Geometry

In Unit 7, children began to look carefully at attributes of 2-dimensional shapes. In Unit 8, they extend this work to include 3-dimensional shapes. They also explore building 2- and 3-dimensional shapes. They begin by building shapes with specific attributes, for example, shapes with 4 sides or shapes with 3 corners. Then they learn how to build larger shapes from smaller shapes. This is called *composing shapes.*

In Unit 8, children also learn how to make and name fractions of shapes. Children explore ways to divide shapes into 2 and 4 equal shares. They look at how these shares relate to the whole, and they name each share with a fraction name, including 1 half, 1 out of 2 parts, 1 fourth, 1 quarter, and 1 out of 4 parts. Children also name the whole, using language such as whole, 2 out of 2 parts, 2 halves, 4 out of 4 parts, 4 quarters, and 4 fourths. Children then build on their fraction work, applying their knowledge of fractions to telling time to the half hour. At this point, children will not be taught the notation typically used with fractions ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{2}{4}$, and so on). This notation will be introduced in Grade 2.

Also in this unit, children continue using place value to add and subtract numbers, including adding and subtracting 10 mentally.

IMPORTANT: Please send a few everyday objects, such as paper towel tubes, balls, books, dice, party hats, or plastic perfume bottles, to school with your child to use as examples for learning about 3-dimensional shapes. Your child will explore these shapes throughout Unit 8.

Please keep this Family Letter for reference as your child works through Unit 8.
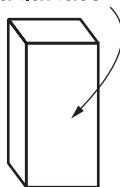
Vocabulary   Important terms in Unit 8:

edge A side where two faces meet.

equal shares Another name for equal parts. The result of dividing something into parts that are all the same size.

face A flat surface on a 3-dimensional figure.

a flat face

fourth When a whole is divided into four equal shares, one-fourth is one of those shares. Also called a *quarter, 1 fourth,* or *1 out of 4 equal shares.*
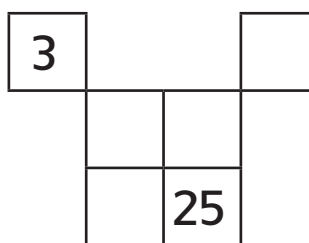
half When a whole is divided into two equal shares, one-half is one of those shares. Also called *1 half* or *1 out of 2 equal shares.*

half past Thirty minutes after a specific hour. For example, 6:30 is "half past six."

number-grid puzzle
In *Everyday Mathematics,* a piece of a number grid in which some of the numbers are missing. Children use number-grid puzzles to practice place-value concepts.

whole An entire object or collection of objects.

A number-grid puzzle

Do-Anytime Activities

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

1. Continue to work on addition and subtraction facts using the Fact Triangles introduced in Unit 7 and games from *My Reference Book*.

2. Encourage your child to build with blocks. Talk about how the pieces fit together to form new shapes and patterns.

3. Have your child tell you the time to the hour and half hour.

Building Skills through Games

Your child will play these games and others in Unit 8:

I Spy
One player describes a shape by naming its attributes. For example, "I spy something with 4 sides." The player continues naming attributes until someone guesses the shape.

Make My Design
Two players start with the same pattern blocks. Player 1 makes a design that Player 2 cannot see. Player 1 describes it to Player 2, who then tries to make the design. Then they check whether the designs are the same. Players switch roles and play again.

Time Match
A player turns over two cards with pictures of analog or digital clocks on them. If the times are not the same, the cards are turned back over. If the cards show the same time, the player keeps the cards. The player with the most cards wins.

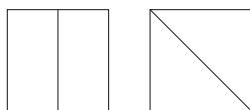# As You Help Your Child with Homework

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 the Home Links for this unit.

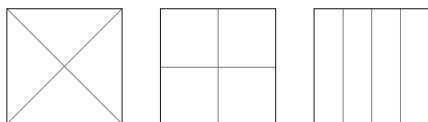### Home Link 8-1

1. Answers vary.

2. <; =; >

Home Link 8-2

1. Sample answers:

2. Sample answers: half; 1 out of 2 equal shares; 1 half
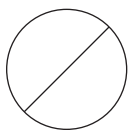
3. 13; 67

Home Link 8-3
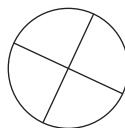
1. Sample answers:

2. Sample answers: quarter; fourth; one out of four equal shares; 1 fourth; 1 quarter

3. 5

Home Link 8-4

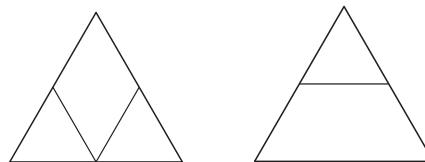1. Sample answers: half, 1 out of 2 parts, one-half, 1 half

2. Sample answers: quarter, fourth, 1 out of 4 parts, one-fourth, one-quarter, 1 fourth

3. 1 out of 2 equal parts
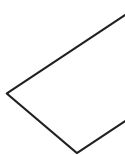
4. 7

5. 8

Home Link 8-5

1. Sample answers:

2. Answers vary.

Home Link 8-6

1., 3., 5. Answers vary.

2. 6

4. Square

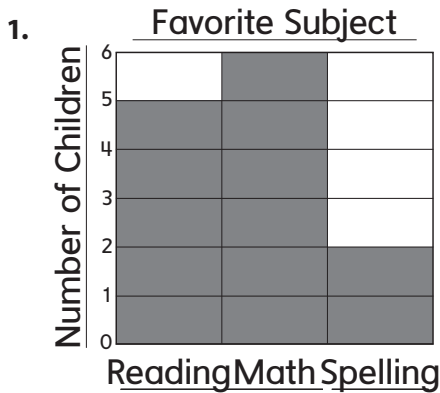6. The answers to Problems 2 and 4

7. Sample answer:

Home Link 8-7

1. Sample answer: I know $6 + 6 = 12$, so I add 1 more to get $6 + 7 = 13$.

2. Sample answer: I can take 4 away from 7 and add that to the 6 to make 10. I have 3 left, so $10 + 3 = 13$. 13 is the answer.

3. Answers vary.

4. 7; $12 - 7 = 5$

Home Link 8-8

1. 5

2. 7

3. 2:30

4. 9:30

5. Answers vary.

6. Answers vary.

7. 7; Sample number model: $7 = 3 + 4$

Home Link 8-9

1.

Favorite Subject

2. 13 children

3. 4 children

4. Sample answer:

Home Link 8-10

1.

43
53
63
73
83

2.

23	24	25
33		
43		
53		
63	64	
73		

3.

59		
69		
78	79	80
88	89	90

4.

14	15	16	17	18
24				28
34		36		38
44				48
54	55	56	57	58

5.

57	58	59	60
	68	69	70
	78	79	80
	87		90
96			

6. 40

Home Link 8-11

1–2. Answers vary.

3. 14; $4 + 2 + 8 = 14$