Name Date Time

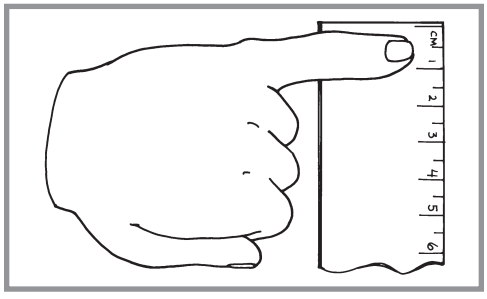
HOME LINK 2•10

Unit 3: Family Letter

Linear Measures and Area

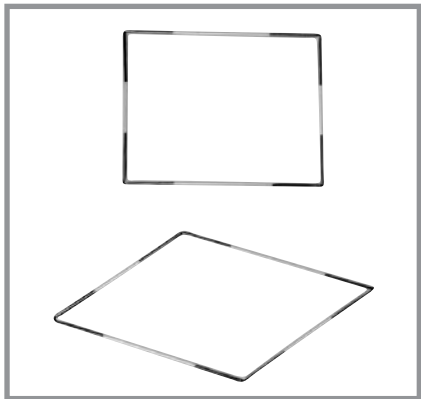
In Unit 3, children will develop their measurement sense by measuring lengths with standard units—in both the **U.S. customary system** and the **metric system.**

Children will practice reading a ruler to the nearest inch, nearest $\frac{1}{2}$ inch, nearest $\frac{1}{4}$ inch, and nearest centimeter as they measure a variety of objects, including parts of their own bodies, such as their hand spans, wrists, necks, and heights. In addition to the inch and centimeter, children will also measure with other standard units, such as the foot, yard, and meter. Children will begin to use certain body measures or the lengths of some everyday objects as **personal references** to estimate the lengths of other objects or distances. For example, a sheet of notebook paper that is about 1 foot long can help children estimate the length of a room in feet.



Using personal references: The width of my little finger is about one centimeter.

The concept of **perimeter** is also investigated in this unit. Children will use straws and twist-ties to build **polygons,** or 2-dimensional figures having connected sides. Then children will measure the distance around each polygon to find the perimeter.



Children will also discover the meaning of **area** by tiling small rectangles with blocks and counting how many blocks cover the rectangles. Children see how to calculate area by tiling larger surfaces, such as tabletops and floors, with square feet and square yards.

In the last part of this unit, children will explore the **circumference** and **diameter** of circles. They will learn the *about 3 times* rule—that the circumference of a circle is a little more than 3 times the length of its diameter.

Please keep this Family Letter for reference as your child works through Unit 3.

Vocabulary

Important terms in Unit 3:

unit An agreed-upon unit of measure, for example foot, pound, gallon, meter, kilogram, liter.

length The distance between two points.

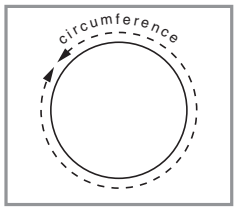
U.S. customary system The measurement system used in the United States. For example, inches, feet, yards, and miles are used to measure length.

metric system of measurement A measurement system based on the base-ten numeration system. It is used in most countries around the world. For example, millimeters, centimeters, meters, and kilometers are used to measure length.

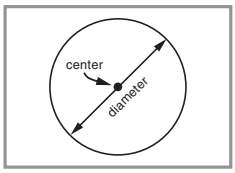
benchmark A well-known count or measure that can be used to check whether other counts, measures, or estimates make sense. For example, a benchmark for land area is that a football field is about one acre. A benchmark for length is that the width of a man's thumb is about one inch. Benchmarks are also called *personal-measurement references.*

perimeter The distance around the boundary of a 2-dimensional shape. The perimeter of a circle is called its *circumference.* A formula for the perimeter P of a rectangle with length l and width w is $P = 2 \times (l + w)$.

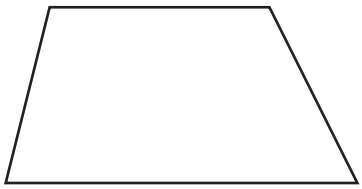
circumference The perimeter of a circle.



diameter A line segment that passes through the center of a circle or sphere. The length of such a segment.



polygon A 2-dimensional figure formed by 3 or more line segments (sides) that meet only at their endpoints (vertices) to make a closed path. The line segments of a polygon may not cross.



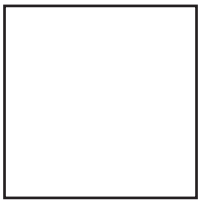
a polygon

tiling The covering of a surface with shapes so that there are no gaps or overlaps.

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

square unit A unit used to measure area; a square that measures 1 inch, 1 centimeter, 1 yard, or 1 other standard measure of length on each side.

1 square centimeter



1 square inch

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. Encourage your child to find some personal references for making several measurements of length at home.
2. Practice using the personal references by *estimating* some lengths, and then practice using a ruler by *measuring* the actual lengths.
3. Practice finding perimeters of objects and circumferences of circular objects around your home.

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 3•4

2. perimeter of polygon A = 20 cm
perimeter of polygon B = 20 cm

3. a. 12 ft **3. b.** 60 in.

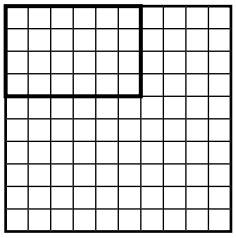
Home Link 3•5

1. 6 **2.** 2 **3.** 4 **4.** 3

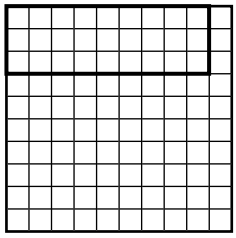
5. 3 **6.** 95 **7.** 62

Home Link 3•7

1. Area = 24 square units
Sample answer:



2. Area = 27 square units
Sample answer:



3. This is a 2-by-6 rectangle. Area = 12 square units

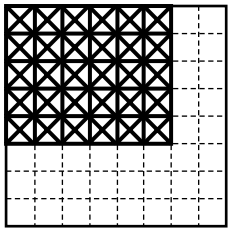
4. This is a 5-by-4 rectangle. Area = 20 square units

5. 307 **6.** 119

Home Link 3•8

1. 80 tiles **2.** $160

3.



4. 30 plants

5. 489

6. 673

7. 307

Building Skills through Games

In Unit 3, your child will practice addition skills by playing the following games. For detailed instructions, see the *Student Reference Book.*

Addition Top-It

Each player turns over two cards and calls out their sum. The player with the higher sum then takes all the cards from that round.

Subtraction Top-It

Each player turns over two cards and calls out their difference. The player with the larger difference then takes all the cards from that round.