



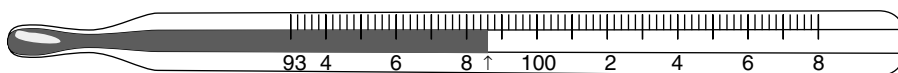
Unit 4: Decimals and Their Uses

In previous grades, your child had many experiences with amounts of money written in decimal notation. In the next unit, the class will learn about other uses of decimals.

Decimals are needed because numerical information often cannot be expressed by a whole number—it may be a quantity between two whole numbers.

The class will focus on a number of examples of uses of decimals in everyday life.

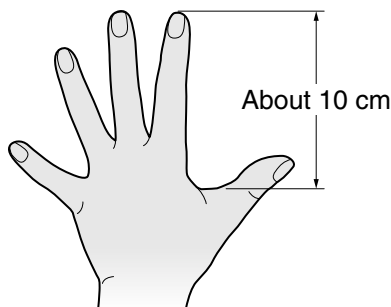
For example, a small thermometer for taking body temperatures usually has marks that are spaced $\frac{2}{10}$ of a degree apart. This allows for very accurate measurements of body temperature.



Normal body temperature is about 98.6 °F.

Students will explore how decimals are used in measuring distances, times, and gasoline mileage. If you have a car, your child will also calculate the average number of miles your car can travel on 1 gallon of gasoline. Your assistance will be needed to complete this project.

We will also begin a yearlong measurement routine. Students will find their very own “personal references,” which they will use to estimate lengths, heights, and distances in metric units. For example, your child might discover that the distance from the base of his or her thumb to the tip of his or her index finger is about 10 centimeters and then use this fact to estimate the width of this page to be about 20 centimeters.



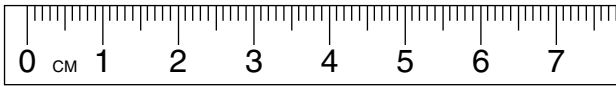
The World Tour will continue. Small groups of students will work together to gather information about different countries in Africa and then share what they have learned with the rest of the class. This will provide an opportunity for students to compare and interpret data for a large number of countries from the same region.

Please keep this Family Letter for reference as your child works through Unit 4.

Vocabulary

Important terms in Unit 4:

centimeter (cm) In the metric system, a unit of length equivalent to $\frac{1}{100}$ of a meter; 10 millimeters; $\frac{1}{10}$ of a decimeter.



decimeter (dm) In the metric system, a unit of length equivalent to $\frac{1}{10}$ of a meter; 10 centimeters.

hundredths The place-value position in which a digit has a value equal to $\frac{1}{100}$ of itself; the second digit to the right of the decimal point.

meter (m) In the metric system, the fundamental unit of length from which other units of length are derived. One meter is the distance light will travel in a vacuum (empty space) in $\frac{1}{299,792,458}$ second.

millimeter (mm) In the metric system, a unit of length equivalent to $\frac{1}{1,000}$ of a meter; $\frac{1}{10}$ of a centimeter.

ONE Same as whole. See **whole**.

ones The place-value position in which a digit has a value equal to the digit itself.

personal measurement reference A convenient approximation for a standard unit of measurement. For example, many people have thumbs that are approximately one inch wide.

place value A system that values a digit according to its position *or place* in a number. Each place has a value ten times that of the place to its right and one-tenth of the value of the place to its left. For example, in the number 456, the 4 is in the hundreds place and has a value of 400.

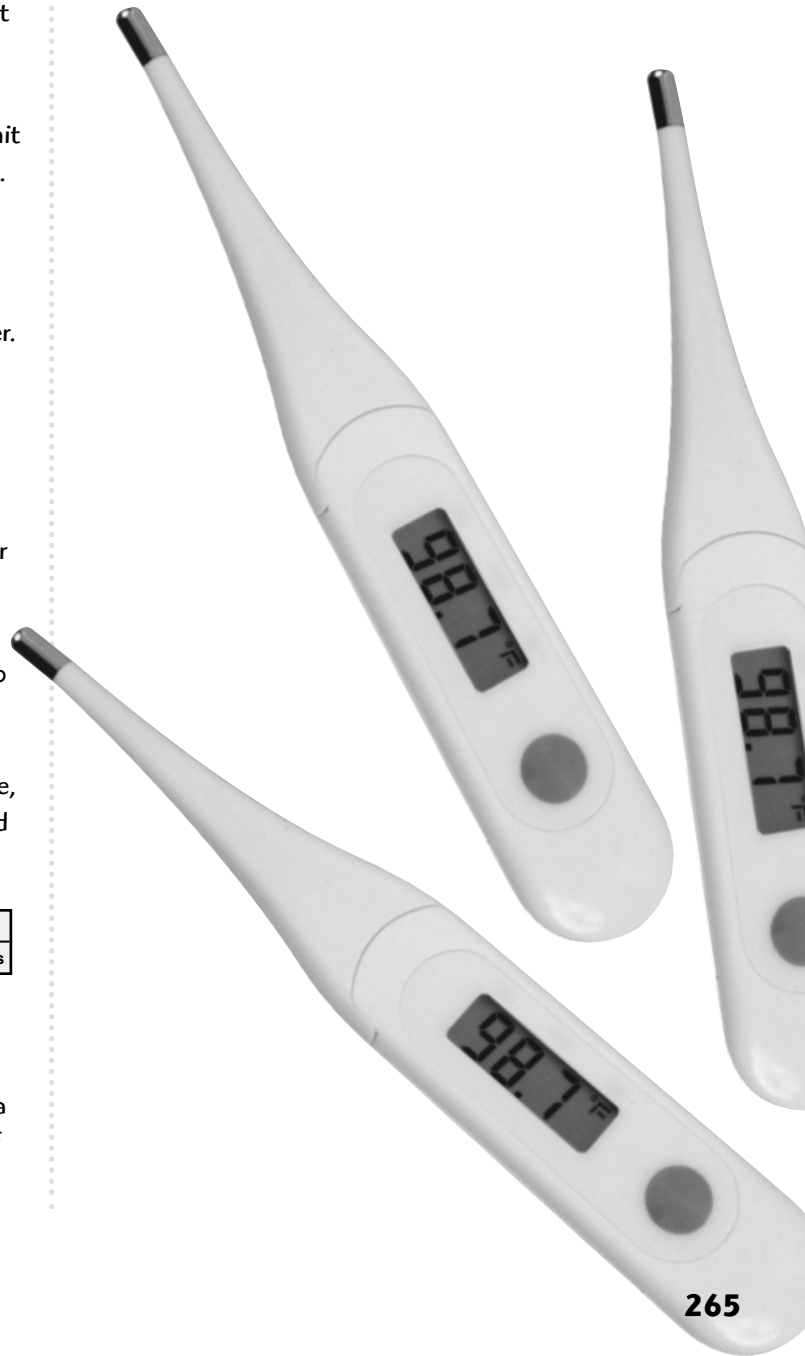
1,000s	100s	10s	1s	0.1s	0.01s	0.001s
Thousands	Hundreds	Tens	Ones	. Tenths	Hundredths	Thousandths

tens The place-value position in which a digit has a value equal to ten times itself.

tenths The place-value position in which a digit has a value equal to $\frac{1}{10}$ of itself; the first digit to the right of the decimal point.

thousandths The place-value position in which a digit has a value equal to $\frac{1}{1,000}$ of itself; the third digit to the right of the decimal point.

whole (or ONE or unit) The entire object, collection of objects, or quantity being considered; the ONE; the unit; 100%.



Do-Anytime Activities

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

- 1 Have your child track the sports statistics of a favorite athlete. Discuss the use of decimals in the statistics he or she finds.
- 2 Have your child compare prices of items in the supermarket.
- 3 Help your child create and use new personal reference measures.
- 4 Together, find statistics about countries in the World Tour. Look in newspapers and almanacs.

Building Skills through Games

In Unit 4, your child will practice using decimal notation and build his or her understanding of decimals and their uses by playing the following game. For detailed instructions, see the *Student Reference Book*.

Number Top-It (2-place decimals) See *Student Reference Book*, page 205. This game for 2 or more players requires 4 each of the number cards 0 through 9 and a Place-Value Mat. Playing *Number Top-It* helps students review place-value concepts for decimal numbers.

As You Help Your Child with Homework

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

Study Link 4.2

1. S L I P P E R S

2. B O B H O P

3. T H E L E T T E R M

Study Link 4.3

- Seikan and Channel Tunnel
- Between 90 and 120 miles
- About 20 miles
- About 12 miles
- About 8 miles

Study Link 4.4

- 5.18
- 0.03
- 120.41
- 1.46
- >
- <
- >
- >
- \$7.37
- \$6.48

Study Link 4.5

- a. \$0.76 b. \$2.43 c. \$4.64 d. \$2.95
- \$16.40 3. \$2.57 4. \$7.32
- \$18.10 6. \$10.78

Study Link 4.6

- $\frac{335}{1,000}$ 0.335 2. $\frac{301}{1,000}$ 0.301
- $\frac{7}{100}$ 0.07 4. $1\frac{5}{100}$ 1.05
- 0.346 6. 0.092
- 0.003 8. 2.7
- 0.536 10. 0.23
- 7.008 12. 0.4
- > 14. > 15. < 16. <

Study Link 4.7

- About 7 cm; 0.07 m
- About 12 cm; 0.12 m
- About 4 cm; 0.04 m
- About 6 cm; 0.06 m
- About 2 cm; 0.02 m
- About 14 cm; 0.14 m

Study Link 4.8

- Answers vary.
- 180
- 4
- 3,000
- 400
- 7
- 460
- 794
- 4.5
- 0.23
- 60

Study Link 4.9

- 64.8 mm 6.48 cm
- 0.5 mm 0.05 cm
- 19.0 mm 1.9 cm
- 18.5 mm 1.85 cm
- 5.0 mm 0.5 cm

Study Link 4.10

- six thousand, eight hundred fifty-four

1,000s	100s	10s	1s
6	8	5	4

- two and nine hundred fifty-nine thousandths

100s	10s	1s		0.1s	0.01s	0.001s
		2	.	9	5	9

- seventy-three and four thousandths

10s	1s		0.1s	0.01s	0.001s
7	3	.	0	0	4