math mark

math activities that reach kids

GRADE 4
Ready, Prep, Go!

lead4ward®

Copyright Agreement

Acknowledgement

This digital resource consists of high-quality math instructional content originally derived from TeachTransform, a previous lead4ward partnership. lead4ward purchased the TeachTransform assets and is committed to continue to grow and support math educators. TeachTransform's Co-Founder and CEO, Carol Gautier, M.Ed., continues to consult in the ongoing development.

TABLE OF CONTENTS

Ready, Prep, Go!

Supporting **STAAR** Fun Readiness in Grade 4

TABLE OF STANDARDS (PG. 1 OF 3)

READINESS

READINESS STANDARDS

	Standard	Page
(4.2) **Number and operations**. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships as related to place value. The student is expected to:		
4.2B	represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals.	8
4.2G	relate decimals to fractions that name tenths and hundredths.	8
(4.3) **Number and operations**. The student applies mathematical process standards to represent and generate fractions to solve problems. The student is expected to:		
4.3D	compare two fractions with different numerators and different denominators and represent the comparison using the symbols >, =, or <.	8, 23
4.3E	represent and solve addition and subtraction of fractions with equal denominators using objects and pictorial models that build to the number line and properties of operations.	23, 56
(4.4) **Number and operations**. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to:		
4.4A	add and subtract whole numbers and decimals to the hundredths place using the standard algorithm.	13, 19, 49
4.4H	solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders.	35, 61, 68
(4.5) **Algebraic reasoning**. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to:		
4.5A	represent multi-step problems involving the four operations with whole numbers using strip diagrams and equations with a letter standing for the unknown quantity.	13, 35, 49, 56
4.5B	represent problems using an input-output table and numerical expressions to generate a number pattern that follows a given rule representing the relationship of the values in the resulting sequence and their position in the sequence.	25
4.5D	solve problems related to perimeter and area of rectangles where dimensions are whole numbers.	40
(4.6) **Geometry and measurement**. The student applies mathematical process standards to analyze geometric attributes in order to develop generalizations about their properties. The student is expected to:		
4.6D	classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size.	43
(4.7) **Geometry and measurement**. The student applies mathematical process standards to solve problems involving angles less than or equal to 180 degrees. The student is expected to:		
4.7C	determine the approximate measures of angles in degrees to the nearest whole number using a protractor.	43
(4.8) **Geometry and measurement**. The student applies mathematical process standards to select appropriate customary and metric units, strategies, and tools to solve problems involving measurement. The student is expected to:		
4.8C	solve problems that deal with measurements of length, intervals of time, liquid volumes, mass, and money using addition, subtraction, multiplication, or division as appropriate.	13, 19, 40
(4.9) **Data analysis**. The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data. The student is expected to:		
4.9A	represent data on a frequency table, dot plot, or stem-and-leaf plot marked with whole numbers and fractions.	49

TABLE OF STANDARDS (PG. 2 OF 3)

SUPPORTING

SUPPORTING STANDARDS

	Standard	Page
(4.2) **Number and operations**. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships as related to place value. The student is expected to:		
4.2A	interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left.	13, 19
4.2C	compare and order whole numbers to 1,000,000,000 and represent comparisons using the symbols >, <, or =.	8
4.2D	round whole numbers to a given place value through the hundred thousands place.	8
4.2E	represent decimals, including tenths and hundredths, using concrete and visual models and money.	13
4.2F	compare and order decimals using concrete and visual models to the hundredths.	19
4.2H	determine the corresponding decimal to the tenths or hundredths place of a specified point on a number line.	19
(4.3) **Number and operations**. The student applies mathematical process standards to represent and generate fractions to solve problems. The student is expected to:		
4.3A	represent a fraction a/b as a sum of fractions $1/b$, where a and b are whole numbers and $b > 0$, including when $a > b$.	8
4.3B	decompose a fraction in more than one way into a sum of fractions with the same denominator using concrete and pictorial models and recording results with symbolic representations.	23
4.3C	determine if two given fractions are equivalent using a variety of methods.	8, 23
4.3G	represent fractions and decimals to the tenths or hundredths as distances from zero on a number line.	19
(4.4) **Number and operations**. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to:		
4.4B	determine products of a number and 10 or 100 using properties of operations and place value understandings.	19, 25, 49
4.4C	represent the product of 2 two-digit numbers using arrays, area models, or equations, including perfect squares through 15 by 15;	40, 56, 68
4.4D	use strategies and algorithms, including the standard algorithm, to multiply up to a four-digit number by a one-digit number and to multiply a two-digit number by a two-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties.	35, 61, 68
4.4E	represent the quotient of up to a four-digit whole number divided by a one-digit whole number using arrays, area models, or equations.	61, 68
4.4F	use strategies and algorithms, including the standard algorithm, to divide up to a four-digit dividend by a one-digit divisor.	35, 56, 61, 68

SUPPORTING STANDARDS

	Standard	Page
(4.6) **Geometry and measurement**. The student applies mathematical process standards to analyze geometric attributes in order to develop generalizations about their properties. The student is expected to:		
4.6A	identify points, lines, line segments, rays, angles, and perpendicular and parallel lines.	43
4.6B	identify and draw one or more lines of symmetry, if they exist, for a two-dimensional figure.	43
4.6C	apply knowledge of right angles to identify acute, right, and obtuse triangles.	43
(4.7) **Geometry and measurement**. The student applies mathematical process standards to solve problems involving angles less than or equal to 180 degrees. The student is expected to:		
4.7D	draw an angle with a given measure.	43
(4.8) **Geometry and measurement**. The student applies mathematical process standards to select appropriate customary and metric units, strategies, and tools to solve problems involving measurement. The student is expected to:		
4.8A	identify relative sizes of measurement units within the customary and metric systems.	19
4.8B	convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table.	19
(4.9) **Data analysis**. The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data. The student is expected to:		
4.9B	solve one- and two-step problems using data in whole number, decimal, and fraction form in a frequency table, dot plot, or stem-and-leaf plot.	49
(4.10) **Personal financial literacy**. The student applies mathematical process standards to manage one's financial resources effectively for lifetime financial security. The student is expected to:		
4.10A	distinguish between fixed and variable expenses.	13
4.10B	calculate profit in a given situation.	13

HEY—READ THIS!

What's in this book?

The activities in this book address every Readiness Standard in 4th grade, as well as most of the Supporting Standards which make the Readiness Standards work.

We've mixed the standards up (just like STAAR does) so that your students get practice in reading a problem, discerning what the problem is asking them to do, and figuring out how to solve it.

How do you use the activities?

Here are some ideas.

- Use them for STAAR prep instead of using only multiple choice problems.
- Let your students work in small groups on one of these activities while you tutor using a different mathmark activity.
- The great thing is that the story problems are written on a 4th-grade reading level. Not only are your students practicing math, but they are also making inferences, one of the ELAR skills that many students have trouble with. Work with your ELAR or ESL partner teacher to share the reading load.
- Use these activities as a spiral review. Be sure that all of the skills on the page have been taught prior to using the activity. You can see which skills are included in each activity by reading the Topics on the Teacher Notes pages or by checking the Table of Standards on PG. 4.

Topics: Multiplication & Division of Decimals, Money Math, Estimation, Models

- Use the funny and interesting activities in this book to inject some fun into summer school learning, and teaching.
- Pair these activities with the STAAR released problems that assess the same skills.
- Use these activities as evidence that students can solve problems at the level expected by the end of the year.

DON'T BE PUNNY!

TEKS RS: 4.2B, 4.2G, 4.3D
SS: 4.2C, 4.2D, 4.3A, 4.3C

Topic: Comparing Fractions; Comparing Decimals

WHAT IT'S ALL ABOUT!

In this activity students decode a cypher, first by comparing decimals, fractions, and whole numbers. All comparisons are within systems, not between them. They will also round numbers, write fractions as sums of unit fractions, and write decimals in expanded notation. By combining comparisons with place value, rounding, and the magnitude of fractions, the activity continues to build numeracy.

HEY—LOOK HERE!

In this activity, after doing a simple comparison, students answer a second question using the numbers in the problem. The question that is asked is different for each problem, requiring students to use critical reading skills just as they will have to do on STAAR.

IT'S A SETUP!

- ☐ Make 1 copy of **Don't Be Punny!** for each student.

Students compare the numbers, and then follow the directions.

Back to the Table of **Contents** Table of **Standards**

DON'T BE PUNNY!
DECIMALS

ANSWER KEY

Directions: Compare the numbers in each problem by writing >, <, or =. Then write the letter that matches in the appropriate blank to find the answer to the joke. Finally, follow the special directions for each problem.

What's a skeleton's favorite instrument?

T	h	e		T	r	o	m		B	o	n	e
4	6	1		4	8	2	3		7	2	5	1

		>	<	=	Special Directions
1	0.30 (=) 0.3	A	L	E	Write 0.3 as a fraction. $\frac{3}{10}$
2	1.20 (>) 0.240	O	U	I	Write the greatest number in expanded notation. 1 + 0.2
3	0.900 (<) 0.91	N	M	P	Write the least number a different way. 0.9, or 0.90, etc.
4	0.32 (>) 0.23	T	O	L	Write the least number in expanded notation. 0.20 + 0.03
5	0.05 (<) 0.5	F	N	V	Write a fraction that is equivalent to 0.5. $\frac{5}{10}$
6	0.4 (>) 0.004	H	E	B	Write a number between 0.4 and 0.004. Answers will vary. Correct answers include: 0.04, 0.05, 0.3, etc.
7	1.04 (>) 0.410	B	C	K	Write a number that is between 1.04 and 1. Answers will vary. Correct answers include: 1.03, 1.02, 1.01, 1.005, etc.
8	0.21 (<) 0.27	I	R	S	Write a number between 0.21 and 0.27. Answers will vary. Correct answers include: 0.22, 0.23, 0.24, 0.25, and 0.26 along with variations of these numbers such as 0.215, etc.

DON'T BE PUNNY!
FRACTIONS AND WHOLE NUMBERS

ANSWER KEY

Directions: Compare the numbers in each problem by writing >, <, or =. Then write the letter that matches in the appropriate blank to find the answer to the joke. Finally, follow the special directions for each problem.

Why did the chicken cross the playground?

To get to the other slide!

1 2 3 4 1 1 2 1 5 4 2 1 5 4 6 7 8 9 10 4

		>	<	=	Special Directions
1	$\frac{4}{16}$ < $\frac{3}{8}$	Q	T	F	Write the greatest fraction as a sum of unit fractions. $\frac{1}{8} + \frac{1}{8} + \frac{1}{8}$
2	Round each number to the tens place. Then compare the rounded numbers. 999,998 = 999,997	I	U	O	Write the greatest number in expanded form. 900,000 + 90,000 + 9,000 + 900 + 90 + 8
3	$\frac{3}{4}$ > $\frac{3}{6}$	G	R	H	Write the greatest fraction as a sum of unit fractions. $\frac{1}{4} + \frac{1}{4} + \frac{1}{4}$
4	$\frac{7}{8}$ > $\frac{6}{7}$	E	I	C	Write the least fraction as a sum of unit fractions. $\frac{1}{7} + \frac{1}{7} + \frac{1}{7} + \frac{1}{7} + \frac{1}{7} + \frac{1}{7}$
5	$\frac{1}{2}$ = $\frac{4}{8}$	O	M	H	Write the fraction with the smallest fractional parts as a sum of unit fractions. $\frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8}$
6	$\frac{2}{9}$ < $\frac{1}{4}$	Y	R	K	Write the least fraction as a sum of unit fractions. $\frac{1}{9} + \frac{1}{9}$
7	Round each number to the hundreds place. Then compare the rounded numbers. 100,000,249 < 100,000,250	B	S	T	Write the greatest number in expanded form. 100,000,000 + 200 + 50
8	Round each number to the thousands. Then compare the rounded numbers. 6,251 > 5,499	L	D	R	Write the least number in expanded form. 5000 + 400 + 90 + 9
9	$\frac{5}{4}$ > $\frac{6}{6}$	I	A	N	Write a number that has the same value as $\frac{6}{6}$. Answers will vary. Correct answers include: 1, $\frac{2}{2}$, $\frac{4}{4}$, etc.
10	Round each number to the hundred-thousands place. Then compare the rounded numbers. 1,150,001 = 1,240,999	U	I	D	Write the greatest number in expanded form. 1,000,000 + 200,000 + 40,000 + 900 + 90 + 9

DON'T BE PUNNY!
DECIMALS

Name: _____

Directions: Compare the numbers in each problem by writing >, <, or =. Then write the letter that matches in the appropriate blank to find the answer to the joke. Finally, follow the special directions for each problem.

What's a skeleton's favorite instrument?

___	___	___		___	___	___	___		___	___	___	___
4	6	1		4	8	2	3		7	2	5	1

	>	<	=	Special Directions
1 0.30 ◯ 0.3	A	L	E	Write 0.3 as a fraction.
2 1.20 ◯ 0.240	O	U	I	Write the greatest number in expanded notation.
3 0.900 ◯ 0.91	N	M	P	Write the least number a different way.
4 0.32 ◯ 0.23	T	O	L	Write the least number in expanded notation.
5 0.05 ◯ 0.5	F	N	V	Write a fraction that is equivalent to 0.5.
6 0.4 ◯ 0.004	H	E	B	Write a number between 0.4 and 0.004.
7 1.04 ◯ 0.410	B	C	K	Write a number that is between 1.04 and 1.
8 0.21 ◯ 0.27	I	R	S	Write a number between 0.21 and 0.27.

DON'T BE PUNNY!
FRACTIONS AND WHOLE NUMBERS

Name: _____

Directions: Compare the numbers in each problem by writing >, <, or =. Then write the letter that matches in the appropriate blank to find the answer to the joke. Finally, follow the special directions for each problem.

Why did the chicken cross the playground?

___	___		___	___	___	___	___		___	___	___	___		___	___	___	___	___		___	___	___	___	___		
1	2		3	4	1	1	2		1	5	4	2	1	5	4	6	7	8	9	10	4					

		>	<	=	Special Directions
1	$\frac{4}{16}$ ◯ $\frac{3}{8}$	Q	T	F	Write the greatest fraction as a sum of unit fractions.
2	Round each number to the tens place. Then compare the rounded numbers. 999,998 ◯ 999,997	I	U	O	Write the greatest number in expanded form.
3	$\frac{3}{4}$ ◯ $\frac{3}{6}$	G	R	H	Write the greatest fraction as a sum of unit fractions.
4	$\frac{7}{8}$ ◯ $\frac{6}{7}$	E	I	C	Write the least fraction as a sum of unit fractions.
5	$\frac{1}{2}$ ◯ $\frac{4}{8}$	O	M	H	Write the fraction with the smallest fractional parts as a sum of unit fractions.
6	$\frac{2}{9}$ ◯ $\frac{1}{4}$	Y	R	K	Write the least fraction as a sum of unit fractions.
7	Round each number to the hundreds place. Then compare the rounded numbers. 100,000,249 ◯ 100,000,250	B	S	T	Write the greatest number in expanded form.
8	Round each number to the thousands. Then compare the rounded numbers. 6,251 ◯ 5,499	L	D	R	Write the least number in expanded form.
9	$\frac{5}{4}$ ◯ $\frac{6}{6}$	I	A	N	Write a number that has the same value as $\frac{6}{6}$.
10	Round each number to the hundred-thousands place. Then compare the rounded numbers. 1,150,001 ◯ 1,240,999	U	I	D	Write the greatest number in expanded form.

COLD, HARD DECIMAL CASH!

TEKS RS: 4.4A, 4.5A, 4.8C
SS: 4.2A, 4.2E, 4.10A, 4.10B

Topic: Drawing Strip Diagrams or Pictures; Writing Equations; Solving Problems Using Money Math

WHAT IT'S ALL ABOUT!

This activity uses the context of a small business. Students will work together to solve each problem. One student will draw the strip diagram, one will write the equation, and one will solve the problem. So, each student will work on one part of each problem. Problems are one-step, two-step, and multi-step. All use money math. Along the way student will engage concepts such as making change, profit vs. revenue (4.10B), and fixed and variable expenses (4.10A). They will also calculate using the known values of US coins.

ANSWER KEY

1. 3.50 + 2 + 2.69 = *d*; $8.19
2. 3 × 7 × 2 = *d*; $42
3. 1.75 + 17.50 = *c*; Yes, $5.25 extra
4. 7 × 5 – 3.50 – 3.50 = *p*; $28
5. 175 ÷ 7 = *d*; 25 dogs
6. 175 – 43.19 = *p*; $131.81
7. 525 – 115.88 = *p*; $409.12
8. 409.12 + 303 + 303 = *p*; $1,015.12

IT'S A SETUP!

- ☐ Copy **Cold, Hard, Decimal Cash!** for each student.
- ☐ (Optional) Money manipulatives

1. Place students in groups of 3 and have them number off. Student #1 starts with Problem #1. Student #2 starts with Problem #2. Student #3 starts with Problem #3.
2. Each student reads the problem, draws a strip diagram, and initials the box. Then they pass their papers clockwise.
3. Next, each student reads the problem and checks the strip diagram. Then they write the equation and initial the equation box. Students pass their papers again.
4. Next, each student reads the problem and then checks the strip diagram and the equation. Finally, they solve the problem and initial the solution box. For a group of 3 students, all parts of Problems #1–#3 will be complete after this round.
5. Then students work the next set of problems.

Note: Problem #3 relies on students' understanding of place value, rather than multiplying decimals.

Back to the Table of **Contents** Table of **Standards**

COLD, HARD DECIMAL CASH! (PG. 1 OF 5)

Name: _____

Directions: Count off. Student #1 starts with Problem #1. Student #2 starts with Problem #2. Student #3 starts with Problem #3.

- Round 1: Read the problem. Draw a picture or strip diagram and initial the drawing box. Pass your paper.
- Round 2: Read the problem and check the picture or strip diagram. Write an equation and initial the equation box.
- Round 3: Read the problem and check the equation. Solve the problem and initial the solution box.

At the end of Round 3, each of you should have drawn 1 strip diagram, written 1 equation, and solved 1 problem. Work the rest of the problems in rounds.

Hint: You may have to use information from one problem to solve another.

1 Rex decides to use his allowance money to start a business washing dogs.

To get started, he buys a $3.50 bottle of dog shampoo, a $2 wash bucket, and 3 scrub brushes which cost a total of $2.69. How much does he spend to start his business?

DRAW A STRIP DIAGRAM.

Initials _____

WRITE AN EQUATION.

Initials _____

SOLVE THE PROBLEM.

Initials _____

Name: _____

2 Rex can wash 3 dogs in an hour. Each wash costs $7. How much money can he make in 2 hours?

DRAW A STRIP DIAGRAM.

Initials _____

WRITE AN EQUATION.

Initials _____

SOLVE THE PROBLEM.

Initials _____

3 Rex's neighbor wasn't sure if he had enough money to get both his dogs washed. He brought over a can full of change and counted it out for Rex. There were 175 pennies in one can. The other can had 10 times as much money in it. Did Rex's neighbor have enough money? If so, how much extra did he have? If not, how much more would he need? (Use information from Problem #2 to answer the question.)

DRAW A STRIP DIAGRAM.

Initials _____

WRITE AN EQUATION.

Initials _____

SOLVE THE PROBLEM.

Initials _____

 Name: _____

4 On the second day of business, Rex ran out of shampoo! He ran to buy 2 more bottles at $3.50 each. Then he came home and washed 5 dogs. What was Rex's profit that day?

DRAW A STRIP DIAGRAM.

Initials _____

WRITE AN EQUATION.

Initials _____

SOLVE THE PROBLEM.

Initials _____

5 At the end of the week, Rex had made $175. How many dogs did he wash?

DRAW A STRIP DIAGRAM.

Initials _____

WRITE AN EQUATION.

Initials _____

SOLVE THE PROBLEM.

Initials _____

Name: _____

6 His total costs to run the business that week were $43.19. What was Rex's profit for the week? (Use information from Problem #5 to help you answer the question.)

DRAW A STRIP DIAGRAM.

Initials _____

WRITE AN EQUATION.

Initials _____

SOLVE THE PROBLEM.

Initials _____

7 After a month of work, Rex had made $525. He had to keep buying shampoo, and he bought a new set of scrub brushes, so his total expenses for the month were $115.88. What was Rex's profit for the month?

DRAW A STRIP DIAGRAM.

Initials _____

WRITE AN EQUATION.

Initials _____

SOLVE THE PROBLEM.

Initials _____

Name: _____

8 At the end of the month, Rex was exhausted! It was harder and harder to find new people who needed their dogs washed. Even worse, his friend down the street started his own dog-washing business, and he only charged $5.50. Rex decided to lower his price to $5 in order to find new customers.

The second month, Rex's profits were $303. If he made the same amount in the third month, what would be Rex's total profits after his first 3 months? (Note: The profits for the first month are your answer to #7.)

DRAW A STRIP DIAGRAM.

Initials _____

WRITE AN EQUATION.

Initials _____

SOLVE THE PROBLEM.

Initials _____

THE AMAZING DECIMAL NUMBER LINE RACE!

TEKS | **RS:** 4.4A, 4.8C
SS: 4.2A, 4.2F, 4.2H, 4.3G, 4.4B, 4.8A, 4.8B

Topic: Decimals on the Number Line, Time, Distance

WHAT IT'S ALL ABOUT!

This activity has students track the progress of a 10-kilometer bike race using decimals on a number line. They will calculate time using customary units, and use place value and conversions to calculate distance. Students will track the racers as they go down the course. Use the 4th Grade STAAR Reference Materials for the conversions.

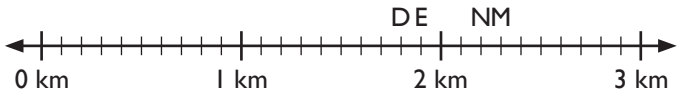
IT'S A SETUP!

- ☐ Copy **The Amazing Decimal Number Line Race!** for each of your students.
- ☐ Copy the 4th Grade STAAR Reference Materials for each of your students. (You can download these at tea.texas.gov/student.assessment/staar/math/.)

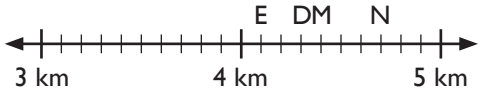
Divide your class into small groups. Hand out a copy of **The Amazing Decimal Number Line Race!** to each student and the **4th Grade STAAR Reference Materials** to each group. Then have students work together to solve the problems. Make sure that they have adequate scratch paper for their work.

ANSWER KEY

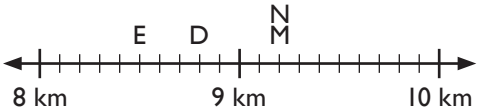
1. Miles, 100 meters or 0.1 kilometers



2. 2.7 kilometers
3. 20 seconds
4. 600 meters or 0.6 kilometers



5. 36 kilometers
6. Last, by 0.1 kilometers



7. 22.1 minutes
8. 23 minutes

Back to the Table of Contents | Table of Standards

THE AMAZING DECIMAL NUMBER LINE RACE! (PG. 1 OF 3)

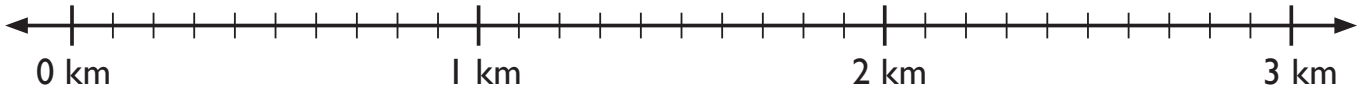
Name: _____

Directions: Solve the following problems to track racers along a 10-kilometer bike race. Where indicated, draw the results on a number line using the first letter of their name.

1 4 cyclists were on a 10-kilometer race. After 5 minutes, they had traveled the following distances:

- Nina: 2.2 kilometers
- Miles: 2,300 meters
- Ella: 1,900 meters
- Duke: 1.8 kilometers

Mark these distances on the number line below using the initials of the riders.



Who is in the lead, and by how much?

2 In the next 2 minutes, Duke rode another 900 meters to catch up. How many kilometers has Duke ridden?

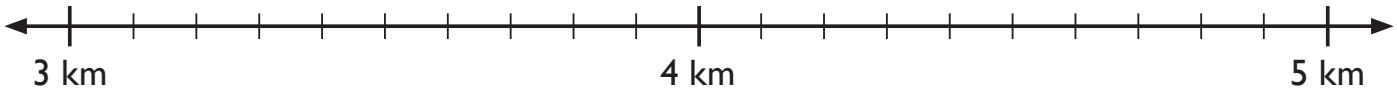
3 It took Nina 100 seconds to go the same 900 meters as Duke. How many more seconds did it take Duke to ride 900 meters?

Name: _____

4 After 10 minutes of racing, they had traveled the following distances:

- Nina: 4,700 meters
- Miles: 4.4 kilometers
- Ella: 4.1 kilometers
- Duke: 4,300 meters

Mark these distances on the number line below using the initials of the riders.



What is the distance in meters between first and last place?

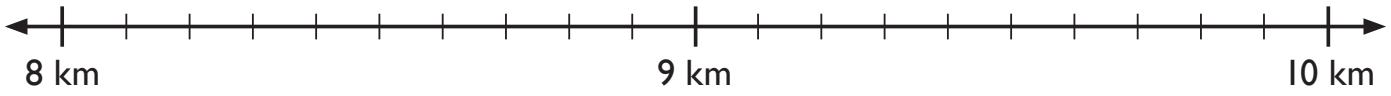
5 When Miles realized that he was falling behind Nina, he started pedaling as fast as he could. In the next 3 minutes, he traveled 1,800 meters. If he kept going at that speed for an hour, how many kilometers would he ride?

Name: _____

6 After 20 minutes of racing, they had traveled the following distances:

- Nina: 9,200 meters
- Miles: 9,200 meters
- Ella: 8,500 meters
- Duke: 8,800 meters

Mark these distances on the number line below using the riders' initials.



Is Duke closer to first place or last place? By how many kilometers?

7 Miles crossed the finish line first after 21.6 minutes of racing. Nina finished 30 seconds later. How many minutes did it take Nina to complete the race?

8 The average finishing time between the 4 contestants was 1,380 seconds. What was the average time in minutes?

MR. PEACOCK'S FIREWORKS WAREHOUSE

TEKS RS: 4.3D, 4.3E SS: 4.3B, 4.3C

Topic: Representing & Decomposing Fractions; Comparing Fractions; Adding Fractions

WHAT IT'S ALL ABOUT!

In this short project, students will help the character Mr. Peacock build his new fireworks warehouse. They will divide the warehouse into fractional sections using given proportions, and then answer a series of questions either in a math journal or on separate paper. This is a rigorous look at the representation, composition, and comparison of fractions, but it's also a lot of fun. When they are finished journaling, students can and should color and decorate their fireworks warehouse.

IT'S A SETUP!

- ☐ Copy **Mr. Peacock's Fireworks Warehouse** for each student.
- ☐ Copy 1 piece of **cm grid paper** for each student (PG. 74)
- ☐ Other materials
  - □ **1" color tiles (red, green, and blue)**
  - □ **Crayons or colored pencils (red, green, and blue)**
  - □ **Scissors**

Hand out materials. Students use the **color tiles** to represent the fireworks according to the fractions given in the problem. Then they create a rectangular warehouse on **grid paper** with the fireworks in the correct proportions and label their creation. Finally, they answer the questions.

ANSWER KEY

1a. $\frac{1}{2}$

1b. $\frac{5}{16}$

1c. $\frac{3}{16}$

2a. $\frac{17}{32}$

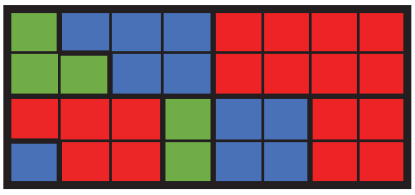
2b. $\frac{10}{32}$

2c. $\frac{5}{32}$

3. More

4. Less

5. Less



HEY—LOOK HERE!

No color tiles? Students can create the warehouse directly on the grid paper. They may want to sketch it out to be sure they are correct before coloring it.

The warehouses may vary. The goal is that they represent the fractions accurately. It is fine if they are unable to figure out how to make a rectangle with the fractions. The sample drawing provided as a reference.

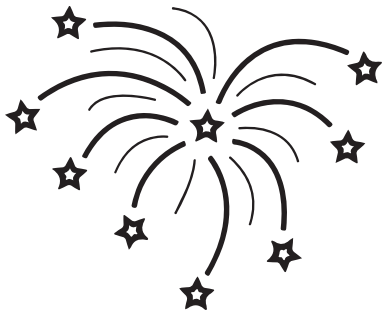
Back to the Table of Contents Table of Standards

MR. PEACOCK'S FIREWORKS WAREHOUSE

Name: _____

Directions: Mr. Peacock, the legendary fireworks master, is building a new warehouse for his 3 top-selling items, but he needs your help to fit it all together! Divide your warehouse into sections using the fractional parts from the table. When you are finished organizing the warehouse, answer the questions.

$\frac{8}{32}$ Red Super-Stellar Exploders	$\frac{4}{32}$ Red Mega-Magic Missile	$\frac{5}{32}$ Red Big Bottle Blaster
$\frac{5}{32}$ Blue Super-Stellar Exploders	$\frac{4}{32}$ Blue Mega-Magic Missile	$\frac{1}{32}$ Blue Big Bottle Blaster
$\frac{3}{32}$ Green Super-Stellar Exploders	$\frac{2}{32}$ Green Mega-Magic Missile	



Analyzing Your Fireworks Warehouse

1. What fraction of the space is devoted to each kind of firework?
   a. Super-Stellar Exploder _____
   b. Mega-Magic Missile _____
   c. Big Bottle Blaster _____
2. What fraction of the space is used for each color?
   a. Red Fireworks _____
   b. Blue Fireworks _____
   c. Green Fireworks _____
3. Do red fireworks take up more or less than $\frac{1}{2}$ of the total space? _____
4. Do blue fireworks take up more or less than $\frac{1}{3}$ of the total space? _____
5. Do green fireworks take up more or less than $\frac{1}{6}$ of the total space? _____

INPUT–OUTPUT AND NUMBER SEQUENCES

TEKS RS: 4.5B SS: 4.4B

Topic: Number Machines, Tables, & Number Sequences

WHAT IT'S ALL ABOUT!

This activity provides a series of simple situations and asks students to complete an input–output table defining the numerical relationship between the input and the output. The foundation laid by these algebraic concepts will be explored more fully in 5th grade, when students will use them to graph simple functions. Students will then continue to build on this content in middle school math, Algebra I, and beyond.

IT'S A SETUP!

- ☐ Copy **Input–Output and Number Sequences** for each student.
- ☐ Other materials:
  - □ **Counters** or **square tiles**
  - □ **Scratch paper**

Hand out materials. In Problems #1–#6, students work together to model the situation and create the table. In Problems #7–#8, students get creative and write problem situations to match the tables given.

Back to the Table of **Contents** Table of **Standards**

INPUT–OUTPUT AND NUMBER SEQUENCES (PG. 1 OF 8)

ANSWER KEY

Directions: For Problems #1–#6, fill in the number machine and make a model. Then draw and label it. Complete the input–output table. For the last row in the table, choose your own input and find the output. Fill in the sequence on #1–#4.

1 Every time Megan saves $1, her parents give her $2 more.

Draw It and Label It!

Drawings will vary. Look for the input number and the process that makes the output.

For the first row in this problem, you should see $1 and then $2 added to make $3.

Position	Numerical Expression	Value
Dollars Saved	**Process**	**Dollars Total**
1	1 + 2	3
2	2 + 2	4
3	3 + 2	5
4	4 + 2	6
Answers will vary.		

Sequence It!

_____, _____, _____, _____

ANSWER KEY

2 Each time Brandon jumps on the trampoline, his brother Alex jumps twice.

Draw It and Label It!

Drawings will vary. Look for the input number and the process that makes the output.

For the first row in this problem, you should see 1 jump for Brandon and 2 jumps for Alex.

Position	Numerical Expression	Value
Brandon's Jumps	Process	Alex's Jumps
1	1 × 2	2
2	2 × 2	4
3	3 × 2	6
4	4 × 2	8
Answers will vary.		

Sequence It!

_____ , _____ , _____ , _____

ANSWER KEY

3 For every lap Karla runs on the track, Kandace runs 4.

Draw It and Label It!

Drawings will vary. Look for the input number and the process that makes the output.

For the first row in this problem, you should see Karla does 1 lap and Kandace does 4 laps.

Position	Numerical Expression	Value
Karla's Laps	Process	Kandace's Laps
1	1 × 4	4
2	2 × 4	8
4	4 × 4	16
5	5 × 4	20
Answers will vary.		

Sequence It!

_____ , _____ , _____ , _____

ANSWER KEY

4 Daniel's backpack has 10 times as many buttons on it as Bebe's backpack.

Draw It and Label It!

Drawings will vary. Look for the input number and the process that makes the output.

For the first row, Bebe's backpack should have 1 button and Daniel's backpack should have 10 buttons.

Position	Numerical Expression	Value
Bebe's Backpack	Process	Daniel's Backpack
1	1 × 10	10
2	2 × 10	20
3	3 × 10	30
4	4 × 10	40
Answers will vary.		

Sequence It!

_____ , _____ , _____ , _____

ANSWER KEY

5 Ashley saves $2 of her chore money and spends the rest.

Draw It and Label It!

Drawings will vary. Look for the input number and the process that makes the output.

For the first row, Ashley gets $5 in chore money and spends $3.

Position	Numerical Expression	Value
Amount ($) of Ashley's Chore Money	Process	Amount ($) She Spends
5	5 – 2	3
6	6 – 2	4
9	9 – 2	7
10	10 – 2	8
Answers will vary.		

ANSWER KEY

6 On the days that Ryan eats dessert, he runs 3 miles.

Draw It and Label It!

Drawings will vary. Look for the input number and the process that makes the output.

For the first row, Ryan eats dessert on one day and runs 3 miles.

Position	Numerical Expression	Value
Number of Days Ryan Eats Dessert	**Process**	**Total Miles Ryan Runs**
1	1 × 3	3
2	2 × 3	6
4	4 × 3	12
6	6 × 3	18
Answers will vary.		

INPUT–OUTPUT AND NUMBER SEQUENCES (PG. 7 OF 8)

ANSWER KEY

Directions: For Problems #7–#8

- Fill in the number machine.
- Model and draw a picture to find the numerical expression.
- Write a situation that corresponds to that numerical relationship.
- Label the input and the output.
- Label your picture.

7

Labels will vary.	Expression	Labels will vary.
1	1 × 5	5
2	2 × 5	10
3	3 × 5	15
4	4 × 5	20

Write It, Draw It, and Label It!

Situations and drawings will vary. Look for a situation where the output is 5 times the input, such as two $5 bills is $10.

ANSWER KEY

8

Labels will vary.	Expression	Labels will vary.
5	5 × 100	500
6	6 × 100	600
7	7 × 100	700
8	8 × 100	800

Write It, Draw It, and Label It!

Situations and drawings will vary. Look for a situation where the output is 100 times the input, such as $1 is 100 pennies.

INPUT–OUTPUT AND NUMBER SEQUENCES (PG. 1 OF 8)

Directions: For Problems #1–#6, fill in the number machine and make a model. Then draw and label it. Complete the input–output table. For the last row in the table, choose your own input and find the output. Fill in the sequence on #1–#4.

1 Every time Megan saves $1, her parents give her $2 more.

Draw It and Label It!

Position	Numerical Expression	Value
Dollars Saved	**Process**	**Dollars Total**
1		
2		
3		
4		

Sequence It!

_____ , _____ , _____ , _____

2 Each time Brandon jumps on the trampoline, his brother Alex jumps twice.

Draw It and Label It!

Position	Numerical Expression	Value
Brandon's Jumps	**Process**	**Alex's Jumps**
1		
2		
3		
4		

Sequence It!

_____ , _____ , _____ , _____

3 For every lap Karla runs on the track, Kandace runs 4.

Draw It and Label It!

Position	Numerical Expression	Value
Karla's Laps	**Process**	**Kandace's Laps**
1		
2		
4		
5		

Sequence It!

_____ , _____ , _____ , _____

4 Daniel's backpack has 10 times as many buttons on it as Bebe's backpack.

Draw It and Label It!

Position	Numerical Expression	Value
Bebe's Backpack	**Process**	**Daniel's Backpack**
1		
2		
3		
4		

Sequence It!

_____ , _____ , _____ , _____

5 Ashley saves $2 of her chore money and spends the rest.

Draw It and Label It!

Position	Numerical Expression	Value
Amount ($) of Ashley's Chore Money	**Process**	**Amount ($) She Spends**
5		
6		
9		
10		

Sequence It!

_____ , _____ , _____ , _____

6 On the days that Ryan eats dessert, he runs 3 miles.

Draw It and Label It!

Position	Numerical Expression	Value
Number of Days Ryan Eats Dessert	**Process**	**Total Miles Ryan Runs**
1		
2		
4		
6		

Sequence It!

_____ , _____ , _____ , _____

INPUT–OUTPUT AND NUMBER SEQUENCES (PG. 7 OF 8)

Directions: For Problems #7–#8

- Fill in the number machine.
- Model and draw a picture to find the numerical expression.
- Write a situation that corresponds to that numerical relationship.
- Label the input and the output.
- Label your picture.

7

	Expression	
1		5
2		10
3		15
4		20

Write It, Draw It, and Label It!

8

	Expression	
5		500
6		600
7		700
8		800

Write It, Draw It, and Label It!

RAMÓN, THE NOT-SO-FAMOUS POP SINGER

TEKS RS: 4.5A, 4.4H SS: 4.4D, 4.4F

Topic: Operations with Whole Numbers; Strip Diagrams; Equations

WHAT IT'S ALL ABOUT!

In this activity, students will solve multi-step problems using all 4 operations with strip diagrams, equations, and an unknown letter variable. While the use of variables may seem a little advanced, in 4th grade the variable functions much like leaving the answer area blank. Just don't tell your students that *variable = answer.*

IT'S A SETUP!

- ☐ Copy **Ramón, the Not-So-Famous Pop Singer—The Problems** for every 4 students. Cut in half.
- ☐ Copy **Ramón, the Not-So-Famous Pop Singer—The Solutions** for every student.

Place students in pairs. Give each pair of students a Problems page. Give each student their own Solutions page. Have students work together to draw the strip diagrams, write the equation, and solve.

Back to the Table of **Contents** Table of **Standards**

RAMÓN, THE NOT-SO-FAMOUS POP SINGER — THE SOLUTIONS

ANSWER KEY

Directions: Draw a strip diagram, write an equation, and solve. Be sure to label your answer.

	Draw a strip diagram.	Write an equation and solve it.
1	Strip diagrams will vary.	$(3 \times 12) + (12 \times 21) = m$ Solution: 288 messages
2	Strip diagrams will vary.	$5252 \div 4 = d$ Solution: $1,313
3	Strip diagrams will vary.	$9 + 10 + 13 + 18 = s$ Solution: 50 songs
4	Strip diagrams will vary.	$8988 - 3000 = t$ $5988 \div 2 = t$ or $(8988 - 3000) \div 2 = t$ Solution: 2,994 tickets
5	Strip diagrams will vary.	$2160 \div 2 + 306 = p$ Solution: 1,386 people
6	Strip diagrams will vary.	$(9 \times 300) - (9 \times 279) = d$ or $9 \times (300 - 279) = d$ Solution: $189

RAMÓN, THE NOT-SO-FAMOUS POP SINGER — THE PROBLEMS

1 Ramón, the not-so-famous pop singer, receives 3 messages per week from his fans. He receives 21 messages per week from people that don't like him. How many messages does he receive in 12 weeks?	**4** There were 8,988 seats available for Ramón's tour across Texas. 3,000 tickets were sold, but then they were returned. Of the seats that were left, Ramón gave half of them away. Then he sold the rest of the tickets. How many tickets were actually sold and NOT returned?
2 Ramón, the singer who has forgotten his own last name, spends exactly the same amount of money on musical equipment each year. He has spent a total of $5,252 on music equipment in the last 4 years. How much did he spend each year?	**5** 2,160 fans showed up for Ramón's tour across Texas. Half of them left after hearing Ramón sing, but the rest stayed the whole time. 306 extra people also came to throw apple cores at Ramón, and they all stayed the whole time too. How many people did NOT leave early?
3 Ramón, whose voice makes babies cry, has recorded 4 albums, each one longer and worse than the last. The first had 9 songs, the second had 10, the third had 13, and the fourth had 18 songs. How many songs has he recorded on his albums?	**6** Ramón played 9 shows during his tour across Texas. For each show, he earned $300, But he had to pay $279 per show to his staff. How much of his total earnings did Ramón, the TERRIBLE pop singer, get to keep?

1 Ramón, the not-so-famous pop singer, receives 3 messages per week from his fans. He receives 21 messages per week from people that don't like him. How many messages does he receive in 12 weeks?	**4** There were 8,988 seats available for Ramón's tour across Texas. 3,000 tickets were sold, but then they were returned. Of the seats that were left, Ramón gave half of them away. Then he sold the rest of the tickets. How many tickets were actually sold and NOT returned?
2 Ramón, the singer who has forgotten his own last name, spends exactly the same amount of money on musical equipment each year. He has spent a total of $5,252 on music equipment in the last 4 years. How much did he spend each year?	**5** 2,160 fans showed up for Ramón's tour across Texas. Half of them left after hearing Ramón sing, but the rest stayed the whole time. 306 extra people also came to throw apple cores at Ramón, and they all stayed the whole time too. How many people did NOT leave early?
3 Ramón, whose voice makes babies cry, has recorded 4 albums, each one longer and worse than the last. The first had 9 songs, the second had 10, the third had 13, and the fourth had 18 songs. How many songs has he recorded on his albums?	**6** Ramón played 9 shows during his tour across Texas. For each show, he earned $300, But he had to pay $279 per show to his staff. How much of his total earnings did Ramón, the TERRIBLE pop singer, get to keep?

RAMÓN, THE NOT-SO-FAMOUS POP SINGER

— THE SOLUTIONS (PG. 1 OF 2)

Name: _____

Directions: Draw a strip diagram, write an equation, and solve. Be sure to label your answer.

	Draw a strip diagram.	Write an equation and solve it.
1		Solution: _____
2		Solution: _____
3		Solution: _____

RAMÓN, THE NOT-SO-FAMOUS POP SINGER

— THE SOLUTIONS (PG. 2 OF 2)

Name: _____

	Draw a strip diagram.	Write an equation and solve it.
4		Solution: _____
5		Solution: _____
6		Solution: _____

’S VEGETABLE GARDEN

Your Name Here

TEKS RS: 4.5D, 4.8C SS: 4.4C

Topic: Area, Perimeter, Area Models for Multiplication

WHAT IT'S ALL ABOUT!

Vegetable Garden is a fun micro-project where students will use their measurement skills to design a vegetable garden. Given the parameters for each section, students will shape their garden as they like, then answer follow-up questions.

IT'S A SETUP!

- ☐ Copy _____**’s Vegetable Garden** for each student. Copy each page separately, not front and back.
- ☐ Copy 1–2 sheets of **cm grid paper** (PG. 74) for each student.
- ☐ Other materials:
  - □ **Large construction paper**
  - □ **Glue sticks**
  - □ **Scissors**
  - □ **Colored pencils** or **markers**
  - □ **Square tiles** (optional)

Hand out materials. Students create their gardens on centimeter grid paper. Then they cut them out, arrange the garden on the construction paper, color the sections and glue them to the construction paper. Finally, students answer the questions and glue them to the construction paper.

ANSWER KEY

Special Note: Because students customize the shape of their garden, the answers to most questions will vary.

1. Answers will vary. This is the perimeter of the whole garden.
2. Answers will vary. This is the area of the whole garden.
3. Answers will vary.
4. 1 × 60; 2 × 30; 3 × 20; 4 × 15; 5 × 12

HEY—LOOK HERE!

- ☐ Spot check while your students are working.
- ☐ Stop the work in progress and discuss the calculations.
- ☐ Have students spot check each other. Give them things to look for depending on where they are in the work.

Back to the Table of **Contents** Table of **Standards**

Your Name Here **'S VEGETABLE GARDEN** (PG. 1 OF 2)

It's spring and time to plant your own vegetable garden.

Directions: Area, Perimeter, Area Models for Multiplication

☐ The table below lists the vegetables that will be your garden. It also shows the area or the perimeter of each part of the garden according to what vegetable is planted. For each vegetable, make a rectangle on grid paper that fits the information given. Then fill in the rest of the table. Cut out the table and glue it on your construction paper.

Vegetable	Length	Width	Perimeter (ft)	Area (sq. ft.)
Green Beans 			48	
Tomatoes 				60
Cucumbers 			36	
Beets 				64
Lettuce 			14	
Eggplant 				24
Carrots 			32	

☐ Label each section with the type of vegetable, its perimeter, and its area.

☐ Color the sections and cut them out.

☐ Assemble your vegetable garden on the construction paper. Line up the square feet so that all the parts of the garden make one big *rectangular-ish* garden.

’S VEGETABLE GARDEN (PG. 2 OF 2)

Your Name Here

Directions: Answer the questions below. Cut them out and glue them on your construction paper.

1. There is a problem in the garden. You love to watch the deer in your yard. But they kept coming into the garden and eating the vegetables before they are grown! You decide to put up chicken wire border all the way around the garden. How many feet of chicken wire do you need?
2. It’s time to plant all-new fresh vegetables. You need to lay down new soil to cover the ground. How many square feet of ground do you need to cover with soil?
3. You love your new garden so much that you want to make it big! You decided to double the length and width of some parts of it. Choose 4 of your favorite vegetables in the garden. Fill in the table below for those vegetables.

Vegetable	New Length	New Width	New Perimeter (ft)	New Area (sq. ft.)
Green Beans 				
Tomatoes 				
Cucumbers 				
Beets 				
Lettuce 				
Eggplant 				
Carrots 				

4. The area of your tomato garden is 60 square feet. You are considering changing the dimensions of your tomato garden. But you still want 60 square feet of tomatoes. What are all the different sizes of rectangular tomato gardens you could make?

TRANSPORTATION SCAVENGER HUNT

TEKS | **RS:** 4.6D, 4,7C
SS: 4.6A, 4.6B, 4.6C, 4.7D

Topic: Classifying 2D Figures; Drawing & Measuring Angles; Identifying Points, Segments, Angles, Parallel & Perpendicular Lines; Identifying Types of Triangles

WHAT IT'S ALL ABOUT!

In this activity, students will work together to complete a geometry scavenger hunt. This activity works for your students in multiple ways:

1. It requires technical reading.
2. It puts geometry in the context of the real world.
3. It develops visual acuity.
4. It requires students to make choices and be creative.

IT'S A SETUP!

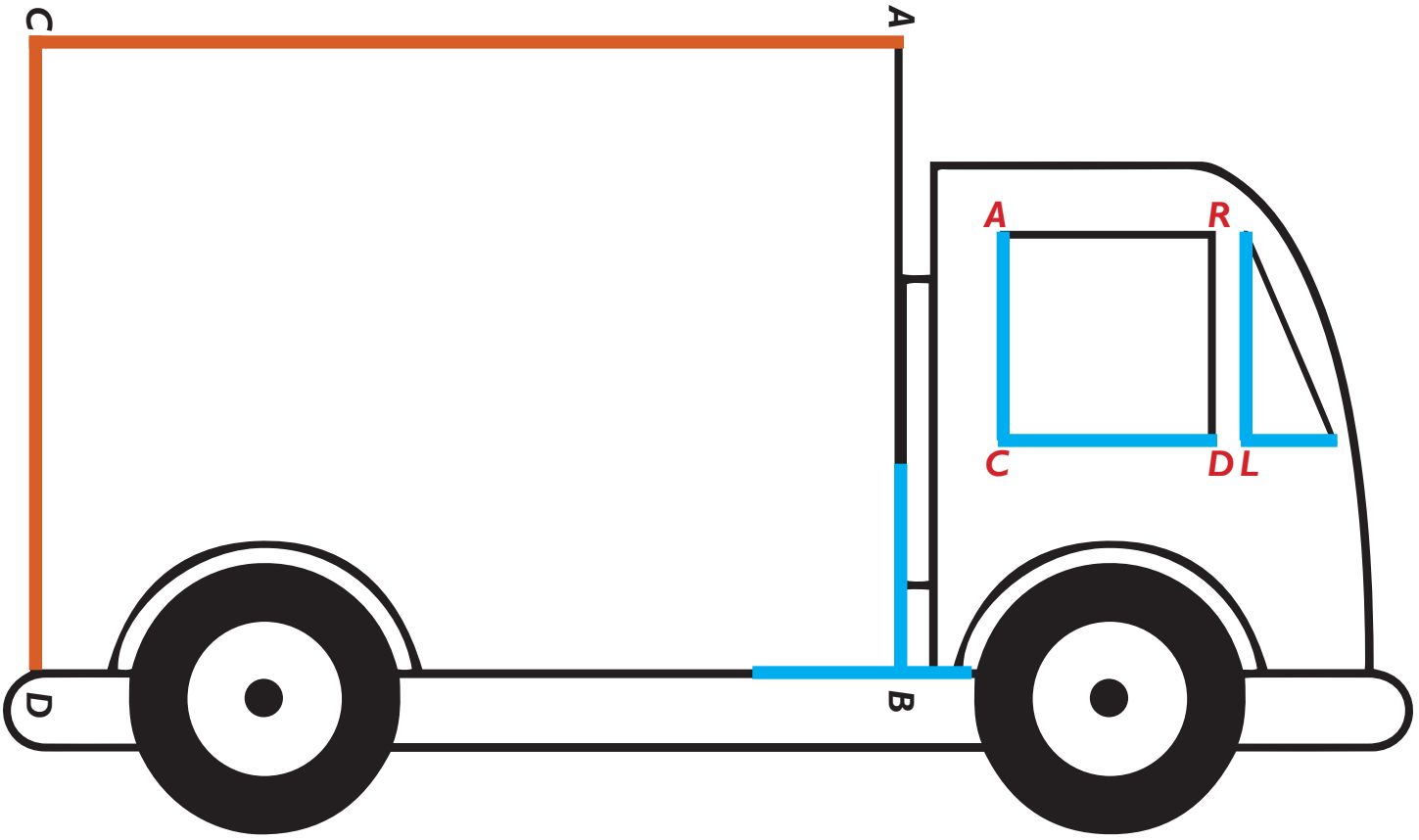
- ☐ Copy **Transportation Scavenger Hunt** for every pair of students. Copy each page separately, not front and back.
- ☐ Other materials:
  - □ **Protractor**
  - □ **Pencil**
  - □ **Colored Pencils** or **Crayons**

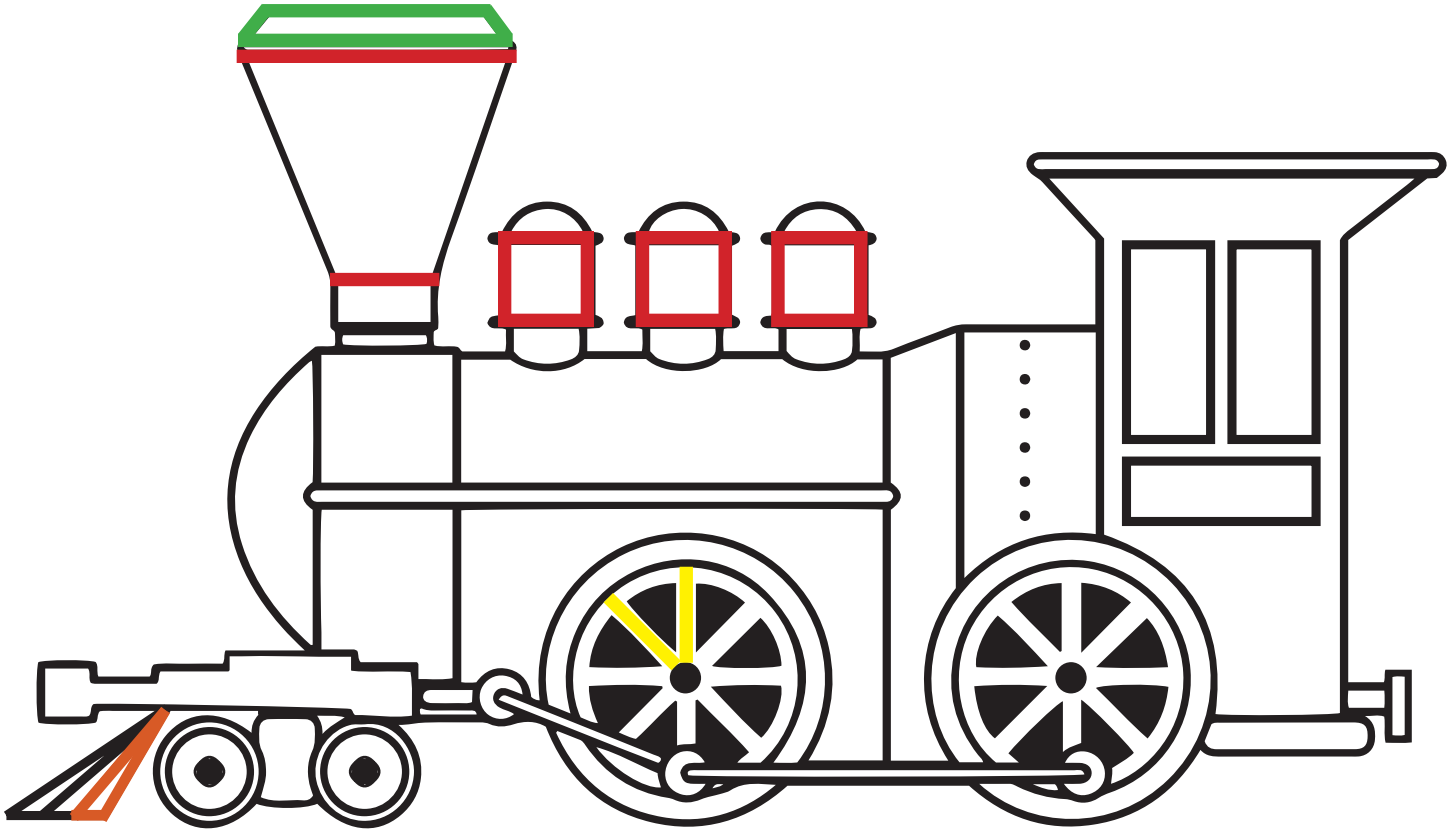
Place students in pairs and hand out materials. Have students follow the scavenger hunt directions to identify, measure, classify, and color 4th grade geometric figures. They may want to check off the items as they find them.

Back to the Table of **Contents** Table of **Standards**

TRANSPORTATION SCAVENGER HUNT (PG. 2 OF 2)

ANSWER KEY



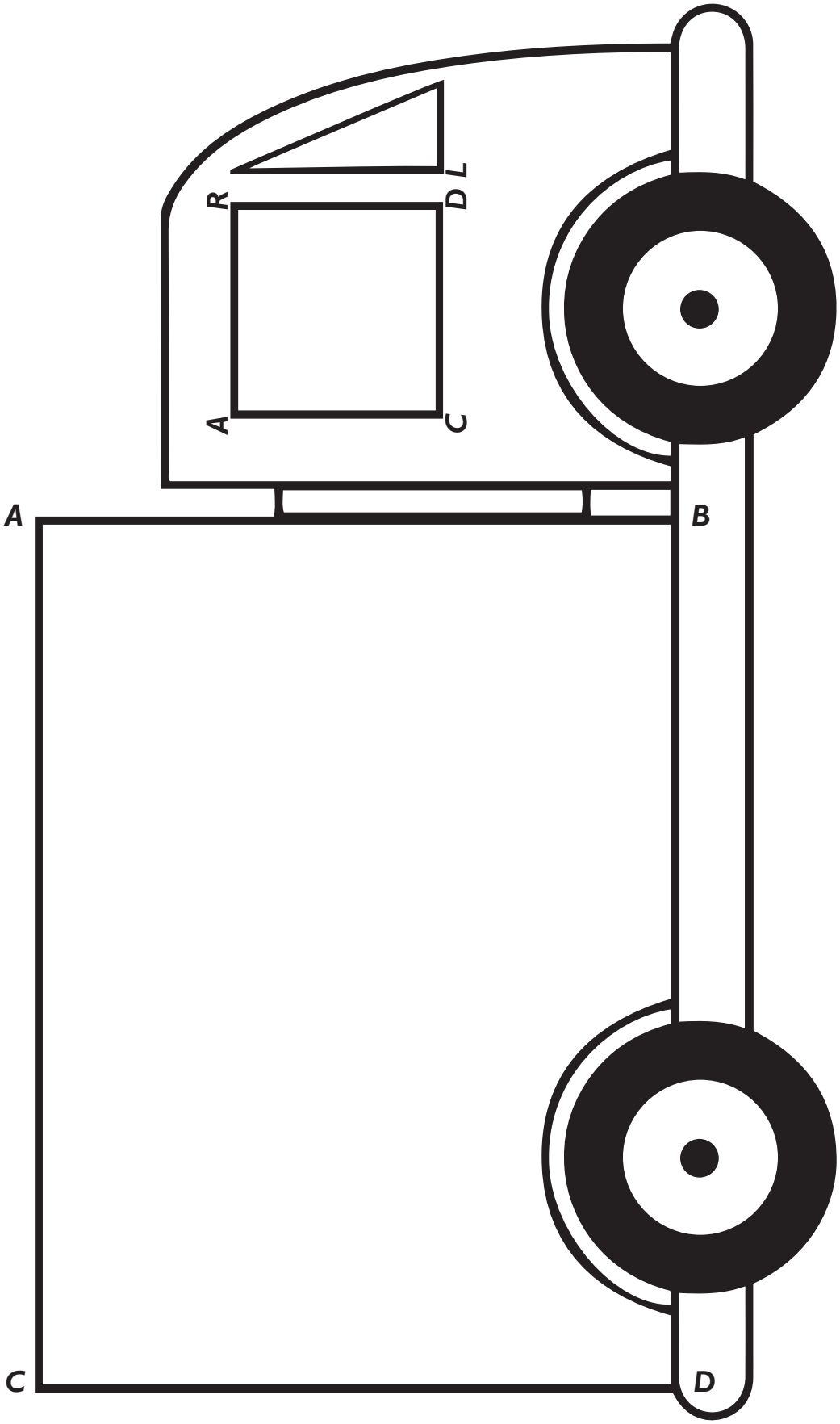


TRANSPORTATION SCAVENGER HUNT (PG. 1 OF 2) ANSWER KEY

- ☐ Find a shape that has exactly one pair of parallel sides. Use red to trace the parallel sides. What is the name of the shape? Trapezoid
- ☐ Find the back of the truck. Use orange to trace 2 line segments that appear to be perpendicular. What are the names of the line segments? *CD* and *AC* or *AC* and *AB*
- ☐ Find 3 pairs of perpendicular lines and use blue to trace them. (Answers will vary.)
- ☐ Use green to trace a shape that has one pair of parallel sides and 2 congruent sides. What is the name of the shape? Trapezoid (Figures will vary.)
- ☐ Find 3 shapes that have 2 pairs of congruent sides and use red to trace them. What is the name of the shape? Rectangles (or squares) (Figures will vary.)
- ☐ Find points on one of the figures. Name the points with the letters of your names. Be sure to use capital letters. (Figures will vary.)
- ☐ Find an acute angle and trace it in yellow. (Figures will vary.)
- ☐ Find an obtuse triangle and trace it in orange. (Figures will vary.)
- ☐ Find the rods on the steam engine's wheels that make the wheels go round and round. What is the measure of the angle between the rods? (You may need to use the straight edge of your protractor to extend the lines to get an accurate measure.) Approx. 160° (If a student answers 165° or greater, they are probably measuring incorrectly.)
- ☐ What is the measure of the acute angle in the truck's window? (You may need to use the straight edge of your protractor to extend the lines to get an accurate measure.) Either 68° or 24°
- ☐ Choose 2 figures that are different shapes. Draw all the lines of symmetry on both of them. (Be careful! One type of shape has an *infinite number* of lines of symmetry. Don't choose those!) (Figures will vary.) Circles have an infinite number of lines of symmetry.
- ☐ Use a straight edge to design a logo for the back of the truck. Your logo needs to include:
  - ☐ a 120 degree angle (Logos will vary.)
  - ☐ a 90 degree angle (Logos will vary.)
  - ☐ a 35 degree angle (Logos will vary.)
  - ☐ a hexagon (Logos will vary.)
  - ☐ a shape with 2 pairs of parallel sides (Logos will vary.)

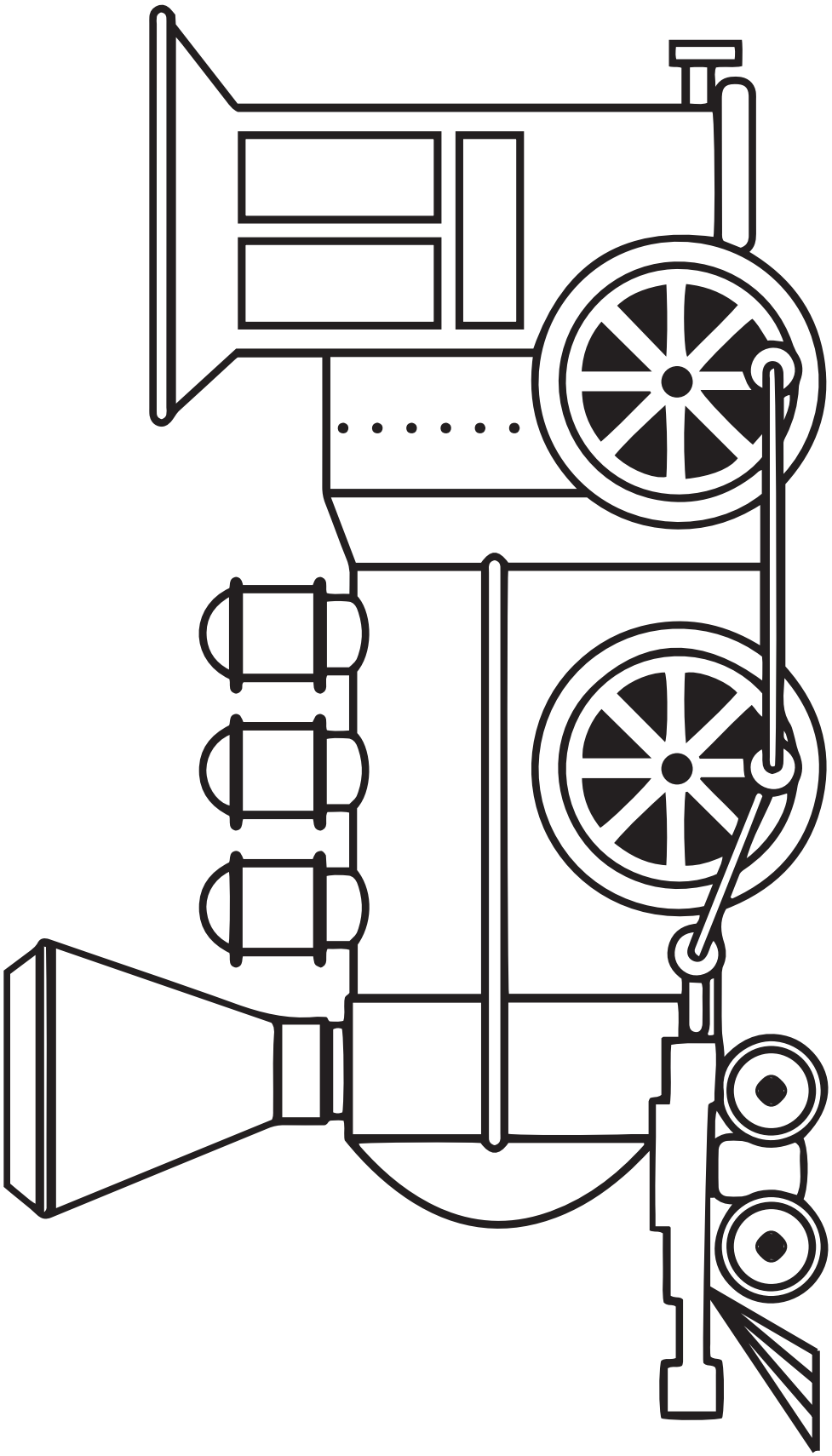
TRANSPORTATION SCAVENGER HUNT (PG. 1 OF 3)

Names: _____



TRANSPORTATION SCAVENGER HUNT (PG. 2 OF 3)

Names: _____



TRANSPORTATION SCAVENGER HUNT (PG. 3 OF 3)

Names: _____

- ☐ Find a shape that has exactly one pair of parallel sides. Use red to trace the parallel sides. What is the name of the shape? _____
- ☐ Find the back of the truck. Use orange to trace 2 line segments that appear to be perpendicular. What are the names of the line segments? _____
- ☐ Find 3 pairs of perpendicular lines and use blue to trace them.
- ☐ Use green to trace a shape that has one pair of parallel sides and 2 congruent sides. What is the name of the shape? _____
- ☐ Find 3 shapes that have 2 pairs of congruent sides and use red to trace them. What is the name of the shape? _____
- ☐ Find points on one of the figures. Name the points with the letters of your names. Be sure to use capital letters.
- ☐ Find an acute angle and trace it in yellow.
- ☐ Find an obtuse triangle and trace it in orange.
- ☐ Find the rods on the steam engine's wheels that make the wheels go round and round. What is the measure of the angle between the rods? (You may need to use the straight edge of your protractor to extend the lines to get an accurate measure.) _____ _____
- ☐ What is the measure of the acute angle in the truck's window? (You may need to use the straight edge of your protractor to extend the lines to get an accurate measure.) _____ _____
- ☐ Choose 2 figures that are different shapes. Draw all the lines of symmetry on both of them. (Be careful! One type of shape has an *infinite number* of lines of symmetry. Don't choose those!)
- ☐ Use a straight edge to design a logo for the back of the truck. Your logo needs to include:
  - ☐ a 120 degree angle
  - ☐ a 90 degree angle
  - ☐ a 35 degree angle
  - ☐ a hexagon
  - ☐ a shape with 2 pairs of parallel sides

THE TRAVELING CIRCUS IS HERE!

TEKS RS: 4.9A, 4.4A, 4.5A
SS: 4.4B, 4.9B

Topic: Creating & Analyzing Tables of Data; Writing Equations; Operations with Whole Numbers & Decimals

WHAT IT'S ALL ABOUT!

In this activity, students will analyze data from 3 kinds of tables (a dot plot, a stem-and-leaf plot, and a frequency table) in order to solve problems. The arithmetic in this activity is fairly simple, allowing students to focus on reading the tables and analyzing the data.

IT'S A SETUP!

- ☐ Copy **Traveling Circus Data** (PGS. 52 and 53) for every pair of students.
- ☐ Copy **Traveling Circus Analysis** (PGS. 54 and 55) for each student.

Put students in pairs and hand out materials.

Pairs should work together to analyze the data and answer the questions.

ANSWER KEY

Traveling Circus Analysis

1. 712 people

2. $270 - (110 + 140) = p$
or $270 - 110 - 140 = p$

3. 81 people; fewer; 99 people

4. Girls; no

5. 12 people

6. 0. Answers will vary.

7. Not enough; $2.25

8. $2.00

HEY—LOOK HERE!

In the Survey of Favorite Attractions, no one picked the clowns as their favorite. We just wanted you to know that this was intentional.

Back to the Table of **Contents** Table of **Standards**

THE TRAVELING CIRCUS DATA (PG. 1 OF 2) ANSWER KEY

Directions: Use the information to fill in the Traveling Circus Data charts.

1 Make a stem-and-leaf plot of the number of circus visitors.

Number of Visitors to the Circus on Each of 10 Nights

Day	Number of Visitors
Friday	79
Saturday	85
Sunday	62
Monday	68
Tuesday	57
Wednesday	53
Thursday	77
Friday	81
Saturday	86
Sunday	64

Stem	Leaf
5	3, 7
6	2, 4, 8
7	7, 9
8	1, 5, 6

2 Use the data in the table to make a frequency chart of the circus goers' favorite attractions. Each tally in the frequency table should stand for 10 people.

Survey of Favorite Attractions*

Attraction	Number of Visitors
Lions	180
Elephants	110
Acrobats	270
Fireworks	140
Clowns	0

Lions	𝍸 𝍸 𝍸 |||
Elephants	𝍸 𝍸 |
Acrobats	𝍸 𝍸 𝍸 𝍸 𝍸 ||
Fireworks	𝍸 𝍸 ||||
Clowns	

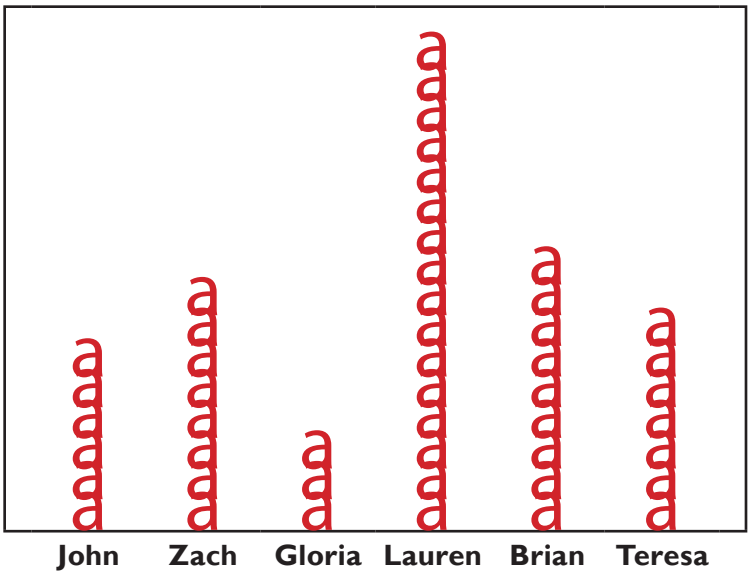
*Each tally is 10 people.

ANSWER KEY

3 Make a dot plot that shows the number of flips each acrobat does.

Number of Flips Each Acrobat Performs During the Show

Acrobat	Number of Flips
John	6
Zach	8
Gloria	3
Lauren	16
Brian	9
Teresa	7



4 Make a stem-and-leaf plot that shows the cost of the midway games.

Cost of the Games at the Midway

Game	Cost
Football Throw	$1.50
Dart Throw	$1.25
Goldfish Toss	$1.50
Balloon and Dart Throw	$2.50
Horse Race	$2.75
Ring Toss	$0.75

Stem	Leaf
0	75
1	25, 50, 50
2	50, 75

THE TRAVELING CIRCUS DATA (PG. 1 OF 2)

Name: _____

Directions: Use the information to fill in the Traveling Circus Data charts.

1 Make a stem-and-leaf plot of the number of circus visitors.

Number of Visitors to the Circus on Each of 10 Nights

Day	Number of Visitors
Friday	79
Saturday	85
Sunday	62
Monday	68
Tuesday	57
Wednesday	53
Thursday	77
Friday	81
Saturday	86
Sunday	64

Stem	Leaf

2 Use the data in the table to make a frequency chart of the circus goers' favorite attractions. Each tally in the frequency table should stand for 10 people.

Survey of Favorite Attractions*

Attraction	Number of Visitors
Lions	180
Elephants	110
Acrobats	270
Fireworks	140
Clowns	0

Lions	
Elephants	
Acrobats	
Fireworks	
Clowns	

*Each tally is 10 people.

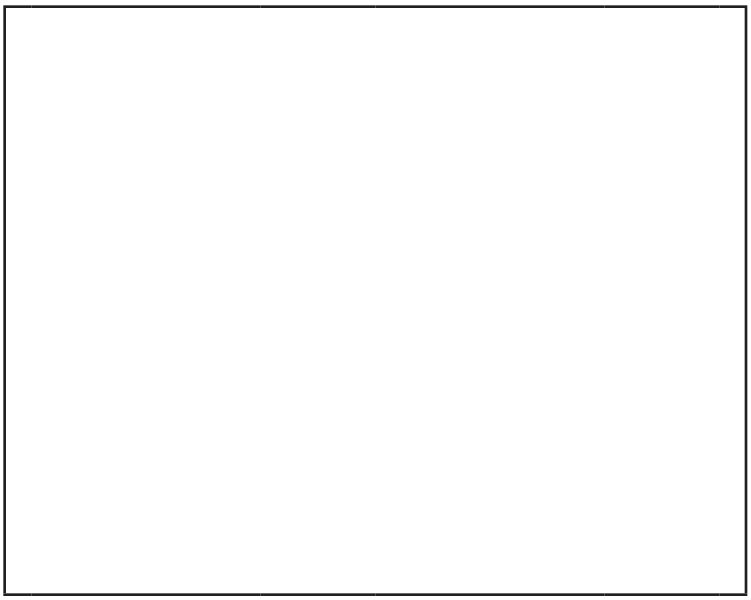
THE TRAVELING CIRCUS DATA (PG. 2 OF 2)

Name: _____

3 Make a dot plot that shows the number of flips each acrobat does.

Number of Flips Each Acrobat Performs During the Show

Acrobat	Number of Flips
John	6
Zach	8
Gloria	3
Lauren	16
Brian	9
Teresa	7



4 Make a stem-and-leaf plot that shows the cost of the midway games.

Cost of the Games at the Midway

Game	Cost
Football Throw	$1.50
Dart Throw	$1.25
Goldfish Toss	$1.50
Balloon and Dart Throw	$2.50
Horse Race	$2.75
Ring Toss	$0.75

Stem	Leaf

THE TRAVELING CIRCUS ANALYSIS (PG. 1 OF 2)

Name: _____

Directions: Use the **Traveling Circus Data** charts to answer the questions.

1 How many people attended the circus in all?

2 Write an equation to answer the following question:

How many more people preferred the acrobats to the elephants and fireworks combined?

3 How many people came to the traveling circus on the third-most-crowded night?

Is that more or less than the number of people who liked lions best?

Circle: MORE LESS

By how many?

4 Which acrobats did more flips, the boys or the girls?

Circle: BOYS GIRLS

If Gloria did twice as many flips, would the answer change?

THE TRAVELING CIRCUS ANALYSIS (PG. 2 OF 2)

Name: _____

5 How many people did not fill in a survey?

6 How many people picked the clown as their favorite attraction? Why do you think that is true?

7 Big Money Mike wanted to play every game at the Midway, but he didn't want to spend more than $8. Is that enough? If so, how much money would he have left over? If not, how much more money would he need?

8 How much more does the most expensive game at the midway cost than the least expensive game?

MOUNTAIN OF THE SHADOW PEOPLE

TEKS RS: 4.3E, 4.5A SS: 4.4C, 4.4F

Topic: One- & Two-Step Problems; All Operations; Adding & Subtracting Fractions with Pictorial Models; Strip Diagrams

WHAT IT'S ALL ABOUT!

Mountain of the Shadow People has 2 sections. In the first, students will estimate and then solve one- and two-step problems with all 4 operations. In the second, they will be provided a fraction problem that's been solved incorrectly along with a pictorial model. Students will identify the mistake, then solve the problem correctly.

IT'S A SETUP!

☐ Copy **Mountain of the Shadow People** for each student.

Students work together to solve the problems and find the mistakes.

ANSWER KEY

1. 980 shadow people

2. $20 \times 11 - 20 \times 5 = b$; 120 balloons

3. 196 shadow people

4. 338 animals

5. Answered the wrong question; $\frac{6}{8}$ or $\frac{3}{4}$

6. Multiplied wrong/used the wrong denominator; $\frac{35}{56}$ or $\frac{5}{8}$

7. Answered the wrong question; $\frac{2}{6}$ or $\frac{1}{3}$

8. Answered the wrong question; $\frac{20}{24}$ or $\frac{5}{6}$

Back to the Table of **Contents** Table of **Standards**

MOUNTAIN OF THE SHADOW PEOPLE (PG. 1 OF 4)

Name: _____

Directions: For Problems #1–#4, follow the directions for each problem. If you solve a problem, label your solution.

1 The shadow people live at the top of shadow mountain in 49 tiny villages. 20 shadow people live in each village. How many shadow people are there?

Estimate: _____

Draw an area model to solve the problem.

Solution: _____

2 In the happiest shadow village, each shadow person has 11 balloons. In the saddest shadow village, each person only has 5. How many more balloons does the happiest village have in total?

Write an equation that shows how to solve the problem.

Solution: _____

Name: _____

3 The Upper Shadow Council has 5 members. Each of the council members represents that same number of shadow people. How many people does each council member represent?

Draw a strip diagram. Then solve the problem.

Solution: _____

4 The magical shadow king is the ruler of all shadow people. His 400 dancing bears are divided into 4 equal-size groups and each group wears a different color hat—red, green, blue, or orange. He also has 38 dancing jaguars, but they don't wear hats. How many of his animals do not wear a red hat?

Draw a picture to show how you might solve the problem and then solve it.

Solution: _____

MOUNTAIN OF THE SHADOW PEOPLE (PG. 3 OF 4)

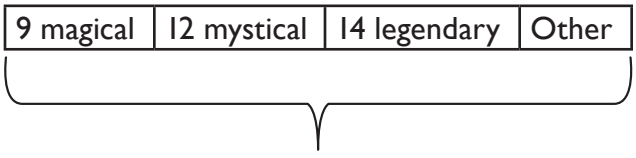
Name: _____

Directions: Each of Problems #5–#8 has been solved INCORRECTLY! Identify the mistake, then solve the problem correctly. If the picture that comes with the problem is incorrect, draw a new picture.

5 The shadow king lives in his stone castle at the top of the mountain. At the top of the castle are 8 towers, 1 for each of his daughters. 3 of the towers are red, 3 are gray, and 2 are black. What fraction of the towers are not black?

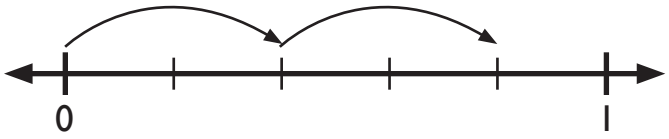
Problem Worked Wrong!	Mistake & Correct Solution
R R R G G G B B Solution: $\frac{2}{8}$ of the towers	

6 The shadow king has 8 daughters, and each daughter has 7 hairbrushes. Out of all the hairbrushes, 9 are magical, 12 are mystical, and 14 are legendary. What fraction of the hairbrushes are either magical, mystical, or legendary?

Problem Worked Wrong!	Mistake & Correct Solution
 54 hairbrushes Solution: $\frac{35}{54}$ hairbrushes	

Name: _____

7 One of the legendary hairbrushes used to have all its bristles studded with diamonds, but $\frac{2}{6}$ of the diamonds fell off. Then $\frac{2}{6}$ more were broken off when Shadow Mella threw the brush down the stairs. What fraction of the diamonds remained attached?

Problem Worked Wrong!	Mistake & Correct Solution
	

Solution: $\frac{4}{6}$ diamonds

8 The shadow king's eldest daughter is the ugliest of her siblings, but she has the nicest dreams of all the shadow people. In her last 24 dreams, she has flown 5 times, sailed 3 times, picked flowers 2 times, and eaten cake 10 times. In what fraction of her last 24 dreams did she fly, sail, pick flowers, or eat cake?

Problem Worked Wrong!	Mistake & Correct Solution

$\frac{5}{24}$ Flying Dreams	$\frac{3}{24}$ Sailing Dreams	$\frac{2}{24}$ Flower Dreams	$\frac{10}{24}$ Cake Dreams	Other

Solution: $\frac{1}{6}$ of the time

PREPARING TO OPEN THE CIRCUS OF DANGER!

TEKS RS: 4.4H SS: 4.4D, 4.4E, 4.4F

Topic: Multiplication & Division

WHAT IT'S ALL ABOUT!

This is a creative story where the answers determine the fate of the main character! Student groups will read part of a story, solve the problem, and then check their answer with you. If they answer correctly, you will give them the next problem and allow them to continue the story. If their answer is incorrect, they will receive a sheet that describes the unfortunate consequences that befall the main character. Students who answer all four problems correctly will see the story through to the end. The skills in these problems range across the standards for 4th grade math.

IT'S A SETUP!

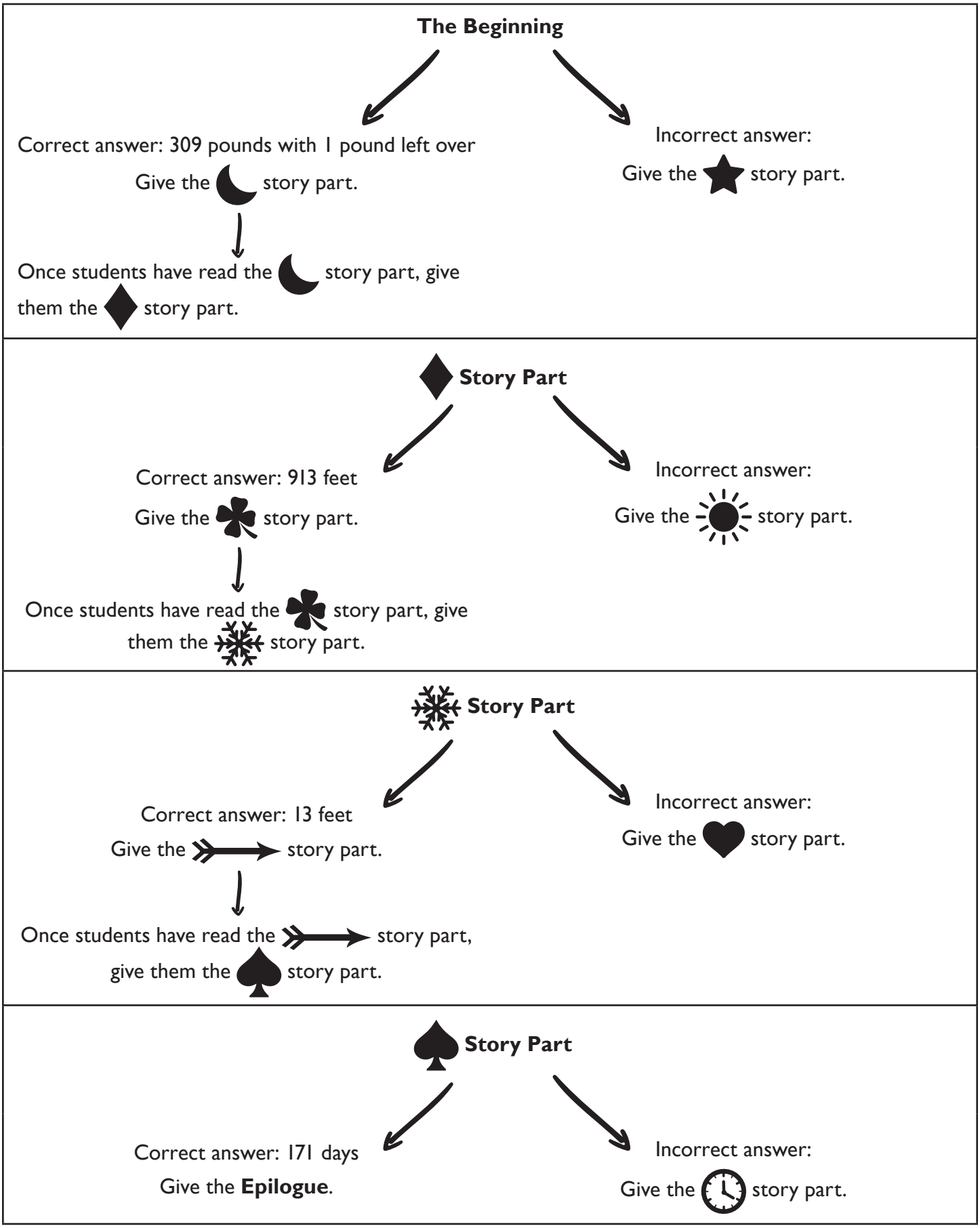
- ☐ Make 1 copy of **Preparing to Open the Circus of Danger!** (PGS. 64 - 67) for every 2–3 students.
- ☐ Cut apart the story. Be sure to keep the story parts in order. (You might consider putting each part in an envelope.) When you give each card to the students, make sure they can't see whether they are right or wrong. You want them to read the entire card!
- ☐ Copy 1 set of **Group Role Cards** for every 2–3 students. Cut them apart.

Place students in groups of 2–3. Give **The Beginning** and one set of **Group Roles** cards to each group of students. Explain how the activity works.

1. Reader reads the story aloud.
2. Decoder explains the story in their own words.
3. All 3 students work together to solve the problem. Recorder writes down their thinking and brings the solution to the teacher.
4. Check the answer against the table below. DON'T tell Recorder if the answer is right or wrong.
   - If the solution is correct, the teacher gives Recorder the part of the story listed in the chart below. This story part has no question. After the group reads this portion of the story, Recorder will return the card to the teacher and receive the next story part.
   - If the solution is incorrect, students will work together to find the correct solution.
5. Recorder brings back the new story part and the students switch roles.

Back to the Table of **Contents** Table of **Standards**

PREPARING TO OPEN THE CIRCUS OF DANGER!



GROUP ROLE CARDS

Reader

Decoder

Recorder

PREPARING TO OPEN THE CIRCUS OF DANGER! (PG. 1 OF 4)

Directions: Cut the table apart into rows.

The Beginning

The Circus of Danger was preparing to open for its first show ever! With all its wonders and excitement, it was sure to please everyone. But there was a problem. Everyone in the circus was doing their job for the first time, from the lion tamer to the acrobats to the snake charmer.

The lion tamer was ordering food by the truckload to be sure that he had enough to feed the hungry lions. He figured that 1,237 pounds of food would be enough to last the lions for 4 weeks. How many pounds of food do the lions eat each week, and how much would be left over?

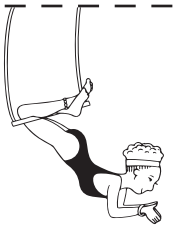
The lion tamer was a bit scared. The food had run out 2 days earlier, and the show was in a few hours. He thought he had done his math correctly, but he was never very good with remainders. He was sweating as he dressed in his costume. It was making his stage makeup run a little. He had to go into the lions' den to put their colored hats on. After grabbing the hats and opening the cage door, he heard a deep growl. The lions started circling and licking their lips.

"Help!" You could hear him from a mile away. **TRY AGAIN!**

It was very lucky for the Circus of Danger, and for the lions, that the brand-new lion tamer had been a very good math student! He ordered plenty of food for the lions to be satisfied during their training and all through the show.

On the night of the premiere, he marched them out of their cages in a line, each one wearing a colored hat. (The lions thought that the hats were silly, but none of them said anything about it.) In the center of the stage, the lions jumped through hoops of fire, danced, and played. The crowd loved it. One person in the audience threw flowers. The biggest lion picked the flowers up with his teeth and gave them to the lion tamer. Then they all trotted back out of the tent. **SUCCESS!**

PREPARING TO OPEN THE CIRCUS OF DANGER! (PG. 2 OF 4)



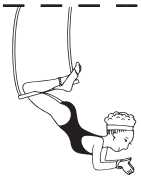
The Circus of Danger needed rope cut for its new trapeze act. It had to be exactly the right length. If the rope was too short, then the acrobats wouldn't swing far enough to make it to the next trapeze. If the rope was too long, then the acrobat wouldn't swing at all.

Arissa was measuring out the rope in feet. She needed to make 11 trapezes, each 83-feet long. How many feet of rope did she need?

Arissa was pretty sure she had enough rope, and pretty sure that she had divided it out correctly. She wished that she could be surer. After all, it was her first time doing this.

The first acrobat was Leopold the giant. He climbed a huge ladder up to the top of the tent and grabbed ahold of the trapeze handles. Leopold took a breath and jumped. As he dropped, he prepared to kick his legs out to swing forward, but the rope didn't swing. He just kept falling. And falling. Arissa realized that she must have cut the ropes much too long. Half the crowd was staring at Leopold, and the other half was looking away.

Leopold fell the whole way. **TRY AGAIN!**



Arissa was new at cutting rope, but she was pretty good at measuring it. 11 trapezes, each one 83 feet long. She had them cut and tied quickly. When it was time for the show, she hung them up, one by one, along the top of the circus tent.

Leopold the giant, the first acrobat, took his bows and climbed the ladder. He was about to make the first swing. Leopold took a breath and jumped. The giant fell several feet, then swung along in a perfect arc. He hopped from one trapeze to the next, and then the next, like a frog jumping across lily pads.

Then his brother giants came behind him. Soon there were 7 giant men flipping and flying through the air. The audience stood, screaming and cheering. One by one they landed on the ground safely, then walked out of the tent. **SUCCESS!**

PREPARING TO OPEN THE CIRCUS OF DANGER! (PG. 3 OF 4)

Maddie Marlin, the daring diver, was preparing to make a really high dive into a tiny pool of water. In order to do it just right, she had to bring her arms into position at just the right moment. Too early or too late, and she might miss the pool.

20 feet off the ground, along the ladder that led to the diving board, there was a red ribbon tied to a pole. The diving board was 58 feet above the ribbon. Maddie's arms needed to be in perfect position when she was 71 feet beneath the diving board. How far from the red ribbon would she be?

Maddie's heart was pounding as she climbed the ladder on opening night. The crowd was cheering for her, but all she could hear were own nervous thoughts.

- ✔ Did she measure the distance correctly?
- ✔ Did she calculate everything?
- ✔ Was there enough water in the pool?

She reached the end of the diving board and struck a pose. Then she jumped, flipping one time just like she practiced. She fell and waited for the moment. Suddenly, she panicked. Was it before or after the red ribbon? When was she supposed to fix her hands? The pool was getting closer, but she wasn't aimed at it anymore.

And Maddie went splat. **TRY AGAIN!**

Maddie was nervous as she climbed the ladder, but she breathed slowly and deeply. She knew what she had to do. Everything had been planned out perfectly and then double-checked. She reached the front of the diving board and struck a pose. The crowd was cheering. Maddie could see the flashes of their cameras in the distance. She jumped and flipped, just like she had practiced. Then she waited.

When the moment came, she stretched her arms and slipped into the water. It was a perfect dive. Maddie landed so smoothly that there was no splash at all. The crowd went silent with amazement for just a moment. Then Maddie leapt out of the water and flipped again! She landed with her arms out and took a bow. **SUCCESS!**

Glenna practiced every day with her chorus of 50 dancing snakes. She would play her flute, and the snakes would follow the music. They would bob their heads and turn their tails. The rattlesnakes would rattle their rattles. The snakes were very well trained. They knew to follow the music.

Glenna practiced her tune of enchantment for exactly 3 hours every day leading up to opening night. It would take her exactly 513 hours of practice to get the tune right. On how many days would she need to practice before the Circus of Danger began?

The snakes slithered behind Glenna as she walked out into the center of the circus tent. Everything was going well so far. Her snake-charming song was slow and pretty. The crowd had quieted down to a whisper so that they could hear (and so the snakes could hear too). Each snake lifted their head and nodded in turn, then spun in a circle, as Glenna played.

But, as Glenna approached the last part of her song, she suddenly forgot the tune! She stopped and stared. So did the snakes. Then, one by one, the snakes started to wander away. Glenna tried to chase them, but that just made them go faster. The snakes went as fast as they could—toward the audience! The crowd started screaming. They knew immediately that this was not supposed to happen. They dropped their things and ran to their cars.

The circus had ended. **TRY AGAIN!**

Epilogue

Glenna's flute played a piping tune as she marched out into the circus tent. All 50 snakes danced as they came in behind her. When she reached the center of the tent, she blew her flute hard and the snakes came to a stop. Then they started to turn in circles. A few jumped in the air and flipped. One slithered up the trapeze and started acting out Leopold the Giant's routine! Everyone loved it. With a toot of her flute, the snakes came to a stop, and they all went back out of the tent. **SUCCESS!**

What a night!

THE ELECTRIC TRENCH AND THE BIG UGLY PEARL

TEKS | **RS:** 4.4H | **SS:** 4.4C, 4.4D, 4.4E, 4.4F

Topic: Division with Remainders; Multiplication Including Perfect Squares

WHAT IT'S ALL ABOUT!

This is a creative story where the answers determine the fate of the main character! Student groups will read part of a story, solve the problem, then check their answer with you. If they answer correctly, you will give them the next problem and allow them to continue the story. If their answer is incorrect, they receive a sheet that describes the unfortunate consequences that befall the main character. Students who answer all four problems correctly will see the story through to the end. The skills in these problems range across the standards for 4th grade math.

IT'S A SETUP!

- ☐ Make 1 copy of **The Electric Trench and the Big Ugly Pearl** (PGS. 70 - 73) for every 2–3 students.
- ☐ Cut apart the story. Be sure to keep the story parts in order. (You might consider putting each part in an envelope.) When you give each card to the students, make sure they can't see whether they are right or wrong. You want them to read the entire card!
- ☐ Gather the **Group Role Cards** you prepared for the previous activity (PG. 63).

Place students in groups of 2–3. Give **The Beginning** and one set of **Group Roles** cards to each group of students. Explain how the activity works.

1. Reader reads the story aloud.
2. Decoder explains the story in their own words.
3. All 3 students work together to solve the problem. Recorder writes down their thinking and brings the solution to the teacher.
4. Check the answer against the table below. DON'T tell Recorder if the answer is right or wrong. Give Recorder the part of the story listed in the chart below.
5. Recorder brings back the new story part and the students switch roles.

Back to the Table of **Contents** Table of **Standards**

THE ELECTRIC TRENCH AND THE BIG UGLY PEARL

The Beginning

Correct answer: No; 121 miles
Give the  story part.

Incorrect answer:
Give the  story part.

 **Story Part**

Correct answer: 1,491 feet
Give the  story part.

Incorrect answer:
Give the  story part.

 **Story Part**

Correct answer: 196 squares
Give the  story part.

Incorrect answer:
Give the  story part.

 **Story Part**

Correct answer: 9,142; run
Give the **Epilogue**.

Incorrect answer:
Give the  story part.

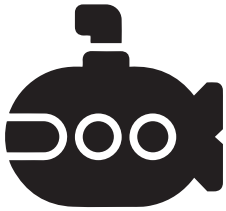
THE ELECTRIC TRENCH AND THE BIG UGLY PEARL (PG. 1 OF 4)

Directions: Cut the table apart into rows.

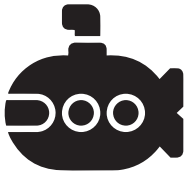
The Beginning

The Honeysuckle twins, Amelia and Emilio, were on a journey to find the Big Ugly Pearl, a jewel of great value. They took their submarine deep into the ocean to the Electric Trench, which was a beautiful place, full of creatures that science does not understand yet.

It would be a journey of 6,321 miles to get there and back again. They brought along four big oxygen tanks. Each tank would last 1,550 miles. Do they have enough oxygen? By how much?



Emilio ran through the submarine searching for more tanks. He must have packed wrong. He looked under shelves and behind everything—he even looked in the trash! But there weren't any more. If they made it to the bottom of the Electric Trench, they wouldn't have enough air to make it back. For today, the twins' adventure was over. **TRY AGAIN!**



Everything was checked and double-checked on Emilio's list, including the oxygen tanks. They were totally prepared. Amelia navigated the submarine deep into the Electric Trench. It was completely dark that far underwater, so they used a giant flashlight on the front of the submarine.

After two hours of searching, they found the cave where the Big Ugly Pearl was supposed to be. Emilio and Amelia put on their diving suits and attached their safety tethers so that they would have a way back to the submarine. Between the two of them, they had 2,982 feet of tether. How long was each tether?

THE ELECTRIC TRENCH AND THE BIG UGLY PEARL (PG. 2 OF 4)

Amelia and Emilio swam through the cave searching for the pearl. Emilio carried a large flashlight to light the way, but he had to be careful not to move it too much. The twins needed to see, but they didn't want any creatures in the cave to notice them.

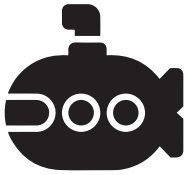
Suddenly he stopped as his tether pulled tight. Emilio had run out of rope! The tether pulled him back, causing him to fling the flashlight up toward the roof of the cave. The flashlight floated up and shined a light on something strange. It looked like a giant spiky octopus. The creature opened one eye and started moving toward the twins. They had awakened something dangerous. **TRY AGAIN!**

Amelia went first as the twins made their way through the cave toward the pearl. Emilio carried a big flashlight to light the way, but he was careful not to move it too much. Any extra light might disturb whatever creatures were hiding there, and that could be dangerous.

Then Amelia spotted the Big Ugly Pearl! It was hidden in a rock formation on the cave floor. She knew from her reading that the pearl was caught in a stone trap, and that the only way to release it was to press down on each tiny square on the cave floor. The tiny squares were sitting under the pearl in 14 rows and 14 columns. How many squares did they need to press?

Amelia pressed each one in turn, but she must have missed something. The cave started to rumble, and the rock trap that held the Big Ugly Pearl collapsed. The pearl broke into pieces. The rumbling didn't stop there, though. The walls began to cave in!

Amelia and Emilio began pulling on their safety tethers so they could get back to the submarine. They swam as fast as they could while the cave broke apart around them. Emilio made it out. Amelia didn't. **TRY AGAIN!**



Amelia went very slowly, making sure not to miss a single square. Emilio helped by pointing out one in the corner that she didn't see.

After pressing them all, the trap opened and the Big Ugly Pearl slid out. Emilio picked it up. He could see why it got its name. It was the ugliest rock he had ever seen.

The twins made their way out of the cave slowly and carefully. When they reached the opening, they could see their submarine, but it was covered by tiny lightning eels! If the eels got scared and shocked them or attacked the submarine, it could be very bad.

The twins swam to the submarine, and, luckily, they made it inside without getting shocked. The lightning eels were clinging to the outside of the submarine. Emilio knew they had two choices.

CHOICE #1: They could turn on the submarine's electric shield, to scare off the eels. But if there were more than 9,000 eels, the shield wouldn't work. Instead, the lightning eels could suck off the submarine's power and leave the twins stuck.

CHOICE #2: They could just drive the submarine away as fast as possible and hope for the best.

The eels were swarming while they thought about it. Emilio counted 7 groups of eels, and Amelia knew from research that lightning eels gathered in groups of 1,306. How many eels were there? Should they activate the shield or run?

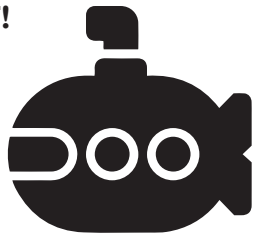
Emilio turned on the shield. The submarine charged all its energy for 5 seconds, and then the lights went out. There were just too many eels. They fed off the energy from the shield, but that wasn't enough. Now they were eating the rest of the submarine's electricity.

The twins heard a strange squawking noise and realized the eels were calling the rest of their pack. Soon they couldn't see out the window. The submarine was covered in lightning eels. Their power was drained. Amelia ran and activated the emergency beacon. They just had to hope someone would find them before they ran out of air. **TRY AGAIN!**

Epilogue

There were too many eels for the shield. They would just have to run. Amelia drove the submarine faster than she ever had before. The metal sides creaked and groaned from the strain, but it held together. The engine was shaking, and the eels were still holding on. The lights in the sub got dimmer. The lightning eels were feeding on the submarine's electricity! There was nothing to do but go faster. The eels lived in the deep ocean. If the submarine could make it up to the surface, the twins would be safe.

Emilio held the Big Ugly Pearl tight in his hands. He had no idea why it was worth all this trouble, but at least they had gotten it. At 500 feet below the surface, the eels started to screech and squeal. They didn't like it there. Amelia kept pushing the sub to go faster, but it wouldn't. There just wasn't any power. At 350 feet, the lights started getting brighter. The eels were letting go. The last of them left the submarine at 200 feet below the surface. Amelia slowed down and brought them safely back, then set a new course to go home. The danger was over. The mission was a success. **YOU DID IT!**



CM GRID PAPER