Correctly label the fractional part of the line represented by each mark on the number line. Label the fractions below the number line.



What fraction does Point *B* represent? _____ Explain how you know your answer is correct.

5. Correctly label the fractional part of the line represented by each mark on the number line. Label the fractions below the number line.

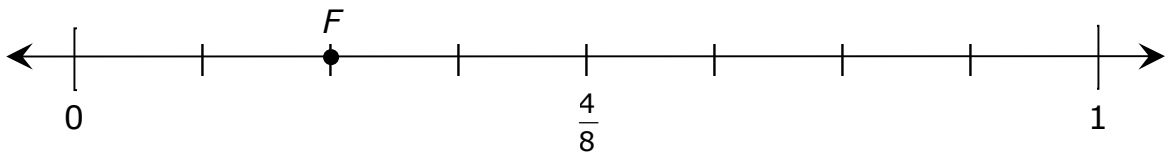


What fraction does Point *C* represent? _____ Explain how you know your answer is correct.

NAME_____ DATE_____ SCORE ___/10

3.3A/3.3B/3.7A Mini-Assessment

1. Xavier created a number line.



Which fraction is represented by point *F* on the number line?

A $\frac{3}{8}$

B $\frac{1}{8}$

C $\frac{5}{8}$

D $\frac{2}{8}$

---

2. Jerome shaded a part of a picture of a face of a clock.

Which fraction represents the part of the face of the clock that is **NOT** shaded? ?

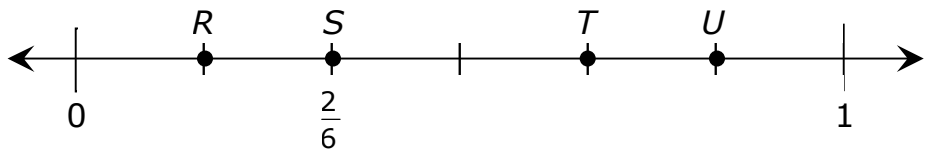
F $\frac{1}{4}$

G $\frac{2}{4}$

H $\frac{3}{4}$

J $\frac{4}{4}$

3. Leila created and labeled a number line.



Which point on the number line best represents $\frac{5}{6}$?

A Point *R*

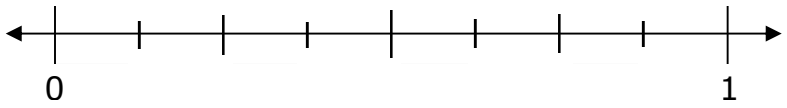
B Point *S*

C Point *T*

D Point *U*

---

4. Kelli drew a number line.



Which fraction represents the point farthest from 0 on the number line?

F $\frac{1}{2}$

G $\frac{7}{8}$

H $\frac{5}{8}$

J $\frac{3}{4}$

5. Domingo shaded a fraction strip to represent the part of an hour he practiced piano.

$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$

What fraction of an hour did Domingo practice piano?

A $\frac{1}{4}$

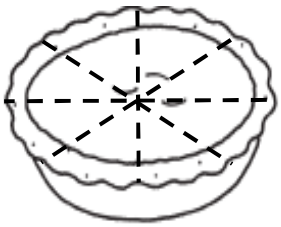
B $\frac{2}{4}$

C $\frac{3}{4}$

D $\frac{4}{4}$

---

6. Megan cut an apple pie into 8 equal slices. She ate 1 slice of the pie for dinner.



What fraction of the pie did Megan eat for dinner?

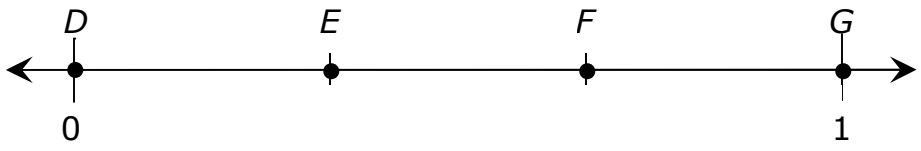
F $\frac{8}{1}$

G $\frac{1}{8}$

H $\frac{8}{8}$

J $\frac{2}{8}$

7. Dustin created a number line.



Which point represents $\frac{3}{3}$ on the number line?

A Point *D*

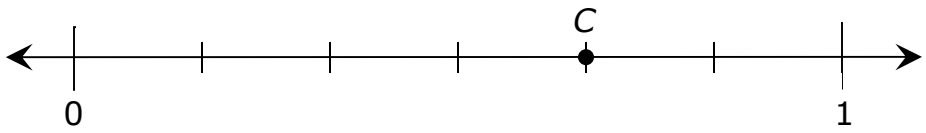
B Point *F*

C Point *E*

D Point *G*

---

8. Leah created a number line to represent 1 unit.



Which best represents the distance from 0 to point *C* on the number line?

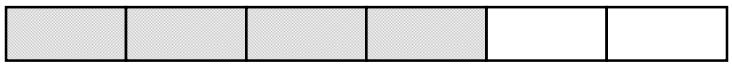
F $\frac{3}{4}$ unit

G $\frac{5}{8}$ unit

H $\frac{4}{6}$ unit

J $\frac{4}{8}$ unit

9. Tyrone made a model to represent a fraction.



Which statement is true?

A The model is shaded to represent $\frac{5}{6}$.

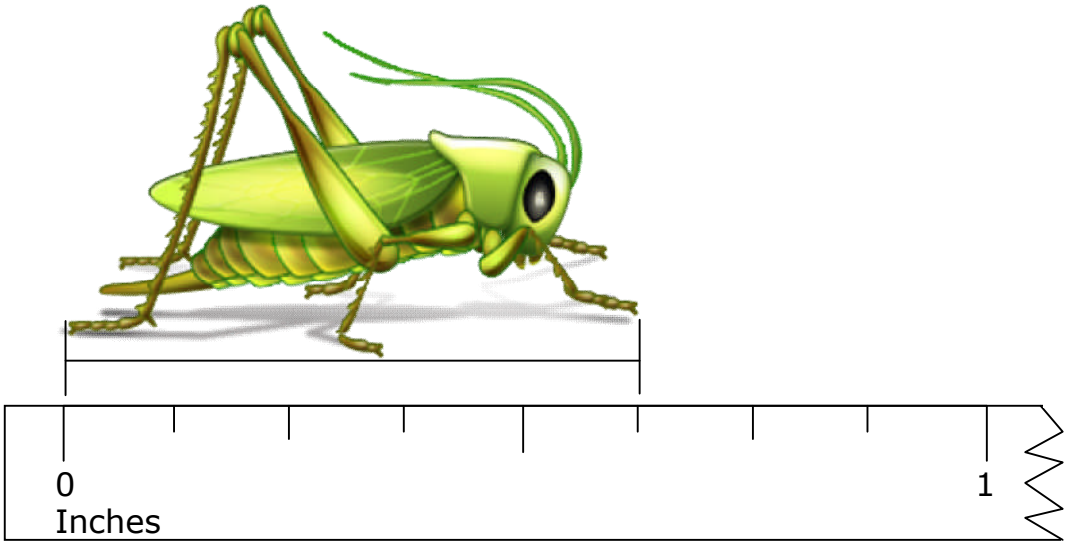
B The model is shaded to represent $\frac{2}{6}$.

C The model is shaded to represent $\frac{4}{4}$.

D The model is shaded to represent $\frac{4}{6}$.

---

10. Measure the length of the grasshopper using the picture shown below.



Which is closest to the length of the grasshopper?

F $\frac{2}{4}$ inch

G $\frac{3}{8}$ inch

H $\frac{1}{2}$ inch

J $\frac{5}{8}$ inch

TEKSING TOWARD STAAR

MATHEMATICS ®

GRADE 3

TEKS/STAAR

Six Weeks 1

Classroom Review

Homework Review

Teacher Notes: Six Weeks Review

The Six Weeks Review includes two components:

- A classroom review with 3 questions for each TEKS addressed in lessons and on the Six Weeks Assessment.
- A homework review with 1 question for each TEKS addressed in lessons and on the Six Weeks Assessment.

Classroom Review

- Students should work in partner pairs to complete the review.
- Students may use their math notes and other work from the six weeks to help them complete the review.
- Assign pairs of students to lead a class discussion for each question and answer.

Homework Review

- Remind parents/guardians that they have a Parent Guide that may be useful as a tool to help students who have difficulty with any of the review questions.
- Students may use their math notes and other work from the six weeks to help them complete the homework review.
- Before the Six Weeks Assessment is given - assign pairs of students to lead a class discussion for each question and answer.

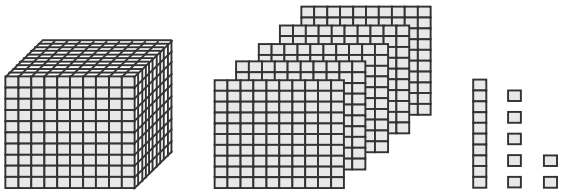
Name _____ Date _____

3.2A

1. What number has the same value as this model?

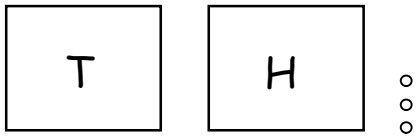
   Write the number in standard form.

   _____



2. What number has the same value as this picture?
   Write the number in standard form.

   _____



3. Write the number 3,154 in expanded form.

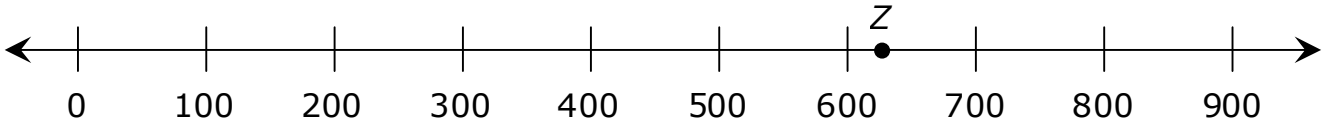
   _____

3.2B

4. What is the number of hundreds in 8,753? _____
5. Which digit is in the thousands place in 376,481? _____
6. What number has the same value as the 8 in 3,804? _____

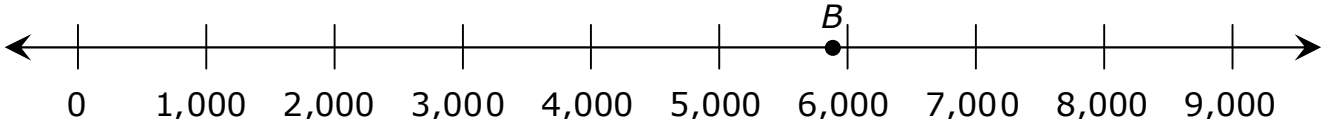
3.2C

7. Fill in the blanks to describe the location of point *Z*.



   between _____ and _____ closer to _____ than _____

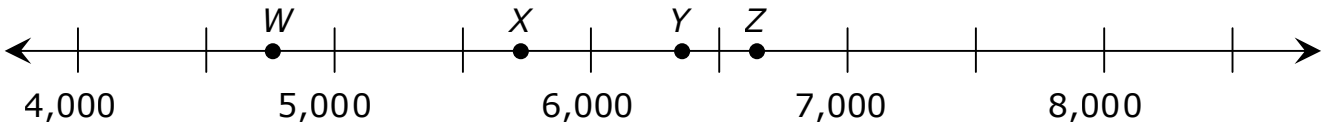
8. Fill in the blanks to describe the location of point *B*.



   between _____ and _____ closer to _____ than _____

9. Which point on the number line best represents 5,667? _____

   Which point on the number line best represents 6,385? _____



3.2D

10. The table below shows the distances four cities are from Cedric's house.

City	Distance (miles)
DeSoto	226
Benbrook	348
Cleburne	277
Sherman	383

Which city is the greatest distance from Cedrick's house?

_____

Which city is the least distance from Cedrick's house?

_____

11. Order 12,233; 12,327; 12,245; and 12,399 from greatest to least.

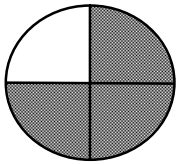
_____ __ _____ __ _____ __ _____

12. Order 8,643; 3,705; 5,818; and 7,821 from least to greatest.

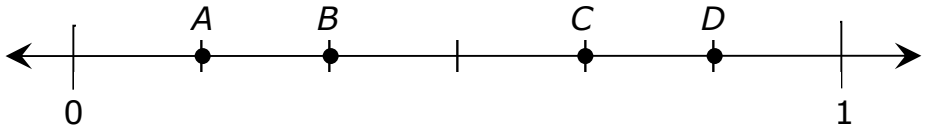
_____ __ _____ __ _____ __ _____

3.3A

13. What fraction of the circle is shaded? _____



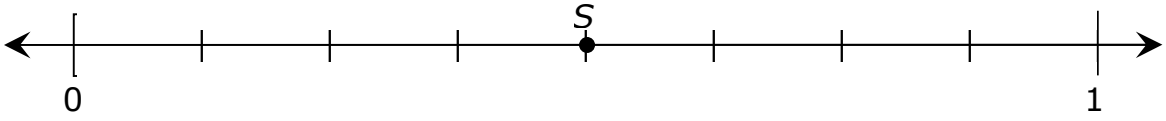
14. Which point on the number line best represents $\frac{5}{6}$? _____



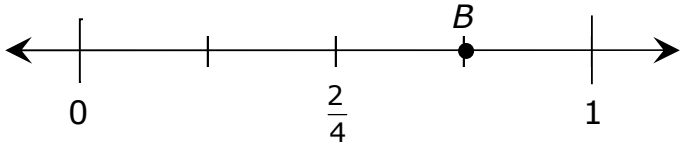
15. Which point on the number line above best represents $\frac{2}{6}$? _____

3.3B

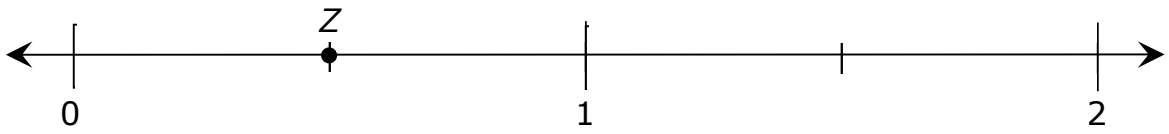
16. What fraction is represented by Point *S* on the number line? _____



17. What fraction is represented by Point *B* on the number line? _____



18. What fraction is represented by Point *Z* on the number line? _____



3.4A

19. Magda read her new book for 55 minutes on Sunday. This was 37 more minutes than she read on Saturday. How many minutes did she read on Saturday? _____

20. Jacob and Kyle collect stamps. Jacob has 225 stamps in his collection and Kyle has 247 stamps in his collection. What is the total number of stamps in their collections?
_____

21. The number of adult African elephants that live in one nature preserve is 288. The number of young African elephants that live in the same nature preserve is 156. How many African elephants live in this nature preserve? _____

3.4B

22. Lewis has 273 baseball cards. Fred has 482 baseball cards. About how many baseball cards do Fred and Lewis have to the nearest hundred? _____

23. Martin drew 72 stars on his picture in art class. Jeff drew 47 stars. To the nearest ten, about how many more stars did Martin draw than Jeff drew? _____

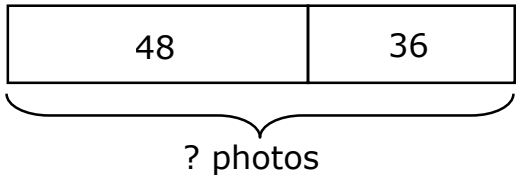
24. Lupe bought a notepad for 53¢ and a pencil for 17¢. To the nearest dime, about how much money did Lupe spend for the pencil and the notepad? _____

3.5A

25. Cedric has 3 shoeboxes with baseball cards in them. The first box has 79 cards, the second has 236 cards, and the third has 109 cards. Write an equation to represent the total number of baseball cards that Cedric has in the 3 shoeboxes?

_____ + _____ + _____ = _____

26. Lindsay has 48 photos of her vacation in one album and 36 photos of the same vacation in another album. How many photos of her vacation does she have in the two albums? _____



27. On Saturday 167 customers bought newspapers at Cooper's Corner store. On Sunday 195 customers bought newspapers at the store. What is the difference in the number of customers on these 2 days? _____

3.6A

28. How many pairs of opposite sides are parallel in a trapezoid? _____

29. Circle the name of the figure that has exactly 2 more vertices than a quadrilateral.

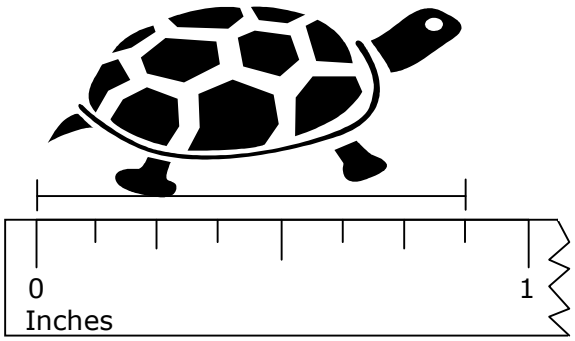
triangle pentagon octagon hexagon

30. Circle the name of the figure that fits the description of this quadrilateral: Each pair of opposite sides are parallel. There are two different lengths of sides, but the opposite sides have the same length.

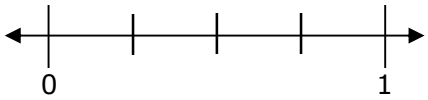
rhombus trapezoid square rectangle

3.7A

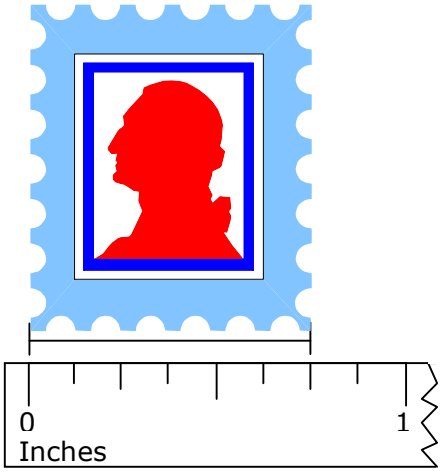
31. What fraction represents the length of the turtle? _____ inch



32. What fraction represents the point farthest from 0 on this number line? _____



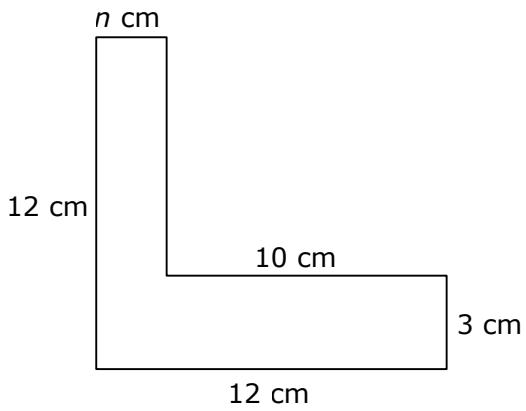
33. What fraction represents the width of this postage stamp? _____ inch



3.7B

34. Venus has decided to glue ribbon around a rectangular picture frame. The frame has side lengths of 5 inches and 8 inches. What is the length of ribbon Venus will need? _____ inches

35. The perimeter of this figure is 48 centimeters. What is the length of side *n*? _____cm



36. Kendrick built a rectangular deck that is 12 feet long and 15 feet wide. What is the perimeter of the deck? _____ feet

3.7C

37. Emily practiced her dance routine every night for 5 nights. She practiced 15 minutes each night. What is the total amount of time she practiced her dance routine on these 5 nights? _____ hour _____ minutes

38. Sanjay practiced his violin lesson from 4:32 P.M. to 4:55 P.M. today. How long did Sanjay practice his violin lesson today? _____ minutes

39. Haylee spends 7 hours at school each day. She spends 45 minutes of her school day in art class. How much time is Haylee **NOT** in art class during the time she is at school? _____ hour _____ minutes

3.8A

The table shows the number of third grade students that take different types of dance lessons. Use the chart to answer questions 40-42.

Dance	Tally	Number
Ballet	𝍸 |||	8
Tap	𝍸		6
Jazz	|||	3
Modern	𝍸	5

40. What is the total number of students that take dance? _____
41. Which types of dance do more than 5 students take? _____
42. Which types of dance do 5 or less students take? _____

3.8B

The tally chart below is a record of the number of days rain fell in a Texas city during the months of March, April, May and June. Use the chart to answer questions 43-45.

Rainfall Record

Month	Number of Inches
March	𝍸 𝍸 ||||
April	𝍸 𝍸 ||
May	𝍸 ||||
June	𝍸

43. What is the difference between the number of days rain fell during March and June? _____ inches
44. What is the total amount of rain that fell during March and April? _____ inches
45. What is the difference between the number of days rain fell during April and June? _____ inches

3.9A

46. Miguel earns $1 for every two hours he works in the yard. What is the amount of money he makes for working 6 hours in the yard? _____
47. What is a wage? _____ earned from work.
48. More education usually causes income from a job to be higher or lower? _____

Name _____ Date _____

Homework Review

3.2A

1. Write the number that has the same value as 40,000 + 6,000 + 400 + 7? Write the number in standard form.

   _____

3.2B

2. What number means 5 ten thousands, 6 thousands, 4 hundreds, and 3 ones? _____

3.2C

3. What is 1,432 rounded to the nearest thousand? _____

3.2D

4. The table below shows the populations for four cities.

City	Population
Lincoln	3,753
Kennedy	3,492
Travis	3,066
Leeland	3,954

Which city has the least population? _____

Which city has the greatest population?_____

Which city has a population greater than Kennedy, but a population less than Leeland?

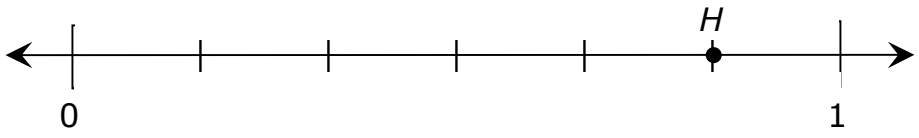
3.3A

5. Bernice has a fraction strip with 8 equal sections. 3 of the sections are shaded.

   What fraction is represented by the shaded part of the fraction strip? _____

3.3B

6. What fraction is represented by Point *H* on the number line? _____



3.4A

7. Miguel and Sierra collected aluminum cans for a recycling project. They collected 287 cans during the first week. They collected 127 cans during the second week. How many aluminum cans did they collect during the two weeks? _____

3.4B

8. Tommy picked 68 pounds of pears. Lexi picked 93 pounds of pears. About how many less pounds of pears did Tommy pick than Lexi picked? _____

3.5A

9. Johnson Elementary School has 174 students enrolled in first grade, 108 students in second grade, and 163 students in third grade. How many more second and third graders are enrolled than first graders? _____

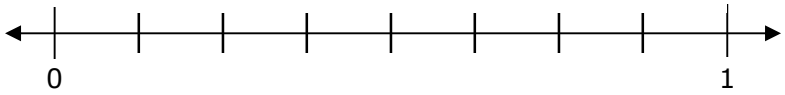
3.6A

10. Circle the name of the figure that has exactly 2 more sides and 2 more vertices than a rectangle.

octagon pentagon rhombus hexagon

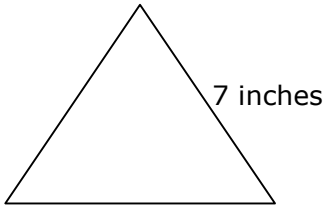
3.7A

11. What fraction represents the point closest to 0 on this number line? _____



3.7B

12. Each side of the triangle is the same length. What is the perimeter of the triangle? _____ inches



3.7C

13. Kennedy helped her mom pull weeds for 45 minutes, cleaned the bathroom for 30 minutes, and vacuumed the carpet for 45 minutes. What is the total amount of time she spent helping around the house? _____ minutes or _____ hours

3.8A

The table shows the number of third grade students that take different types of dance lessons.

Dance	Tally	Number
Ballet	𝍸 |||	8
Tap	𝍸		6
Jazz	|||	3
Modern	𝍸	5

14. Which type of dance does the least number of students take? _____

3.8B

The tally chart below is a record of the number of days rain fell in a Texas city during the months of March, April, May and June.

Rainfall Record

Month	Number of Inches
March	𝍸 𝍸 ||||
April	𝍸 𝍸 ||
May	𝍸 ||||
June	𝍸

15. What is the total amount of rain that fell during all four months? _____ inches

3.9A

16. Is receiving money for your birthday an example of working for income? _____
    Why or why not?

TEKSING TOWARD STAAR

MATHEMATICS ®

GRADE 3

TEKS/STAAR

Six Weeks 1 Assessment

Answer Key and TEKS/STAAR Category and Standard Correlation

- Copy 1 assessment for each student.
- Students answer the questions individually, however, the same assistance may be given as will be allowed on the actual STAAR.
- Record class performance on the Class Profile and have students record individual performance on their Student Profile.

Question	Answer	TEKS Assessed	STAAR Category	STAAR Standard
1	A	3.2A	1	Readiness
2	H	3.2B	1	Supporting
3	C	3.2C	1	Supporting
4	G	3.4B	2	Supporting
5	D	3.2D	1	Readiness
6	G	3.5A	2	Readiness
7	B	3.4A	2	Readiness
8	G	3.7C	3	Supporting
9	2	3.3A	1	Supporting
10	H	3.7A	1	Supporting
11	D	3.3B	1	Supporting
12	G	3.6A	3	Readiness
13	C	3.7B	3	Readiness
14	J	3.8A	4	Readiness
15	C	3.8B	4	Supporting
16	64	3.9A	4	Supporting
17	A	3.5A	2	Readiness
18	F	3.4A	2	Readiness
19	C	3.6A	3	Readiness
20	G	3.7B	3	Readiness

1. There are 38,093 people that live in Town West. Which of the following has the same value as 38,093?

   A 30,000 + 5,000 + 3,000 + 50 + 40 + 3

   B 30,000 + 5,000 + 300 + 50 + 40 + 3

   C 30,000 + 500 + 300 + 50 + 40 +3

   D 30,000 + 5,000 + 3,000 + 500 + 400 + 3

---

2. Which number has the same value as the 6 in 1,603?

   F 60

   G 6,000

   H 600

   J 60,000

---

3. A water park recorded an attendance of 6,889 on Friday.

   Which best describes the location of 6,889 on the number line?

   A Between 7,000 and 8,000

   B Between 4,000 and 5,000

   C Between 6,000 and 7,000

   D Between 5,000 and 6,000

---

4. Meisha used 155 large linking blocks and 398 small linking blocks to build a bridge. She used compatible numbers to estimate the total number of blocks in the bridge. Which expression could she have used for her estimate?

   F 200 + 300

   G 150 + 400

   H 125 + 425

   J 150 + 375

5. The table below shows the number of pizzas served at a restaurant during a four-month period.

Month	Number of Pizzas
January	4,056
February	3,816
March	3,620
April	3,478

In which of these months did the restaurant serve the least number of pizzas?

A January

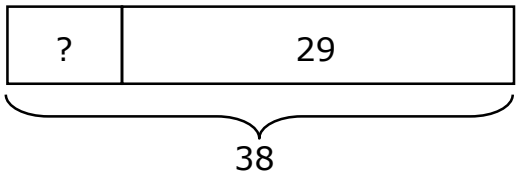
B February

C March

D April

---

6. Kirsten has 38 photos saved on the memory card in her digital camera. She has decided to delete 29 of the photos.



What is the number of photos she will have left on her memory card?

F 19

G 9

H 67

J 10

---

7. A bakery made 405 loaves of wheat bread and 251 loaves of white bread. How many more loaves of wheat bread than white bread did the bakery make?

A 244

B 154

C 656

D 254

8. Stella spent from 7:07 P.M. until 7:35 P.M. practicing her multiplication facts.

How many minutes did Stella spend practicing her multiplication facts?

F 32 minutes

G 28 minutes

H 25 minutes

J 42 minutes

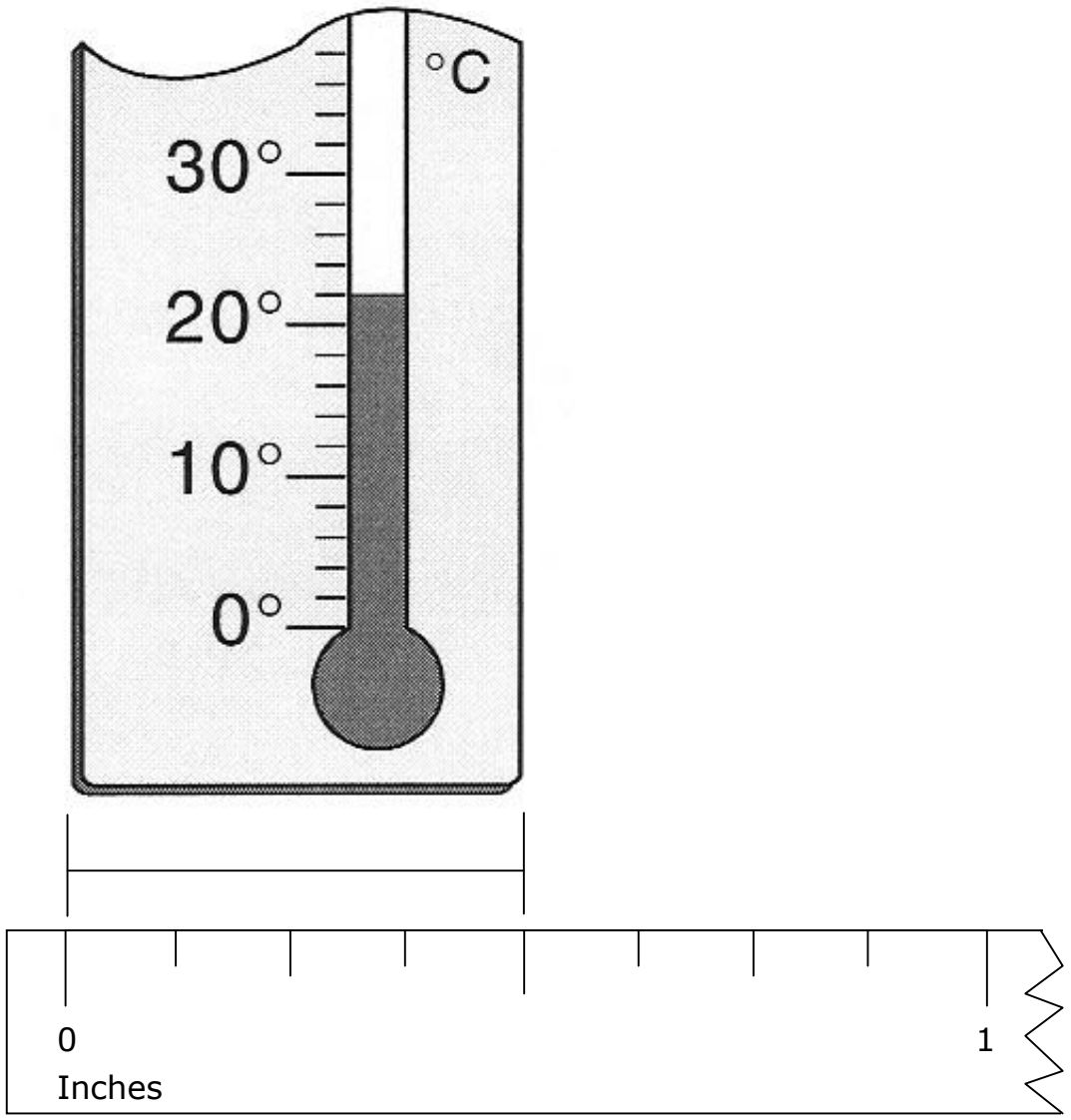
---

9. Sheniqua has a fraction strip with 3 equal sections. She wants to shade the fraction strip to represent $\frac{2}{3}$. How many sections of the fraction strip should she shade?

Record your answer and fill in the bubbles on the grid. Be sure to use the correct place value.

⓪	⓪	⓪	
①	①	①	
②	②	②	
③	③	③	
④	④	④	
⑤	⑤	⑤	
⑥	⑥	⑥	
⑦	⑦	⑦	
⑧	⑧	⑧	
⑨	⑨	⑨	

10. Measure the width of the thermometer using the picture shown below.



Which is closest to the width of the thermometer?

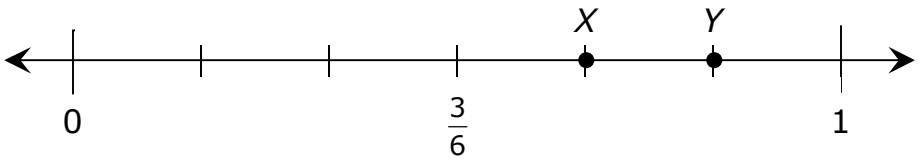
F $\frac{5}{8}$ inch

G $\frac{4}{4}$ inch

H $\frac{1}{2}$ inch

J Not here

11. Petra created a number line.



Which fraction is represented by point *X* on the number line?

A $\frac{6}{1}$

B $\frac{5}{6}$

C $\frac{6}{6}$

D $\frac{4}{6}$

---

12. Which two-dimensional figure has exactly 1 less side and vertices than a pentagon?

F A triangle

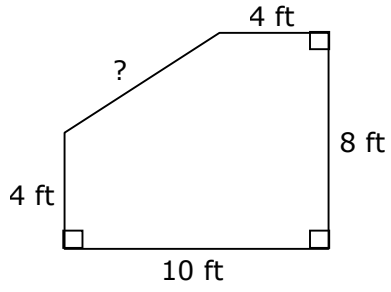
G A quadrilateral

H An octagon

J A hexagon

---

13. Mr. Ferrigamo is building a patio. The patio will have a perimeter of 33 feet.



What is the missing side length of the patio?

A 10 feet

B 6 feet

C 7 feet

D 9 feet