



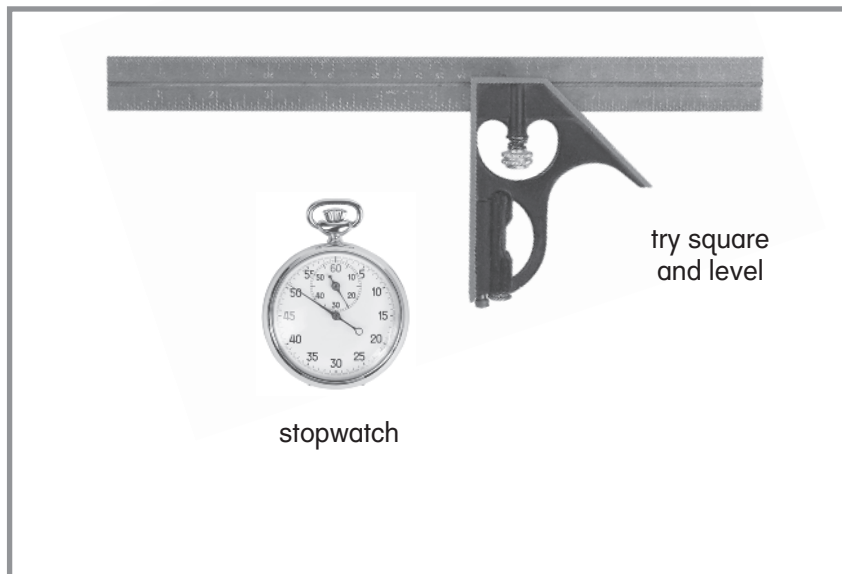
Measurement

In Unit 9, children will explore measurements of various types. Your child will be asked to look for examples of measurements and measuring tools to bring to school for the Measures All Around Museum. The examples will help children appreciate the important role that measurement plays in everyday life.

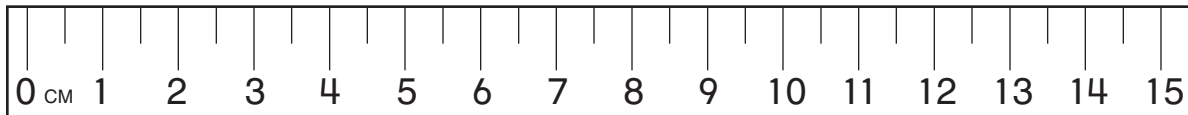
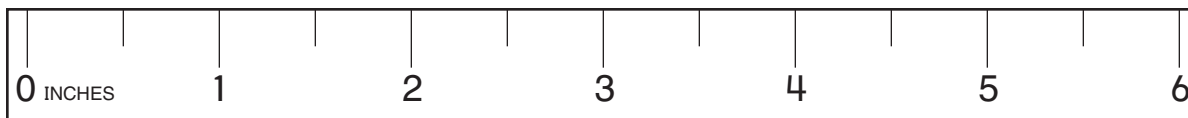
Children will estimate and measure distances by inch, foot, and yard, as well as centimeter, decimeter, and meter. Children will learn that measurements are not always exact; they will use terms such as *close to*, *between*, and *about* when describing measurements. For closer or more exact measurements, children will measure to the nearest half-inch and half-centimeter.

In addition to measures of length, children will explore the areas of shapes using square inches and square centimeters. Children will also begin to develop a sense of the size of units of capacity and weight, such as cups and liters and pounds and kilograms.

Everyday Mathematics uses U.S. customary and metric units of measure. Although children make conversions within each system (length, capacity, or weight), they will not make conversions from one system to the other at this time.

try square
and level

stopwatch



Please keep this Family Letter for reference as your child works through Unit 9.

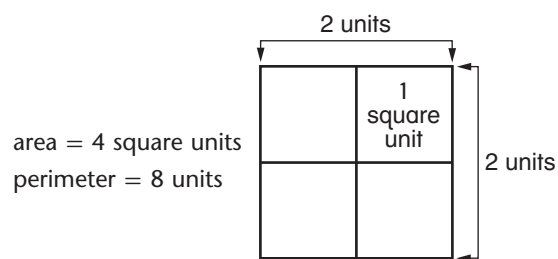
Vocabulary

Important terms in Unit 9:

capacity The amount a container can hold. The volume of a container. Capacity is usually measured in units such as gallons, pints, cups, fluid ounces, liters, and milliliters.

perimeter The distance around a 2-dimensional shape, along the boundary of the shape. (The perimeter measures the length of a shape's "rim.")

area The amount of surface inside a 2-dimensional figure. Area is measured in square units, such as square inches or square centimeters.



Metric System

Units of Length

1 meter (m)	= 10 decimeters (dm)
	= 100 centimeters (cm)
1 decimeter	= 10 centimeters
1 kilometer (km)	= 1,000 meters

Units of Weight

1 kilogram (kg)	= 1,000 grams (g)
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Units of Capacity

1 liter (L)	= 1,000 milliliters (mL)
$\frac{1}{2}$ liter	= 500 milliliters

U.S. Customary System

Units of Length

1 yard (yd)	= 3 feet (ft)
	= 36 inches (in.)
1 foot	= 12 inches
1 mile (mi)	= 1,760 yards
	= 5,280 feet

Units of Weight

1 pound (lb)	= 16 ounces (oz)
2,000 pounds	= 1 ton (T)

Units of Capacity

1 cup (c)	= $\frac{1}{2}$ pint (pt)
1 pint	= 2 cups
1 quart (qt)	= 2 pints
1 half-gallon ($\frac{1}{2}$ gal)	= 2 quarts
1 gallon (gal)	= 4 quarts

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. Gather a tape measure, a yardstick, a ruler, a cup, a gallon container, and a scale. Discuss the various things you and your child can measure—for example, the length of a room, how many cups are needed to fill a gallon container, and your child's weight alone and when he or she is holding objects such as books. Record the data and continue to measure and weigh different items periodically.
2. Mark certain routes on a road map and together figure the distance between two points in miles and kilometers.



Building Skills through Games

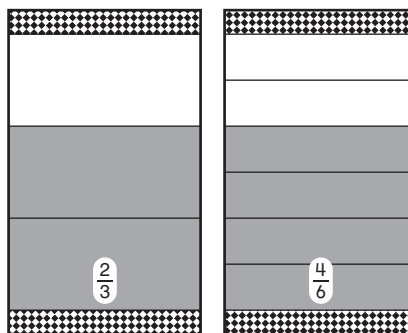
In Unit 9, your child will practice mathematical skills by playing the following games:

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 both cards. The player with more cards at the end wins!



Name That Number

Each player turns over a card to find a number that must be renamed using any combination of five faceup cards.

Number-Grid Difference Game

Players subtract 2-digit numbers using the number grid.

As You Help Your Child with Homework

As your child brings home assignments, you may want to go over the instructions together, clarifying them as necessary. The answers listed below will guide you through this unit's Home Links.

Home Link 9•1

- 5. 115
- 6. 791
- 7. 46
- 8. 325

Home Link 9•2

- 3. 12 inches
- 4. 3 feet
- 5. 10 centimeters
- 6. 100 centimeters
- 7. 24 inches
- 8. 9 feet
- 9. 40 centimeters
- 10. 700 centimeters
- 11. 69
- 12. 85
- 13. 48
- 14. 37

Home Link 9•3

- 1. $2\frac{1}{2}$ inches
- 2. 4 inches
- 3. 3 centimeters
- 4. 9 centimeters
- 10. 290
- 11. 397

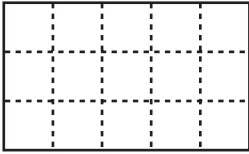
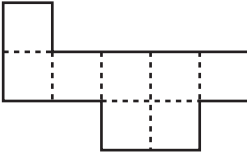
Home Link 9•4

- 1. Perimeter: about 6 inches
- 2. Perimeter: about 5 inches
- 3. Answer: 47 feet. Sample number models:
 $14 + 14 + 9\frac{1}{2} + 9\frac{1}{2} = 47$ or
 $2 \times 14 + 2 \times 9\frac{1}{2} = 47$

Home Link 9•5

- 1. 214
- 2. 113

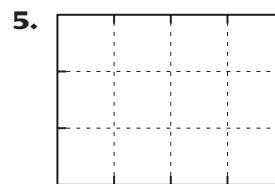
Home Link 9•6

- 2.  15 square centimeters
-  8 square centimeters

- 3. 359
- 4. 794
- 5. 400
- 6. 401

Home Link 9•7

- 1. 9 sq cm
- 2. 11 sq cm
- 3. 10 sq cm
- 4. I: 20 cm
U: 24 cm
J: 22 cm



Area = 12 sq cm

- 6. 95
- 7. 92

Home Link 9•8

Rule	
1 gal = 4 qt	

gal	qt
2	8
4	16
6	24
10	40

Answers vary.

- 1. 83
- 2. 34

Home Link 9•9

- 1. 159
- 2. 177