Home Links

Common Core Units 8, 10, 11

Everyday Math Grade 3

Name: _____

Teacher: _____

Name Date Time

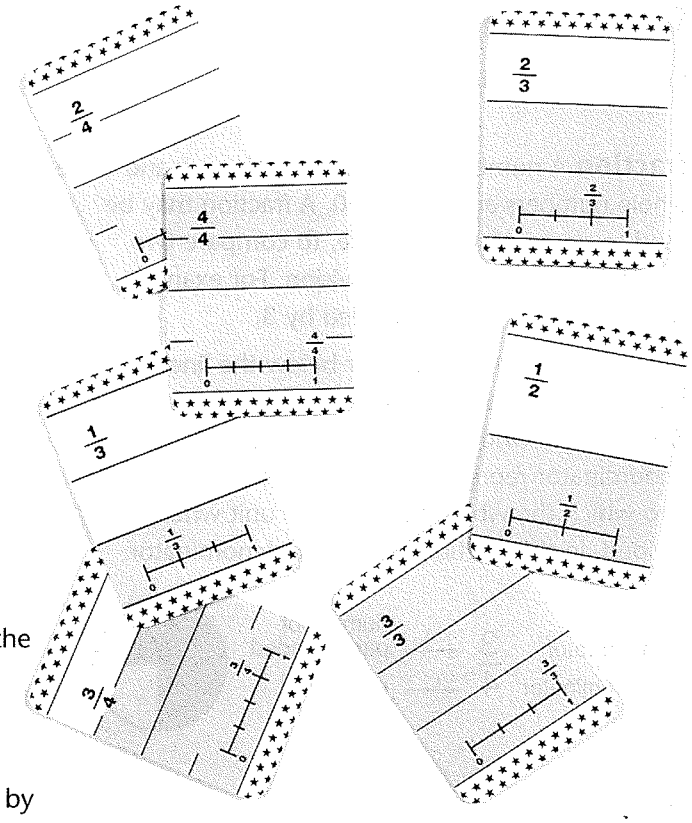
HOME LINK 7•10

Unit 8: Family Letter

Fractions

Unit 8 has two primary objectives:

- to review the uses of fractions and fraction notation
- to help children develop a solid understanding of equivalent fractions, or fractions that have the same value

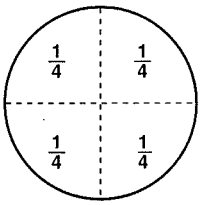


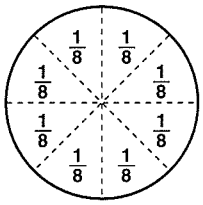
The second objective is especially important, because understanding equivalent fractions will help children compare fractions and, later, calculate with fractions.

Children will build their understanding of equivalent fractions by working with Fraction Cards and name-collection boxes. Fraction Cards are shaded to show a variety of fractions.

Name-collection boxes contain equivalent names for the same number. For example, a $\frac{1}{2}$ name-collection box can contain fractions such as $\frac{2}{4}$, $\frac{3}{6}$, and $\frac{4}{8}$ and the decimal 0.50.

Children will also generate lists of equivalent fractions by folding circles and rectangles into different numbers of equal parts.





$\frac{1}{2}$	
$\frac{1}{4} + \frac{1}{4}$	$\frac{3}{6}$
$1 - \frac{1}{2}$	$\frac{5}{10}$
$1 \div 2$	$\frac{3}{4} - \frac{1}{4}$

Throughout this unit, children will make up and solve number stories involving fractions in everyday contexts. They will solve number stories about collections of real-world objects such as crayons, books, and cookies.

Finally, children will begin to name quantities greater than 1 with fractions such as $\frac{3}{2}$ and $\frac{5}{4}$ and with mixed numbers such as $2\frac{1}{3}$.

Please keep this Family Letter for reference as your child works through Unit 8.

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Vocabulary

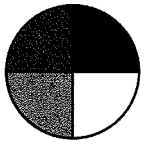
Important terms in Unit 8:

fraction A number in the form $\frac{a}{b}$ where a and b are whole numbers and b is not 0. A fraction may be used to name part of a whole, to compare two quantities, or to represent division. For example, $\frac{2}{3}$ can be thought of as 2 divided by 3.

denominator The number below the line in a fraction. A fraction may be used to name part of a whole. If the whole is divided into equal parts, the denominator represents the number of equal parts into which the whole (the ONE or unit whole) is divided. In the fraction $\frac{a}{b}$, b is the denominator.

numerator $\frac{3}{4}$ ← number of parts shaded

denominator $\frac{3}{4}$ ← number of equal parts



numerator The number above the line in a fraction. A fraction may be used to name part of a whole. If the whole (the ONE or unit whole) is divided into equal parts, the numerator represents the number of equal parts being considered. In the fraction $\frac{a}{b}$, a is the numerator.

equivalent fractions Fractions with different denominators that name the same number. For example, $\frac{1}{2}$ and $\frac{4}{8}$ are equivalent fractions.

mixed number A number that is written using both a whole number and a fraction. For example, $2\frac{1}{4}$ is a mixed number equal to $2 + \frac{1}{4}$.

Building Skills through Games

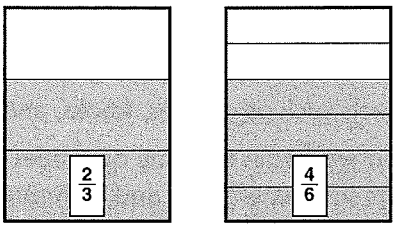
In Unit 8, your child will practice multiplication skills, build his or her understanding of fractions, and practice skills related to chance and probability by playing the following games. For detailed instructions, see the *Student Reference Book*.

Baseball Multiplication

Players use multiplication facts to score runs. Team members take turns pitching by rolling two dice to get two factors. Then players on the batting team take turns multiplying the two factors and saying the product.

Equivalent Fractions Game

Players take turns turning over Fraction Cards and try to find matching cards that show equivalent fractions.



Fraction Top-It

Players turn over two Fraction Cards and compare the shaded parts of the cards. The player with the larger fraction keeps all the cards. The player with more cards at the end wins!

The Block-Drawing Game

Without letting the other players see the blocks, a Director puts five blocks in a paper bag and tells the players how many blocks are in the bag. A player takes a block out of the bag. The Director records the color of the block for all players to see. The player replaces the block. At any time, a player may say *Stop!* and guess how many blocks of each color are in the bag.

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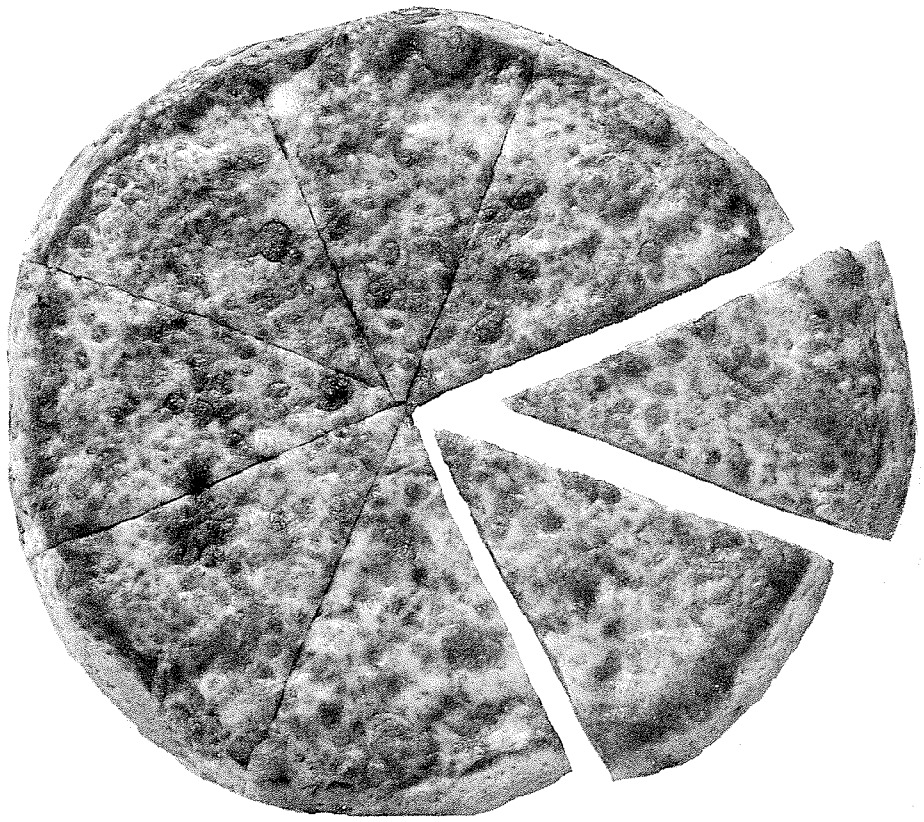
Do-Anytime Activities

To work with your child on the concepts taught in this unit and in previous units, try these interesting and rewarding activities:

1. Help your child find fractions in the everyday world—in advertisements, on measuring tools, in recipes, and so on.
2. Count together by a 1-digit number. For example, start at 0 and count by 7s.
3. Dictate 5-, 6-, and 7-digit numbers for your child to write, such as *thirteen thousand, two hundred forty-seven* (13,247) and *three million, two hundred twenty-nine thousand, eight hundred fifty-six* (3,229,856). Also, write 5-, 6-, and 7- digit numbers for your child to read to you.
4. Practice extended multiplication and division facts such as $3 \times 7 =$ __, $30 \times 7 =$ __, and $300 \times 7 =$ __, and $18 \div 6 =$ __, $180 \div 6 =$ __, and $1{,}800 \div 6 =$ __.



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Name Date Time

HOME LINK 8•1

Fractions All Around

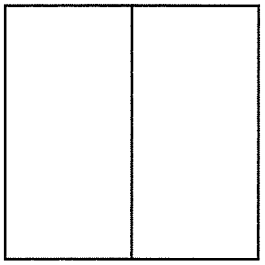
Family Note Help your child understand the idea of the ONE as well as fractions of objects and sets. Help your child look for objects and pictures that have fractions or decimals printed on them.

Please return this Home Link to school tomorrow.

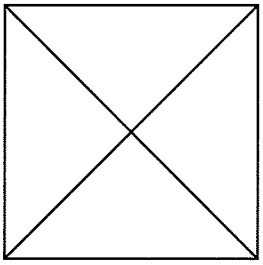
SRB 22–24

Each square flag below represents the ONE. Write the fractions that name each region inside each flag.

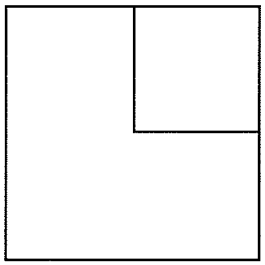
1.



2.



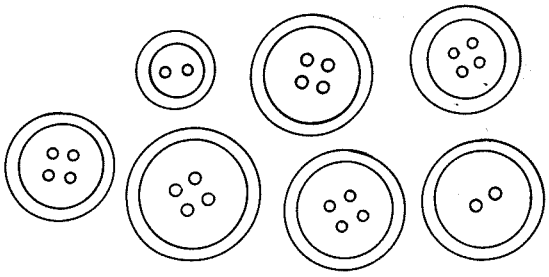
3.



Write the fractions.

4. _____ of the buttons have 4 holes.

5. _____ of the buttons have 2 holes.



Look for items around your home that have fractions or decimals on them, such as recipes, measuring cups, wrenches, package labels, or pictures in newspapers. Ask permission to bring them to school to display in our Fractions Museum.

Practice

Unit

Solve. Show your work.

6. 275 − 88

7. 684 − 97

8. 429 − 237

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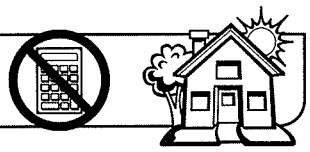
Name Date Time

HOME LINK 8•2

Drawing Blocks

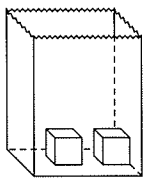


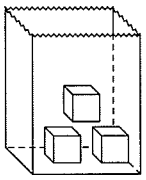
Family Note Have your child explain how to decide how many red blocks to put into each bag in the problems below. If you have time, do the block-drawing experiments with your child and record the results on the back of this page. Ask your child to explain how to do the experiments.

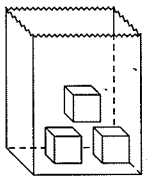
Please return this Home Link to school tomorrow.

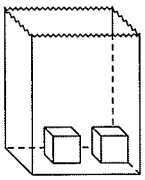
Color the blocks in the bag blue.

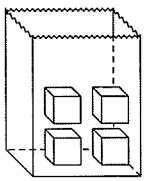
Answer each question about how many red blocks to put into the bag.











Example: If I wanted to take out a blue block twice as often as a red block, I would put in 1 red block.

1. If I wanted to be sure to take out a blue block, I would put in ____ red block(s).

2. If I wanted to have an equal chance of taking out a red or blue block, I would put in ____ red block(s).

3. If I wanted to take out a red block about 3 times as often as a blue block, I would put in ____ red block(s).

4. If I wanted to take out a red block about $\frac{1}{2}$ of the time, I would put in ____ red block(s).

Practice

Unit

Solve. Show your work.

5. 765 − 567

6. 987 − 789

7. 432 − 234

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Name Date Time

HOME LINK 8•3

Fraction Number Stories

Family Note Your child may benefit from modeling the number stories with pennies or counters. Help your child think about the problems as stories about equal shares or equal groups.

Please return this Home Link to school tomorrow.

Solve each problem. Tell someone at home how you did it.
Draw a picture on the back if it will help.

1. Lucy was playing a card game with 2 friends.
They were playing with a deck of 21 cards.
Lucy dealt $\frac{1}{3}$ of the deck to each person.
How many cards did Lucy get? _____ cards

2. Jonathan bought 12 pencils. He gave $\frac{1}{2}$ of them to his brother and $\frac{1}{4}$ of them to his friend Mike.
How many pencils did he give to Mike? _____ pencils

3. Gerard was reading a book with 40 pages.
He read 10 pages in an hour.
What fraction of the book did he read in an hour? _____

4. Melissa was reading a book with 50 pages.
She read 10 pages in an hour.
What fraction of the book did she read in an hour? _____

Follow the instructions below.

5. Draw 15 small circles. Circle $\frac{3}{5}$ of them.

6. Draw 12 small circles. Put an X through $\frac{3}{4}$ of them.

Name Date Time

HOME LINK 8•4

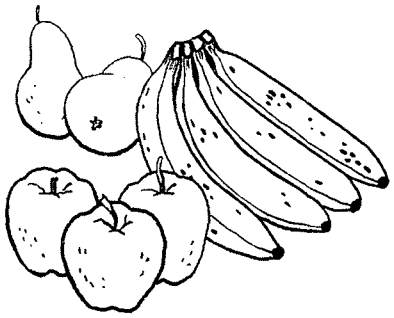
Fraction Puzzles

Family Note We have been working with fractions of regions and sets. Ask your child to explain how he or she knows which fractions to write in Problem 1. Today we began to think of fractions on a number line. For Problem 2, help your child count the number of intervals from 0 to 1 in order to figure out which fraction each small mark indicates.

Please return this Home Link to school tomorrow.

SRB 22 24 26

1. How many pieces of fruit are shown? _____



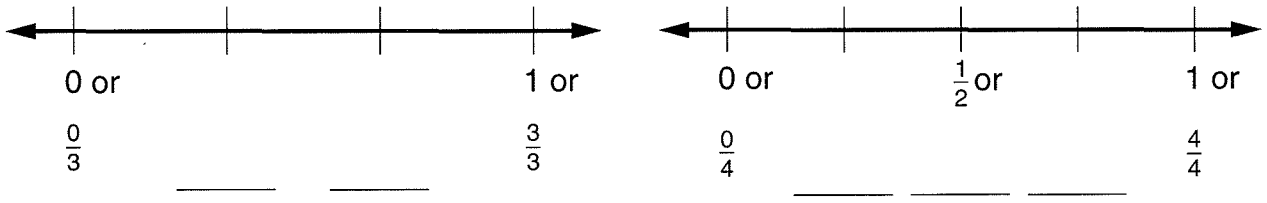
_____ of the fruit are bananas.

_____ of the fruit are pears.

_____ of the fruit are apples.

What fraction of the fruit are oranges? _____

2. Fill in the missing numbers on each number line.



Practice

Write these problems on the back of this page. Solve and show your work.

3. 444 − 398 = _____

4. 777 + 492 = _____

5. _____ = 888 − 678

6. 324 = _____ − 675

Continue to look for items and pictures that have fractions or decimals on them. Ask for permission to bring them to school for the Fractions Museum.

Name Date Time

HOME LINK 8•5

Equivalent Fractions

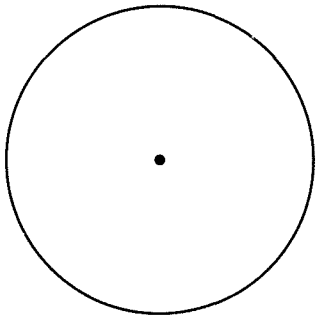
Family Note The class continues fraction work by finding equivalent names for fractions. Different fractions that name the same amount are called equivalent fractions. The fractions that complete Problems 4–6 are equivalent. If needed, help your child name the fractional parts in these problems. Ask your child to explain the fraction name she or he chooses in Problem 9—a fraction that is equivalent to $\frac{1}{4}$ and describes the fraction of cats circled.

Please return this Home Link to school tomorrow.

SRB 27–30

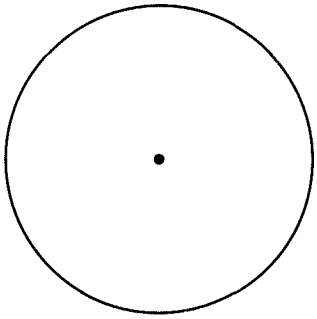
The pictures show three kinds of pie. Use a straightedge to do the following:

1. Divide the peach pie into 4 equal pieces. Shade 2 of the pieces.



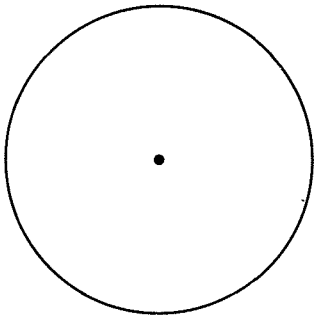
peach pie

2. Divide the blueberry pie into 6 equal pieces. Shade 3 of the pieces.



blueberry pie

3. Divide the cherry pie into 8 equal pieces. Shade 4 of the pieces.



cherry pie

What fraction of each pie did you shade?

4. I shaded _____ of the peach pie.
Write another name for this fraction: _____

5. I shaded _____ of the blueberry pie.
Write another name for this fraction: _____

6. I shaded _____ of the cherry pie.
Write another name for this fraction: _____

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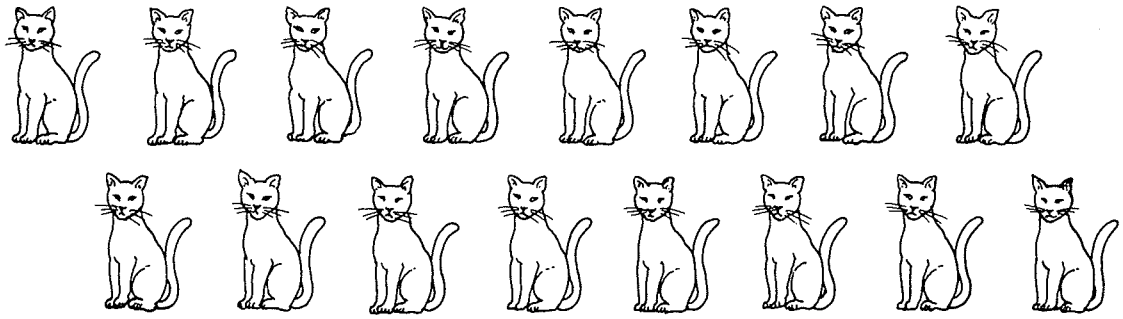
Name Date Time

HOME LINK 8•5

Equivalent Fractions *continued*

7. Circle $\frac{1}{4}$ of the cats.

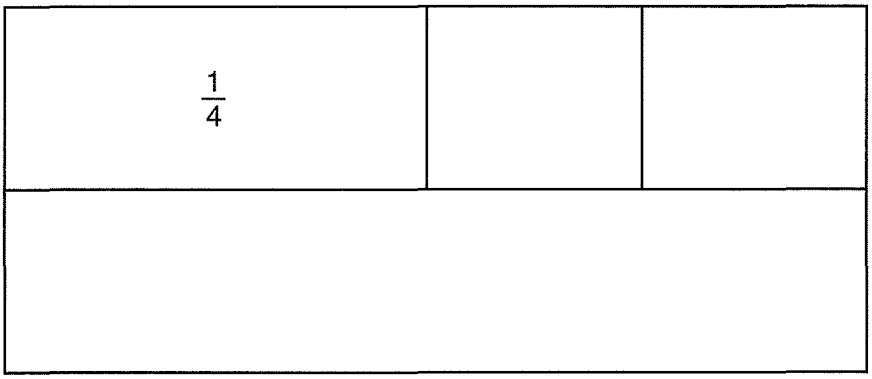


8. How many cats did you circle? _____

9. Write a fraction that describes the group of cats you circled and that is equivalent to $\frac{1}{4}$. _____

Each whole rectangle below is ONE. Write a fraction inside each part.

10.



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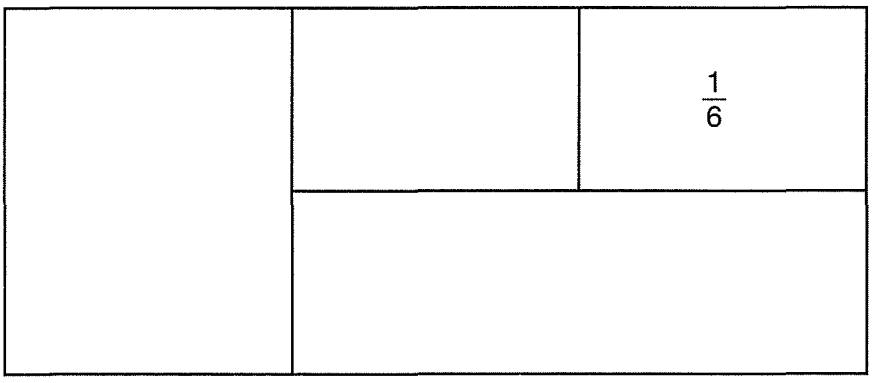

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Name Date Time

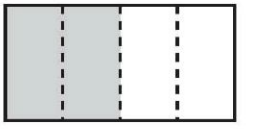
HOME LINK 8•6

Comparing Fractions to $\frac{1}{2}$

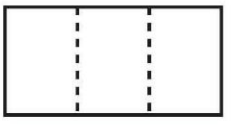
Family Note Your child's class is comparing fractions to determine whether they are larger, smaller, or equal to $\frac{1}{2}$. Ask your child to explain how to tell which category a fraction fits into. For more on this topic, see *Student Reference Book* pages 13, 31, and 32.

Please return this Home Link to school tomorrow.

Shade each rectangle to match the fraction below it. **Example:** $\frac{2}{4}$

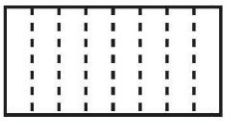


1.



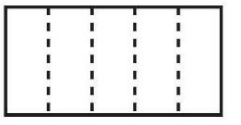
$\frac{2}{3}$

2.



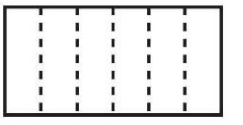
$\frac{3}{8}$

3.



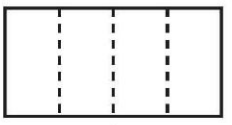
$\frac{2}{5}$

4.



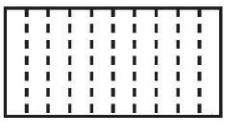
$\frac{3}{6}$

5.



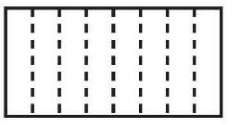
$\frac{1}{4}$

6.



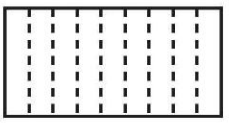
$\frac{5}{10}$

7.



$\frac{7}{8}$

8.



$\frac{5}{9}$

9. List the fractions above that are greater than $\frac{1}{2}$. _____

10. List the fractions above that are equal to $\frac{1}{2}$. _____

Insert $<$, $>$, or $=$ in each problem below. Draw pictures to help you.

11. $\frac{6}{8}$ _____ $\frac{1}{2}$

12. $\frac{2}{9}$ _____ $\frac{1}{2}$

13. $\frac{10}{12}$ _____ $\frac{1}{2}$

14. $\frac{6}{12}$ _____ $\frac{1}{2}$

$<$ means *is less than*
$>$ means *is greater than*
$=$ means *is equal to*

Practice

Solve.

15. $7 \times 8 =$ _____

16. $54 = 6 \times$ _____

17. $8 \times$ _____ $= 24$

18. $9 \times 8 =$ _____

Name Date Time

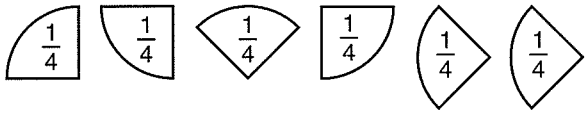
HOME LINK 8•7

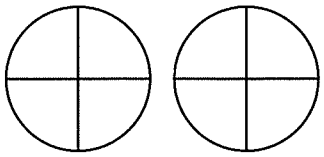
Fractions and Mixed Numbers

Family Note Today the class began looking at fractions greater than 1 and mixed numbers. We have been working with region or area models (shaded areas) for these numbers. Problem 5 asks about fractions of a set. The *whole* is a dozen eggs, so each egg is $\frac{1}{12}$ of the whole. Have your child explain how he or she figured out what the fraction and mixed number should be for the egg-carton drawings.

Please return this Home Link to school tomorrow.

1.





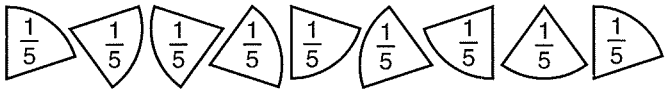
How many fourths? _____ fourths

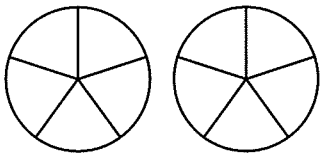
Color 6 fourths.

Write the fraction: _____

Write the mixed number: _____

2.





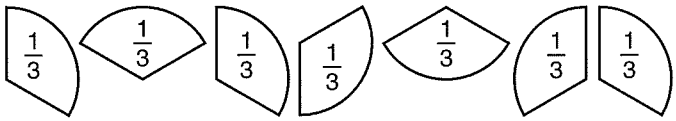
How many fifths? _____ fifths

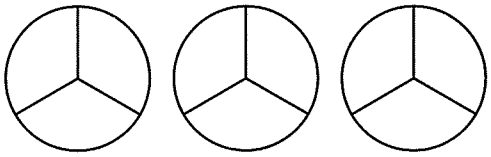
Color 9 fifths.

Write the fraction: _____

Write the mixed number: _____

3.





How many thirds? _____ thirds

Color 7 thirds.

Write the fraction: _____

Write the mixed number: _____

258

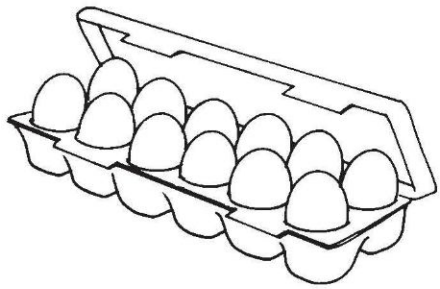
Name Date Time

HOME LINK 8•7

Fractions and Mixed Numbers *cont.*

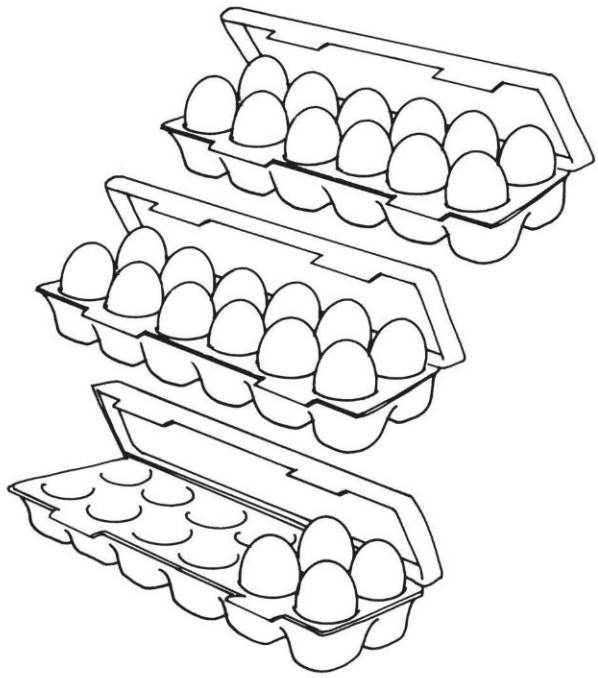
Try This

4.



What fraction of the WHOLE carton is each egg? $\frac{\square}{12}$

5.



Write the fraction: $\frac{\square}{12}$

Write the fraction as a mixed number: $\square\ \frac{\square}{12}$

Practice

Write these problems on the back of this page. Solve and show your work.

6. 301 − 288

7. 27 + 19

8. 600 − 476

9. 131 + 99

Name Date Time

HOME LINK 8•8

Fraction Number Stories

Family Note In class we have been solving many kinds of fraction number stories. If some of these Home Link problems seem difficult, encourage your child to model them with pennies or draw pictures to help solve them.

Please return this Home Link to school tomorrow.

Solve these fraction stories. Use pennies, counters, or pictures to help.

1. Elizabeth bought a dozen eggs. She dropped her bag on the way home, and $\frac{2}{3}$ of the eggs broke. How many eggs broke? _____ eggs

2. Katie mowed $\frac{3}{4}$ of the lawn before lunch. What fraction of the lawn did she have to finish after lunch? _____ of the lawn

3. Donnie lives 1 mile from school. One day he walked $\frac{1}{2}$ of the way to school when he remembered he had to return home to get a book. When he finally made it to school, how far did he walk in all? _____ miles

4. Sheridan made 4 trays of cookies. She took 2 trays to school for her classmates. She took $\frac{3}{4}$ of a tray of cookies to her teacher. How many trays of cookies did Sheridan have left? _____ trays

5. Jackson needed 2 pints of milk for his recipe. If he had one gallon of milk in the refrigerator, how much did he use? (*Hint:* 1 gallon = 4 quarts, and 1 quart = 2 pints) _____ gallon

Practice

Unit

Write these problems on the back of this page. Solve and show your work.

6. 2,083 + 4,678 = _____

7. 6,714 − 3,806 = _____

8. 4,762 + 4,762 = _____

Name Date Time

LESSON 8•9

Self Assessment

Progress Check 8

Check one box for each skill.

Skills	 I can do this on my own and can explain how to do it.	 I can do this on my own.	 I can do this if I get help or look at an example.
1. Read and write fractions.			
2. Compare fractions to $\frac{1}{2}$.			
3. Find fractional parts of collections.			
4. Write fractions on a number line.			
5. Complete a symmetrical shape.			
6. Tell the value of each digit in a decimal.			

HOME LINK 10•1

Home Link 10.1

Use the information below to complete problems 1-9.

12 inches = 1 foot
3 feet = 1 yard
36 inches = 1 yard
5280 feet = 1 mile

1. 24 inches = _____ feet
2. _____ feet = 3 yards
3. 4 yards = _____ feet
4. _____ feet = 2 miles
5. 2 yards = _____ feet
6. 5 feet = _____ inches
7. 72 inches = _____ feet
8. 15 feet = _____ yards
9. 18 inches = _____ feet

HOME LINK 10•2

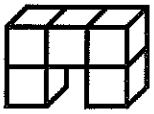
Name: _____

Volume Cubes

Volume is the measure of space inside a solid object, such as a cube or rectangular prism. Volume is measured in **cubic units**.

 = 1 cubic cm or 1cm^3  = 3cm^3

Find the volume of each shape. Use cubic centimeters (cm^3) for your units.

a. 

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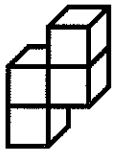
b. 

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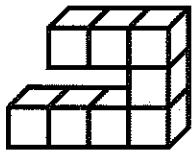
c. 

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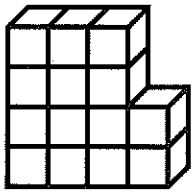
d. 

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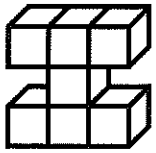
e. 

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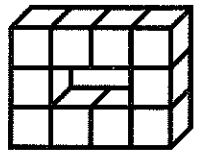
f. 

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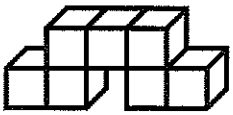
g. 

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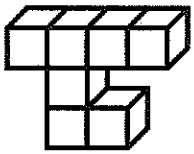
h. 

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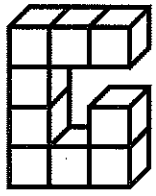
i. 

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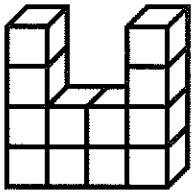
j. 

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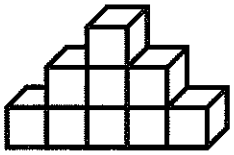
k. 

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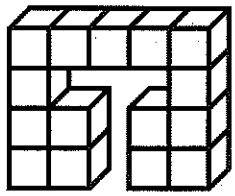
l. 

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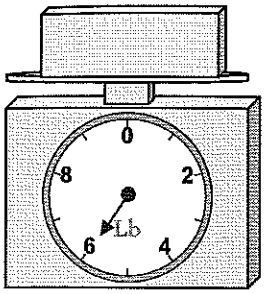
LESSON 10•3

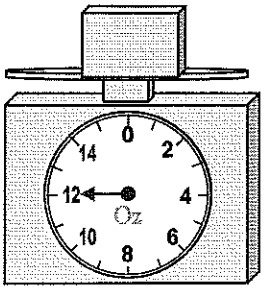
Finding Weights

Name:

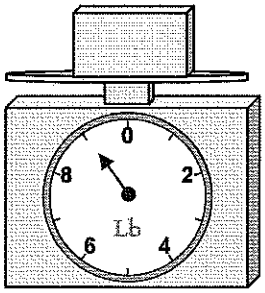
Use the scales shown to answer the questions.



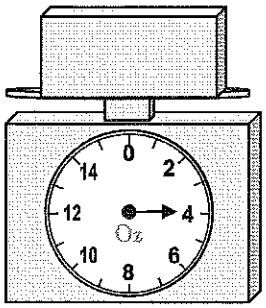
1) If you had two of the blocks shown, what would be the combined weight (in pounds) of the two blocks?



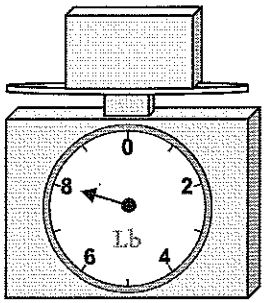
2) If you had two of the blocks shown, what would be the combined weight (in ounces) of the two blocks?



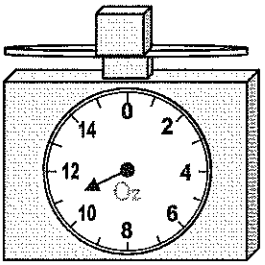
3) What is the weight (in pounds) of the block shown?



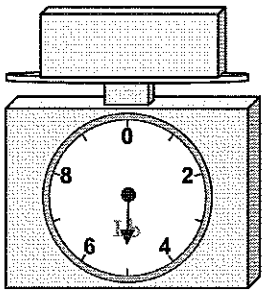
4) If the block shown were four ounces heavier, how much would it weigh?



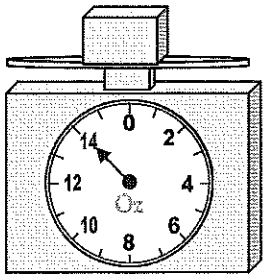
5) If the block shown were ten pounds heavier, how much would it weigh?



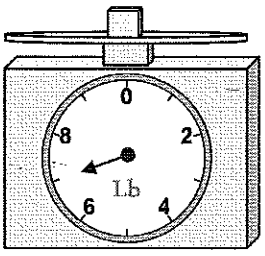
6) What is the weight (in ounces) of the block shown?



7) If the block shown were two pounds lighter, how much would it weigh?



8) What is the weight (in ounces) of the block shown?



9) If the block shown were four pounds lighter, how much would it weigh?

Answers

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____

1-9	89	78	67	56	44	33	22	11	0

Name Date Time

HOME LINK 10•5

Matching Units of Measure

Family Note Today our class explored units of capacity—cups, pints, quarts, gallons, milliliters, and liters. For the list below, your child should choose an appropriate unit for measuring each item. Some of the items refer to capacity, but units of length, weight, area, and volume are also included. Do not expect your child to know all of the units. Remind your child that *square units* refer to area measurement and *cubic units* to volume measurement.

Please return this Home Link to school tomorrow.

Fill in the oval to mark the unit best used to measure each object.

	Object	Units		
1.	height of a chair	⬭ mile	⬭ inch	⬭ pound
2.	weight of a penny	⬭ pound	⬭ inch	⬭ gram
3.	area of a football field	⬭ square inch	⬭ square yard	⬭ cubic meter
4.	perimeter of your journal	⬭ kilometer	⬭ gallon	⬭ centimeter
5.	diameter of a dinner plate	⬭ foot	⬭ cubic centimeter	⬭ inch
6.	amount of juice in a carton	⬭ meter	⬭ mile	⬭ liter

7. About how much water could you drink in 1 day?

⬭ 1 cup ⬭ 1 milliliter ⬭ 1 liter ⬭ 1 gallon

Practice

Solve.

8. 35 × 4

9. 62 × 3

10. 27 × 32

HOME LINK 10•5

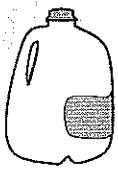
Estimating Volume (American)

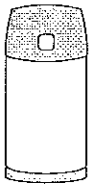
Name:

Determine which letter best represents the volume.

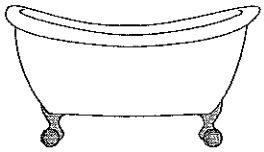
To remember the different volume amounts, one strategy is to 'think milk'.

Cup	Pint	Quart	Gallon
A cup is about the amount of milk you get from the cafeteria.	A pint is about the amount you get in a large glass. 1 pint = 2 cups	A quart is about the amount you get in a large milk container. 1 quart = 2 pints	A gallon is the amount that comes in the large plastic container. 1 gallon = 4 quarts

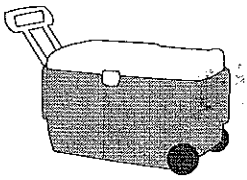





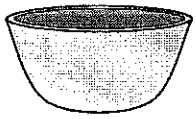
1. Liquid in a thermos
   - A. 4 Quarts
   - B. 1 Cup
   - C. 1 Gallon
   - D. 2 Pounds



2. Bath tub
   - A. 45 Gallons
   - B. 40 Cups
   - C. 8 Quarts
   - D. 20 Pints



3. Ice chest
   - A. 5 Gallons
   - B. 16 Cups
   - C. 100 quarts
   - D. 2 Quarts



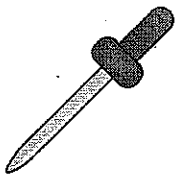
4. Milk in cereal
   - A. 0.5 Gallon
   - B. 2 Gallons
   - C. 4 Pints
   - D. 1 Pint

5. Water for a house plant
   - A. 3 Gallons
   - B. 4 Pounds
   - C. 6 Quarts
   - D. 2 Cups

6. Soda in a 2 liter
   - A. 0.5 Gallon
   - B. 5 Gallons
   - C. 2 Cups
   - D. 1 Pint

7. Rain Barrel
   - A. 10 Pints
   - B. 20 Cups
   - C. 50 Gallons
   - D. 3 Inches

8. Flour in a batch of cookies
   - A. 2 Gallons
   - B. 1.5 Cups
   - C. 2 Quarts
   - D. 5 Gallons



9. Eyedropper holds
   - A. 1 Cup
   - B. Less than 1 Cup
   - C. 3 Gallons
   - D. 1 Pint

Answers

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____

1-9	89	78	67	56	44	33	22	11	0

Name Date Time

HOME LINK 10•6

Mean, or Average, Number of Fish

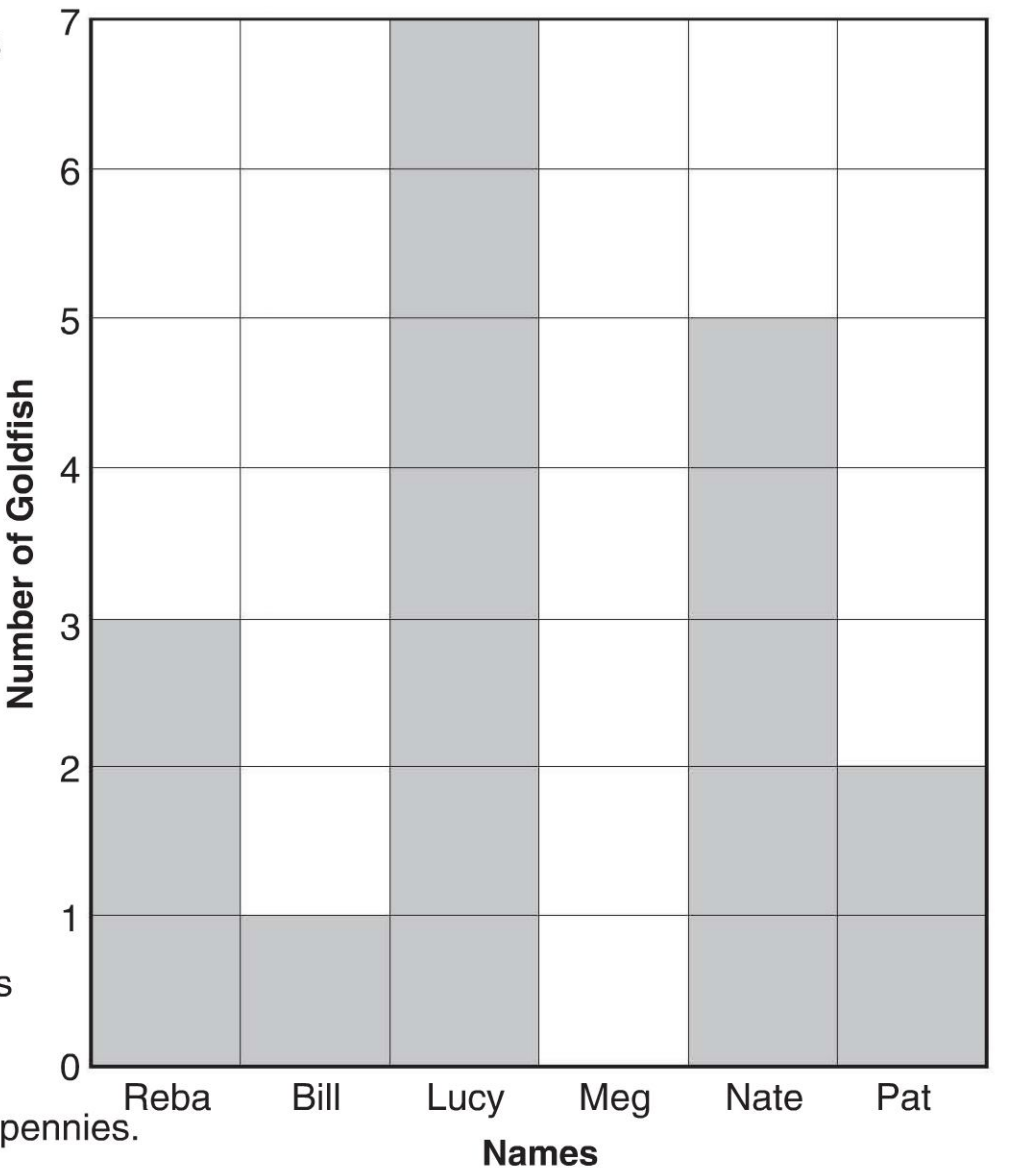
Family Note Many of us learned that to find the mean (average) of a set of numbers, we add all the numbers and then divide the total by how many numbers we added. In today's lesson, the class tried a different method of finding the mean. After your child has completed the page, ask him or her to explain how this method works. In the next lesson, we will introduce finding the mean by adding the numbers and dividing to find the answer.

Please return this Home Link to school tomorrow.

SRB 83–85

The table below lists how many goldfish each child won at the school fun fair.

Name	Number of Goldfish
Reba	3
Bill	1
Lucy	7
Meg	0
Nate	5
Pat	2



1. Put a penny over each shaded square in the bar graph.

2. Move the pennies so that each column has the same number of pennies.

3. Draw a horizontal line across your graph to show the height of the pennies when all of the columns are the same height.

4. The mean (average) number of goldfish won by children at the fun fair is _____.

Name Date Time

LESSON 10•7

Matching Tally Charts to Bar Graphs

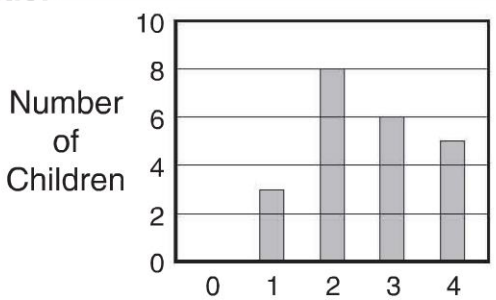
Work with a partner.

1. Match each tally chart with the bar graph that best describes the data. Write a title that tells about each graph. Fill in the missing labels.

Number of Books Read	Number of Children
0	
1	///
2	𝍸 ///
3	𝍸 /
4	𝍸

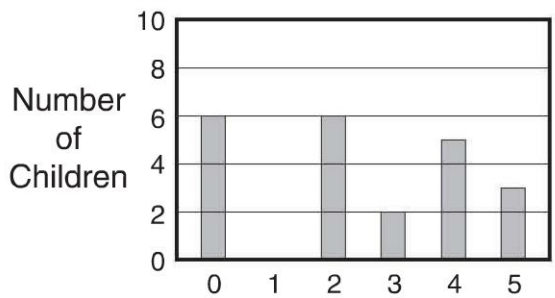
Number of Pockets	Number of Children
0	𝍸 /
1	
2	𝍸 /
3	//
4	𝍸
5	///

Title: _____



Number of _____

Title: _____



Number of _____

2. How many children in all read books?

_____

3. How many more children have 2 or fewer pockets than have 3 or more pockets?

_____

Name Date Time

HOME LINK 10•7

Finding the Mean

Family Note The median and mean (average) indicate typical values in a set of data. The median is the middle value when the data numbers are listed in order. The mean (average) is found by the process described below. Your child may use a calculator to solve the problems. (In third grade, we ignore any digits to the right of the tenths place.)

Please return this Home Link to school tomorrow.

To find the mean (average):

1. Find the sum of the data numbers.
2. Count the data numbers.
3. Use a calculator to divide the sum by the number of data numbers.
4. Drop any digits after tenths.

Example:

Basketball Scores: 80, 85, 76

1. $80 + 85 + 76 = 241$
2. There are 3 scores.
3. $241 \div 3 = 80.333333...$
4. Mean: 80.3

Baseball Home Run Leaders		
1998	Mark McGwire	70
1999	Mark McGwire	65
2000	Sammy Sosa	50
2001	Barry Bonds	73
2002	Alex Rodriguez	57
2003	Jim Thome, Alex Rodriguez	47

1. Mean number of home runs: _____

Baseball Home Run Leaders		
1901	Sam Crawford	16
1902	Socks Seybold	16
1903	Buck Freeman	13
1904	Harry Davis	10
1905	Fred Odwell	9

2. Mean number of home runs: _____

Source: World Almanac, 2004

3. List some data for people in your home—for example, their ages, shoe sizes, or heights. Find the median and mean of the data.

Kind of data _____

Data _____

Median: _____ Mean: _____

Name Date Time

HOME LINK 10•8

Fact Triangles

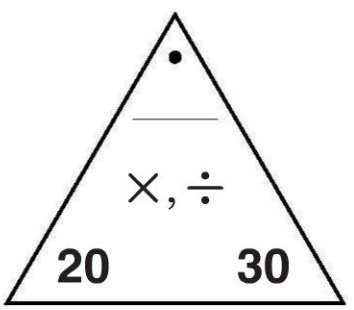
Family Note In today's lesson, we learned about the memory keys on our calculators. If you have a calculator, ask your child to show you how to store a number in the calculator's memory. If your calculator is different from the ones we use in class, you might need to help your child figure out how to use it.

In this Home Link, your child is reviewing fact extensions.

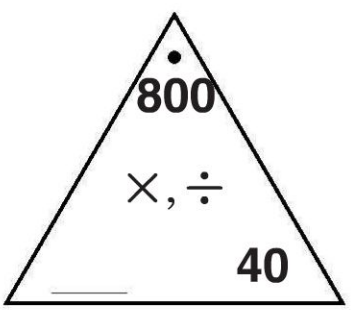
Please return this Home Link to school tomorrow.

Fill in the missing number in each Fact Triangle. Then write the number families for the three numbers in the Fact Triangle.

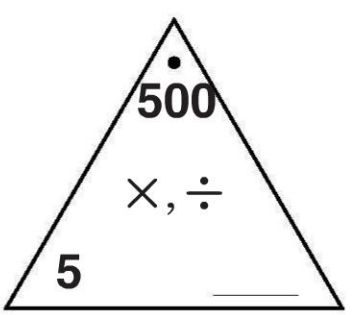
1.



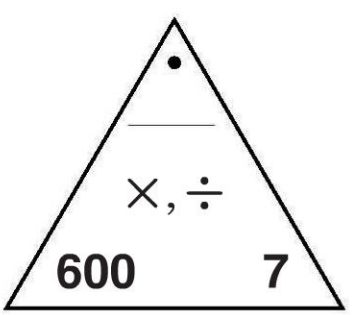
2.



3.



4.



Name Date Time

HOME LINK 10•9

A Frequency Table

Family Note Today we learned how to organize data in a frequency table. For today's Home Link, help your child count the number of electrical outlets in at least 8 different rooms. It would be best if the rooms were all in the same kind of building—for example, rooms in a house or apartment; rooms in the local library; or rooms in a school.

Please return this Home Link to school tomorrow.

1. Make a frequency table for the number of electrical outlets in at least 8 different rooms.

Number of Electrical Outlets

Room	Frequency	
	Tallies	Number

2. What is the *median* (middle) number of outlets? _____

3. What is the *mean* (average) number of outlets? (You may use a calculator to calculate the answer. Drop any digits to the right of the tenths place.) _____

4. What is the *mode* of the data in the table? (*Reminder:* The mode is the number that occurs most often in a set of data.) _____

Name Date Time

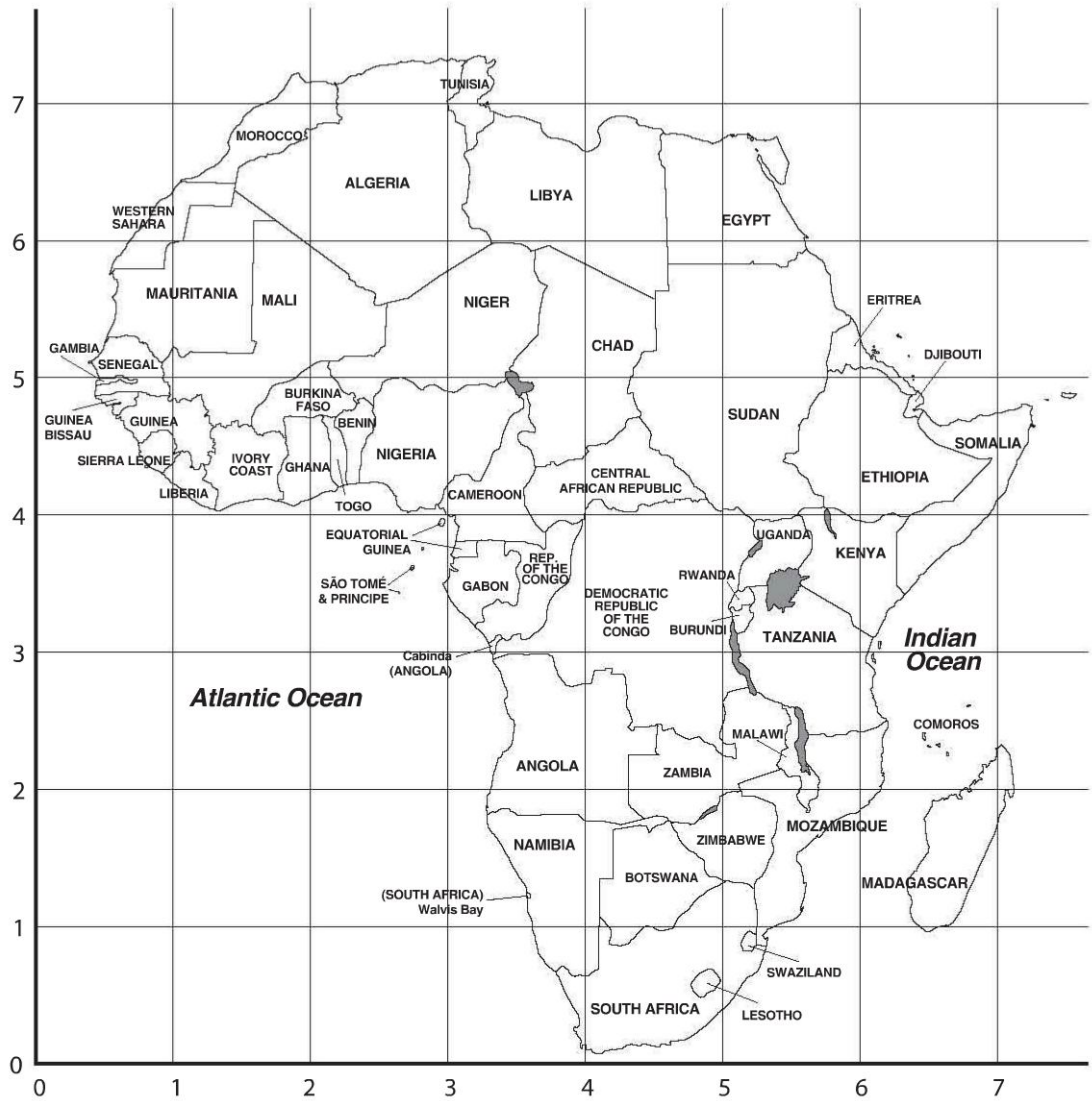
HOME LINK 10•10

Locating Points on a Map

Family Note In an ordered pair, such as (3,6), the first number indicates how far the point is to the right (or left) of 0. The second number indicates how far it is above (or below) 0.

Please return this Home Link to school tomorrow.

SRB 180 181



Here is a map of Africa. Write the name of the country in which each point is located.

1. (3,6) _____ **2.** (6,3) _____ **3.** (5,5) _____

4. (4,5) _____ **5.** (5,6) _____ **6.** (4,6) _____

Name Date Time

LESSON 10•11

Self Assessment

Progress Check 10

Check one box for each skill.

Skills	 I can do this on my own and can explain how to do it.	 I can do this on my own.	 I can do this if I get help or look at an example.
1. Measure to the nearest $\frac{1}{2}$ inch and $\frac{1}{2}$ centimeter.			
2. Make a frequency table to show data.			
3. Make a line plot to show data.			
4. Find the median, mode, and mean for a set of data.			
5. Find fractional parts of collections.			
6. Multiply 3-digit numbers by 1-digit numbers.			

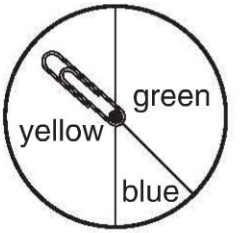
Name Date Time

HOME LINK 10•11

Unit 11: Family Letter

Probability; Year-Long Projects, Revisited

In this year's final unit, children will have the opportunity to bring closure to the yearlong data-collection projects about lengths of days and temperature changes. They will look at patterns in data and draw conclusions.



Unit 11 also contains informal spinner activities relating to chance and probability.

Some of these activities call for children to compare the likelihood of several possible outcomes of an event: why one thing is more likely to happen than another. For example, children will make predictions about where a paper clip on a spinner is more likely to land when the spinner is divided into unequal parts.

Other activities ask children to estimate the chance that something will happen. For example, children design a spinner so that a paper clip is twice as likely to land on one color as another.

Please keep this Family Letter for reference as your child works through Unit 11.

Vocabulary

Important terms in Unit 11:

equally likely outcomes Outcomes of a chance experiment or situation that have the same probability of happening. For example, any number 1–6 landing up are the equally likely outcomes of rolling a die.

winter solstice The shortest day of the year, when the sun is farthest south of the Earth's equator. The number of hours of daylight depends on your latitude. In the Northern Hemisphere, the winter solstice occurs on or about December 21.

summer solstice The longest day of the year, when the sun is farthest north of the Earth's equator. The number of hours of daylight depends on your latitude. In the Northern Hemisphere, the summer solstice occurs on or about June 21.

Do-Anytime Activities

To work on the concepts taught in this unit and in previous units, try these interesting and rewarding activities:

1. When you are in the car or walking with your child, search for geometric figures. Identify them by name if possible and talk about their characteristics. For example, a stop sign is an octagon, which has 8 sides and 8 angles. Many skyscrapers are rectangular prisms; their faces are rectangles.
2. Draw name-collection boxes for various numbers and together with your child write five to ten equivalent names in each box. Include name-collection boxes for fractions and decimals. For example, a $\frac{1}{2}$ name-collection box might include $\frac{2}{4}$, $\frac{10}{20}$, 0.5, 0.50, and $\frac{500}{1,000}$ because these are also names for $\frac{1}{2}$. Then create name-collection boxes that include equivalent measures. For example, a 1 ft name-collection box might contain 12 in., $\frac{1}{3}$ yd $\frac{1}{5,280}$ mile, $\frac{12}{36}$ yd, and so on.

3. Make predictions about the likelihood of pulling an item of one color out of a bag filled with the same items of different colors. Then check your predictions. For example, place 2 red blocks and 4 blue blocks in a bag. There are 4 out of 6 chances to pull a blue block.

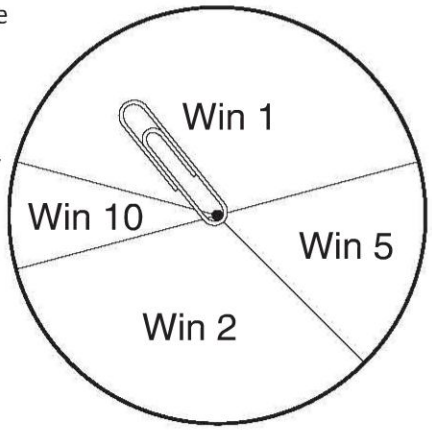
1 ft	
12 in.	$\frac{1}{5,280}$ mile
$\frac{1}{3}$ yd	$\frac{12}{36}$ yd

Building Skills through Games

In Unit 11, your child will practice skills related to chance and probability by playing the following games. For detailed instructions, see the *Student Reference Book.*

Block Drawing Game

Without letting the other players see the blocks, a Director puts five blocks in a paper bag and tells the players how many blocks are in the bag. A player takes a block out of the bag. The Director records the color of the block for all players to see. The player replaces the block. At any time, a player may say *Stop!* and guess how many blocks of each color are in the bag. If a player guesses incorrectly, that player is out of the game. The first player to guess correctly wins the game.



Spinning to Win

Each player claims one section of the spinner. Players take turns spinning the spinner. If the spinner lands on a player's number, the player takes that number of pennies. The player with the most pennies after 12 spins wins the game.

Name Date Time

HOME LINK 11•1

A Survey

Family Note Have your child survey 10 people—family members, neighbors, and out-of-school friends—to find out how many are right-handed and how many are left-handed. Do not count people who say they are ambidextrous (able to use both hands with equal ease). Take a few days to help your child complete the survey. The results will be used in Lesson 11-5.

Please return this Home Link to school.

1. Ask 10 people whether they are right-handed or left-handed. Do not ask people at your school. Do not count people who say they are neither right-handed nor left-handed. (People who can use both hands with equal ease are called *ambidextrous.*)

2. On the chart below, make a tally mark for each person. Be sure that you have exactly 10 marks.

	Tallies
Right-handed	
Left-handed	

3. When you have finished your survey, record the results at the bottom of the page. Bring the results to school.

Name _____

Survey Results

Number of right-handed people: _____

Number of left-handed people: _____

Total: 10

360

Name Date Time

HOME LINK 11•2

Computation Round-Up

Family Note Please observe as your child adds, subtracts, multiplies, and divides pairs of whole numbers. Encourage your child to use and explain his or her favorite strategies.

Please return this Home Link to school.

For each of the number pairs below, use mental arithmetic or other strategies to perform the operations indicated in each column in the table. Show any work on the back of this page. Explain your favorite strategies to someone at home.

Numbers	Add	Subtract	Multiply	Divide
30 and 7	30 + 7 = 37	30 − 7 = 23	30 × 7 = 210	30 ÷ 7 → 4 R2
50 and 5				
40 and 6				
150 and 3				
3,000 and 50				
12,000 and 60				

363

Name Date Time

HOME LINK 11•3

A Fair Game?

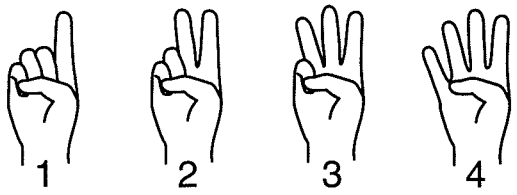
Family Note To explore probability, play the game *Fingers* with your child. After 20 games, have your child decide if the game is fair and explain why or why not. (A game is fair if all players have an equal chance of winning or losing.)

Please return this Home Link to school tomorrow.

Play *Fingers* at least 20 times. Keep a tally of wins and losses in the table below.

Rules for *Fingers*

This is a game for 2 players. One player tries to guess the number of fingers the other player will throw (display).



You, the *Everyday Mathematics* student, can throw 1, 2, 3, or 4 fingers. The other player can throw only 1 or 2 fingers.

Players face each other. Each one puts a closed fist on his or her chest.

One player counts, "One, two, three." On "three," each player throws some number of fingers.

At the same time, both players call out what they think will be the total number of fingers thrown by both players.

- The player who calls out the correct total wins.
- If *neither* player calls out the correct total, no one wins.
- If *both* players call out the correct total, no one wins.

Tallies for Wins	Tallies for Losses

1. Is this game fair? (Fair means each player has the same chance of winning.) _____

2. On the back of this page explain your answer.

Adaptation of rules for *Mora* in *Family Fun and Games,* The Diagram Group, Sterling Publishing, 1992, p. 365

Name Date Time

HOME LINK 11•4

Spinners

Family Note To study probability, help your child design a spinner that meets the conditions in Part 1 below. Then help your child design another spinner by dividing the circle into parts (wedges) and coloring the parts.

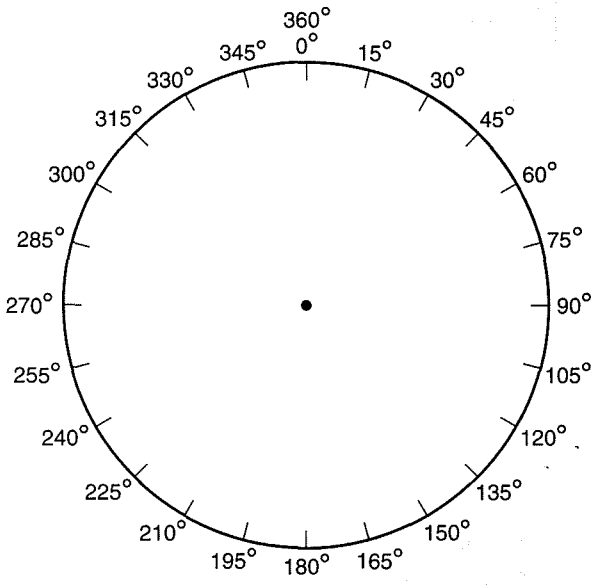
Please return this Home Link to school tomorrow.

Work with someone at home to make two spinners.

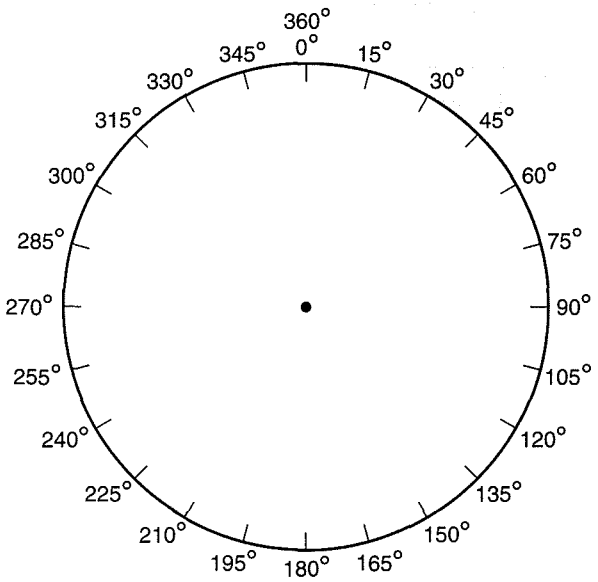
1. Use blue, red, yellow, and green crayons or coloring pencils on the first spinner. Color the spinner so that all of the following are true:

When spun around a pencil point in the center of the circle, a paper clip

- is very likely to land on red.
- has the same chance of landing on yellow as on green.
- may land on blue but is very unlikely to land on blue.



2. Design and color your own spinner. Then tell how likely or unlikely it is that the paper clip will land on each of the colors you used.



372

Name Date Time

HOME LINK 11•5

More Random-Draw Problems

Family Note This Home Link focuses on predicting the contents of a jar by drawing out marbles. Don't expect your child to be an expert. Explorations with probability will continue through sixth grade. This is a first exposure.

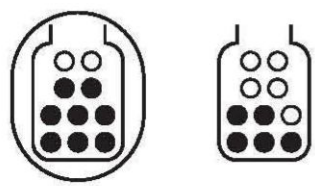
Please return this Home Link to school tomorrow.

In each problem there are 10 marbles in a jar. The marbles are either black or white. A marble is drawn at random (without looking) from the jar. The type of marble drawn is tallied. Then the marble is returned to the jar.

- Read the description of the random draws in each problem.
- Circle the picture of the jar that best matches the description.

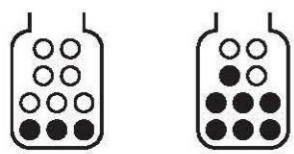
Example: From 100 random draws, you get:

a black marble ● 81 times.
a white marble ○ 19 times.



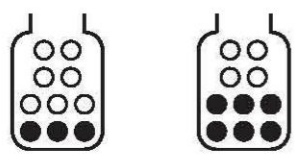
1. From 100 random draws, you get:

a black marble ● 34 times.
a white marble ○ 66 times.



2. From 100 random draws, you get:

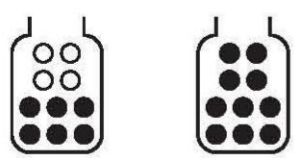
a black marble ● 57 times.
a white marble ○ 43 times.



Try This

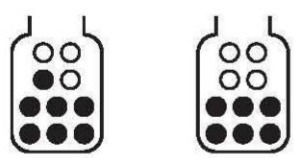
3. From 50 random draws, you get:

a black marble ● 28 times.
a white marble ○ 22 times.



4. From 50 random draws, you get:

a black marble ● 35 times.
a white marble ○ 15 times.



Name Date Time

LESSON 11·6

Self Assessment

Progress Check 11

Check one box for each skill.

Skills	 I can do this on my own and explain how to do it.	 I can do this on my own.	 I can do this if I get help or look at an example.
1. Read and write numbers up to 1,000,000.			
2. Know the value of each digit in 6-digit numbers.			
3. Tell and show time to the nearest minute on an analog clock.			
4. Use basic probability terms to describe a spinner.			
5. Make predictions about the outcomes of a spinner experiment.			
6. Use fractions to describe parts of a spinner.			

Name Date

PROJECT 7

Order of Operations

Use order of operations to solve each number sentence below. Show your work. To check your work, use a calculator that follows order of operations.

Rules for the Order of Operations

1. If there are parentheses, do the operations inside the parentheses first. Follow rules 2 and 3 when computing inside parentheses.
2. Then multiply or divide, in order, from left to right.
3. Finally, add or subtract, in order, from left to right.

1. _____ $= 11 - 3 \times 3$	**2.** $15 \div 3 + 2 =$ _____
3. _____ $= 20 \div 5 \times 2$	**4.** $6 + 4 \div 2 =$ _____
5. $(22 + 8) \times 2 =$ _____	**6.** _____ $= (7 \times 2) + 14 \div 7$

HOME LINK 11•6

Family Letter

Congratulations!

By completing *Third Grade Everyday Mathematics,* your child has accomplished a great deal. Thank you for all of your support!

This Family Letter is here for you to use as a resource throughout your child's summer vacation. It includes an extended list of Do-Anytime Activities, directions for games that can be played at home, a list of mathematics-related books to check out over vacation, and a sneak preview of what your child will be learning in *Fourth Grade Everyday Mathematics.* Enjoy your vacation!

Do-Anytime Activities

Mathematics means more when it is rooted in real-life situations. To help your child review many of the concepts he or she has learned in third grade, we suggest the following activities for you and your child to do together over vacation. These activities will help your child maintain and build on the skills he or she has learned this year and help prepare him or her for *Fourth Grade Everyday Mathematics.*

1. If you receive a daily newspaper, continue with the length-of-day project by recording the time of sunrise and sunset once a week. Draw conclusions about the length of a day during vacation months.
2. Over a period of time, have your child record the daily temperatures in the morning and in the evening. Keep track of the findings in chart or graph form. Ask questions about the data—for example, to find the differences in temperatures from morning to evening or from one day to the next.
3. As you are driving in the car or going on walks, search for geometric figures and identify them by name along with some of their characteristics. For example: A stop sign is an octagon, which has eight sides and eight angles; an orange construction cone is a cone, which has one flat surface that is shaped like a circle, a curved surface, and an apex; a brick is a rectangular prism in which all faces are rectangles.
4. Continue to practice addition, subtraction, multiplication, and division facts. Using short drill sessions with Fact Triangles, fact families, and games helps your child build on previous knowledge.
5. Provide multidigit addition and subtraction problems for your child to solve; encourage your child to write number stories to go along with the number models.

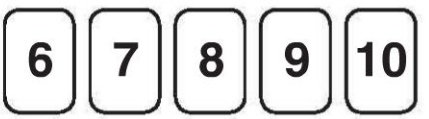
Building Skills through Games

The following section lists rules for games that can be played at home. The number cards used in some games can be made from 3″ by 5″ index cards.

Division Arrays

Materials

- ☐ number cards 6–18 (3 of each)
- ☐ 18 counters, such as pennies
- ☐ 1 regular die
- ☐ scratch paper for each player



Players 2 to 4

Directions

Shuffle the cards and place the deck facedown on the playing surface.

At each turn, a player draws a card and takes the number of counters shown on the card. Next, the player rolls the die. The number on the die specifies the number of equal rows the player must have in the array he or she makes using the counters.

The player's score is the number of counters in each row. If there are no leftover counters, the player's score is double the number of counters in each row.

Players take turns. They keep track of their scores on scratch paper. The player with the highest total at the end of five rounds wins.

Roll to 100

Materials

- ☐ paper and pencil (for each player)
- ☐ 2 six-sided dice

Players 2 to 4

Directions

Players take turns. At the first turn, a player rolls the dice any number of times and mentally adds all of the numbers rolled. The player may stop rolling the dice at any time. The final sum is entered as the score for Turn 1. If a 1 is rolled at any time, the turn is over and 0 is entered as the score for this turn.

On subsequent turns, a player rolls the dice any number of times and mentally adds the results to the score from the previous turn. The final sum is the score for the turn. If a 1 is rolled at any time, this turn is over and the score remains the same as the score at the end of the previous turn. The first player to score 100 or more wins the game.

Baseball Multiplication

Materials
- ☐ 2 regular dice
- ☐ 4 pennies
- ☐ score sheet (see below)
- ☐ calculator

Players 2

Directions

Draw a diamond and label *home plate, first base, second base,* and *third base.* Make a score sheet that looks like the one below.

SCORE SHEET

Innings	1	2	3	4	5	6	Total
Player 1 outs							
Runs							
Player 2 outs							
Runs							

1. Take turns being the pitcher and the batter.
2. At the start of the inning, the batter puts a penny on home plate.
3. The pitcher rolls the dice. The batter multiplies the two numbers that come up and tells the answer. The pitcher checks the answer with a calculator.
4. If it is correct, the batter looks up the product in the Hitting Table. The batter either makes an out or moves a penny along the diamond for a single, double, triple, or home run.

   An incorrect solution is a strike, and another pitch (dice roll) is thrown. Three strikes make an out.
5. A run is scored each time a penny crosses home plate.
6. A player remains the batter for 3 outs. Then players switch roles. The inning is over when both players have made 3 outs.
7. After making the third out, a batter records the number of runs scored in that inning on the score sheet.
8. The player who has more runs at the end of six innings wins the game.

HITTING TABLE

36 = Home Run
26–35 = Triple
16–25 = Double
6–15 = Single
5 or less = Out

Vacation Reading with a Mathematical Twist

Books can contribute to children's learning by presenting mathematics in a combination of real-world and imaginary contexts. The titles below were recommended by teachers who use *Everyday Mathematics*. Visit your local library and check out these mathematics-related books with your child.

Geometry

A Cloak for the Dreamer by Aileen Friedman

Fractals, Googols, and Other Mathematical Tales by Theoni Pappas

Sir Cumference and the First Round Table: A Math Adventure by Wayne Geehan

Measurement

How Tall, How short, How Far Away by David Adler

Math Curse by Jon Scieszka

The Story of Money by Betsy Maestro

If You Made a Million by David Schwartz

Measuring on Penny by Loren Leedy

Numeration

Fraction Fun by David Adler

How Much Is a Million? by David Schwartz

Operations

The Grapes of Math by Gregory Tang

The King's Chessboard by David Birch

The I Hate Mathematics! Book by Marilyn Burns

A Remainder of One by Elinor J. Pinczes

Anno's Mysterious Multiplying Jar by Masqichiro Anno

Patterns, Functions, and Algebra

Eight Hands Round: A Patchwork Alphabet by Ann Whitford Paul

A Million Fish...More or Less by Patricia C. McKissack

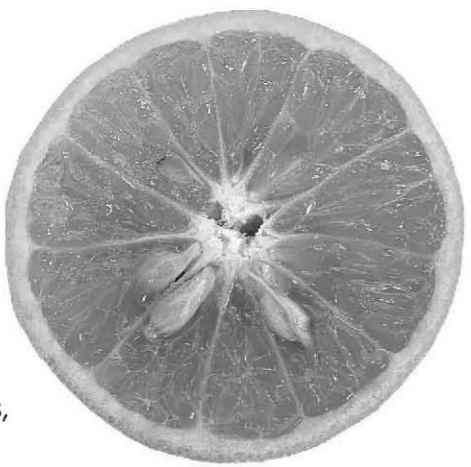
Reference Frames

Pigs in a Blanket by Amy Axelrod

Three Days on a River in a Red Canoe by Vera B. Williams

Looking Ahead: *Fourth Grade Everyday Mathematics*

Next year, your child will ...



- go on a World Tour.
- develop automaticity with addition and subtraction fact extensions.
- continue to maintain automaticity with multiplication facts and to develop proficiency with related division facts.
- use basic facts to compute fact extensions such as 30×60.
- investigate methods for solving problems using mathematics in everyday situations.
- continue to explore 3-dimensional objects and their properties, uses, and relationships.
- collect, organize, and interpret numerical data.
- work with number lines, coordinates, times, latitude/longitude, and dates.
- read, write, and use whole numbers, fractions, decimals, percents, and negative numbers.
- explore scientific notation.

Again, thank you for all of your support this year. Have fun continuing your child's mathematics experiences throughout the vacation!