

**STUDY LINK**  
**1.1****Unit 1: Family Letter**

## Introduction to *Sixth Grade Everyday Mathematics*®

The program we are using this year—*Everyday Mathematics*—offers students a broad background in mathematics. Some approaches in this program may differ from the ones you learned as a student. That's because we're using the latest research results and field-test experiences to teach students the math skills they'll need in the 21st century.

Following are some program highlights:

- ◆ A problem-solving approach that uses mathematics in everyday situations
- ◆ Activities to develop confidence, self-reliance, and cooperation
- ◆ Repeated review of concepts throughout the school year to promote mastery
- ◆ Development of concepts and skills through hands-on activities
- ◆ Opportunities to communicate mathematically
- ◆ Frequent practice using games as alternatives to tedious drills
- ◆ Opportunities for home and school communication

## *Sixth Grade Everyday Mathematics* emphasizes a variety of content.

### **Number Relations**

- ◆ Recognizing place value in whole numbers and decimals
- ◆ Using exponential and scientific notation
- ◆ Finding factors and multiples
- ◆ Converting between fractions, decimals, and percents
- ◆ Ordering positive and negative numbers

### **Operations, Computation, and Mental Arithmetic**

- ◆ Solving problems involving whole numbers, fractions, decimals, and positive and negative numbers
- ◆ Applying properties of addition, subtraction, multiplication, and division

### **Data and Chance**

- ◆ Collecting, organizing, displaying, and analyzing data
- ◆ Identifying and comparing landmarks of data sets (mean, median, mode, and range)
- ◆ Using probability to represent and predict outcomes and analyze chance

### **Measurement, Measures, and Numbers in Reference Frames**

- ◆ Measuring using metric and U.S. customary units
- ◆ Using formulas to calculate circumference, area, and volume
- ◆ Naming and plotting points on a coordinate grid

**Geometry**

- ◆ Measuring and drawing angles
- ◆ Understanding properties of angles
- ◆ Identifying and modeling similar and congruent figures
- ◆ Constructing figures with a compass and a straightedge
- ◆ Drawing to scale
- ◆ Exploring transformations of geometric shapes
- ◆ Experimenting with modern geometric ideas

**Patterns, Functions, and Algebra**

- ◆ Creating and extending numerical patterns
- ◆ Representing and analyzing functions
- ◆ Manipulating algebraic expressions
- ◆ Solving equations and inequalities
- ◆ Working with Venn diagrams
- ◆ Applying algebraic properties
- ◆ Working with ratios and proportions

Throughout the year, you will receive Family Letters telling you about each unit. Letters may include definitions and suggestions for at-home activities. Parents and guardians are encouraged to share ideas pertaining to these math concepts with their child in their home language. You and your child will experience an exciting year filled with discovery.

## Building Skills Through Games

Games are as integral to the *Everyday Mathematics* program as Math Boxes and Study Links because they are an effective and interactive way to practice skills.

In this unit, your child will work on understanding place value of whole and decimal numbers, data landmarks, and order of operations by playing the following games.

Detailed game instructions for all sixth-grade games are provided in the *Student Reference Book*.

**High-Number Toss (Whole Number and Decimal Versions)** See *Student Reference Book*, pages 323 and 324.

Students practice reading and comparing whole numbers through hundred-millions and decimals through thousandths.

**Landmark Shark** See *Student Reference Book*, pages 325 and 326.

Students practice finding the mean, median, mode(s), and range of a set of numbers.

**Name That Number** See *Student Reference Book*, page 329.

Students practice writing number sentences using order of operations.

## Collection, Display, and Interpretation of Data

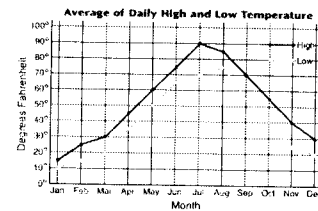
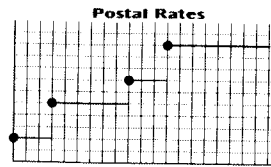
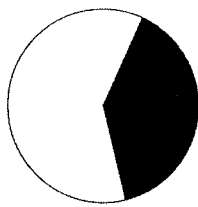
*Everyday Mathematics* will help your child use mathematics effectively in daily life. For example, the media—especially newspapers and magazines—use data. Employees and employers need to know how to gather, analyze, and display data to work efficiently. Consumers need to know how to interpret and question data presented to them so they can make informed choices. Citizens need to understand government data to participate in the running of their country.

In *Everyday Mathematics*, data provide a context for the development of numeric skills that, in traditional programs, would be developed in isolation. In Unit 1, your child will work with data displayed in stem-and-leaf plots, circle graphs, step graphs, broken-line graphs, bar graphs, and tables.

**Magnitude of Earthquakes on June 28, 2004**

Stems (ones)	Leaves (tenths)
2	0 2 6 8 8
3	0 3 4 5 9
4	1 2 2 5 7 8 8
5	1 2 4
6	8

**Preferred Types of Pizza Crust**



Stem-and-leaf plot

Circle graph

Step graph

Broken-line graph

The displays above relate to earthquake magnitudes, preferred pizza crusts, postal rates, and temperatures. Real-world applications support and enrich other areas of mathematics as well.

Throughout Unit 1, your child will look for graphs and tables in newspapers and magazines and bring them to school with your permission. The class will think critically about the materials collected. Students will consider the following questions:

- ◆ What is the purpose of the graph or table?
- ◆ Is the display clear and attractive, or can it be improved?
- ◆ Does the display seem accurate, or is it biased?
- ◆ Can you draw conclusions or make predictions based on the information?

Finally, students will learn a new game, *Landmark Shark*, which will help them develop skill in finding landmarks of data in various data sets. Ask your child to teach you how to play this game.

This should be a stimulating year, and we invite you to share the excitement with us!

**Please keep this Family Letter for reference as your child works through Unit 1.**

## As You Help Your Child with Homework

As your child brings assignments home, you might want to go over the instructions together, clarifying them as necessary. Some of the answers listed below will guide you through the unit's Study Links.

### Study Link 1•2

2. 90

5. Sample answers: Title: Weekly Allowance;  
Unit: Dollars

6. 90      7. 80      8. 120      9. 80

### Study Link 1•3

2. a. 4.8      b. 2.8, 4.2, 4.8      c. 4.1

3. 80      4. 110      5. 500      6. 50

### Study Link 1•4

1. Mia: 80; Nico: 80      3. Mia: 80; Nico: 75

4. Mia: 25; Nico: 45

6. \$5.82      7. \$30.27

8. \$14.24      9. \$20.50

### Study Link 1•5

1. a. 38      b. 147.5      c. 149.2

2. a. 29      b. 149      c. 151.3

3. \$9.01      4. \$1,107.47

5. \$45.87      6. \$35.67

### Study Link 1•6

2. 90°F      3. About 25 minutes

4. Sample answers: a. About 100 minutes

b. The rate of cooling levels off to  $2\frac{1}{2}^{\circ}\text{F}$  every 10 min.

5. a. no

b. The tea cools very quickly at first, but then the temperature drops slowly.

6. 1,728      7. 3,306      8. 4,484      9. 2,538

### Study Link 1•7

2. 5      3. 2      4. 3 times      5. 2 times

6. 2; 3      8. 6,613      9. 8,448      10. 10,872

11. 9, 711

### Study Link 1•8

2. \$1.29      3. a. \$1.75

b. Sample answer: The price difference per ounce is \$0.23. The price jumps another \$0.23 for every additional part of an ounce.

5. 28      6. 45      7. 67      8. 55

### Study Link 1•9

1. Answers vary.

3. men      4. a. 89%      b. 11%

5. 10% greater      6. 60% greater

7. Sample answer: Because they don't know the person, they don't know how the stranger will react.

8. 24      9. 14      10. 32      11. 19

### Study Link 1•10

1. Width (ft): 2; 3; 4; 6; 8; 9  
Area (ft<sup>2</sup>): 20; 27; 32; 36; 32; 27; 11

2. square

3. Length (yd): 24; 16; 12; 8; 6; 4; 2; 1  
Perimeter (yd): 98; 52; 38; 32; 28; 32; 38; 98

4. a. 6 yd or 8 yd      b. 8 yd or 6 yd      5. \$0.10

6. \$4.00      7. \$485.00      8. \$2,050.00

### Study Link 1•11

1. 165,000      2. 2003 and 2004

3. Sample answer: Yes. The population in 2005 would have to be 310,000 for the claim to be true.

4. \$5.00      5. \$90.00      6. \$13,925.00      7. \$0.89

### Study Link 1•12

1. a. 30 min

b. 1 hr 20 min, or  $1\frac{1}{3}$  hours, or 80 min

2. 2 hr 20 min, or  $2\frac{1}{3}$  hours, or 140 min

3. Sample answer: Biased. There are other ways to get to work, so not all commuters are represented.

4. \$70.00      5. \$8.45      6. \$25.92