Addition Strategies

Home Link 3-1

NAME DATE

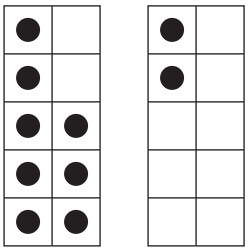
Family Note

In this lesson we learned about the making-10 strategy for adding numbers. We looked at dots arranged in two ten frames and discussed how to figure out the total number without counting each dot one by one. One way is to move dots from one frame in order to fill up the other frame to "make 10." This strategy can make addition easier because many of us are good at adding numbers when 10 is one of them. We will revisit making 10 along with other addition strategies throughout the year.

Please return this Home Link to school tomorrow.

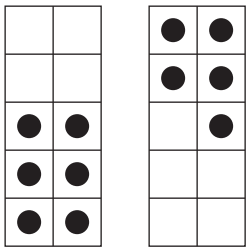
MRB 43

(1) Show on the double ten frame how to use the making-10 strategy to find the total number of dots. Then write a number model.



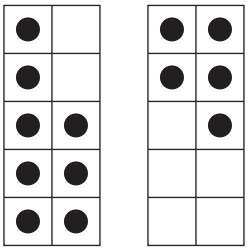
Number model: _____

(2) Show on the double ten frame how to use the making-10 strategy or a doubles fact to find the total number of dots. Then write a number model.



Number model: _____

(3) Tell someone at home how to find the total number of dots. Use any strategy except counting by ones. Then write a number model.



Number model: _____

Practice

Solve.

(4) 4 + 4 = _____ (5) _____ = 7 + 7

(6) 4 + 5 = _____ (7) _____ = 7 + 9

Domino Facts

Home Link 3-2

NAME DATE

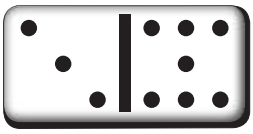
Family Note

Today we learned about related addition facts and subtraction facts. For example, $5 + 3 = 8$ has two related subtraction facts: $8 - 5 = 3$ and $8 - 3 = 5$. Each domino shown below can be used to write two addition facts and two related subtraction facts.

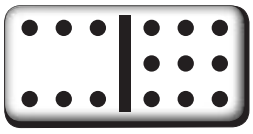
Please return this Home Link to school tomorrow.

Write two addition facts and two subtraction facts for each domino.

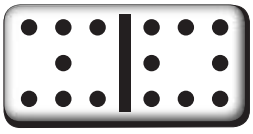
Example:



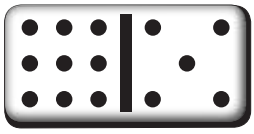
3	7	10	10
+ 7	+ 3	− 7	− 3
10	10	3	7

① 

+	+	−	−

② 

+	+	−	−

③ 

+	+	−	−

Facts Practice

Unit

Fill in the unit box. Solve the problems.

4. $7 + 3 =$ _____

5. _____ $= 7 + 5$

6. $6 + 4 =$ _____

7. $6 + 5 =$ _____

Fact Triangles

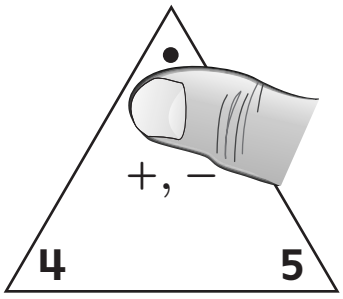
Home Link 3-3

NAME DATE

Family Note

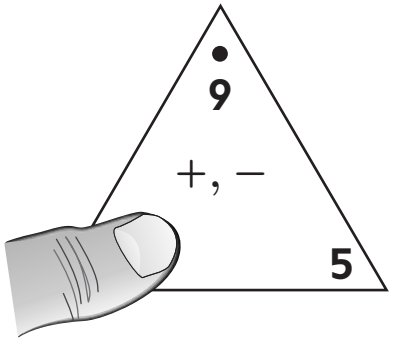
Fact Triangles are tools used to help build mental arithmetic skills. You might think of them as the *Everyday Mathematics* version of flash cards. Fact Triangles are more effective than traditional flash cards for helping children memorize facts, however, because of their emphasis on fact families. A fact family is a collection of related addition and subtraction facts that use the same three numbers. The fact family for the numbers 2, 4, and 6 consists of $2 + 4 = 6$, $4 + 2 = 6$, $6 - 4 = 2$, and $6 - 2 = 4$.

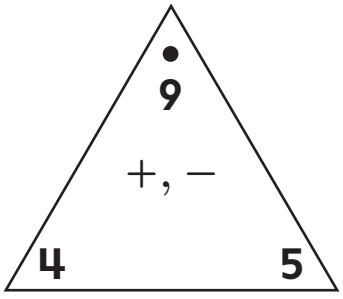
To use Fact Triangles to practice addition with your child, cover the number next to the large dot with your thumb.



Your child should tell you an addition fact: $4 + 5 = 9$ or $5 + 4 = 9$.

To use Fact Triangles to practice subtraction, cover one of the numbers in the lower corners with your thumb.





Your child should tell you the corresponding subtraction fact: $9 - 5 = 4$ or $9 - 4 = 5$.

If your child misses a fact, flash the other two fact problems on the card and then return to the fact that was missed.

For example: Sue can't answer $9 - 5$. Flash $4 + 5$, then $9 - 4$, and finally $9 - 5$ a second time.

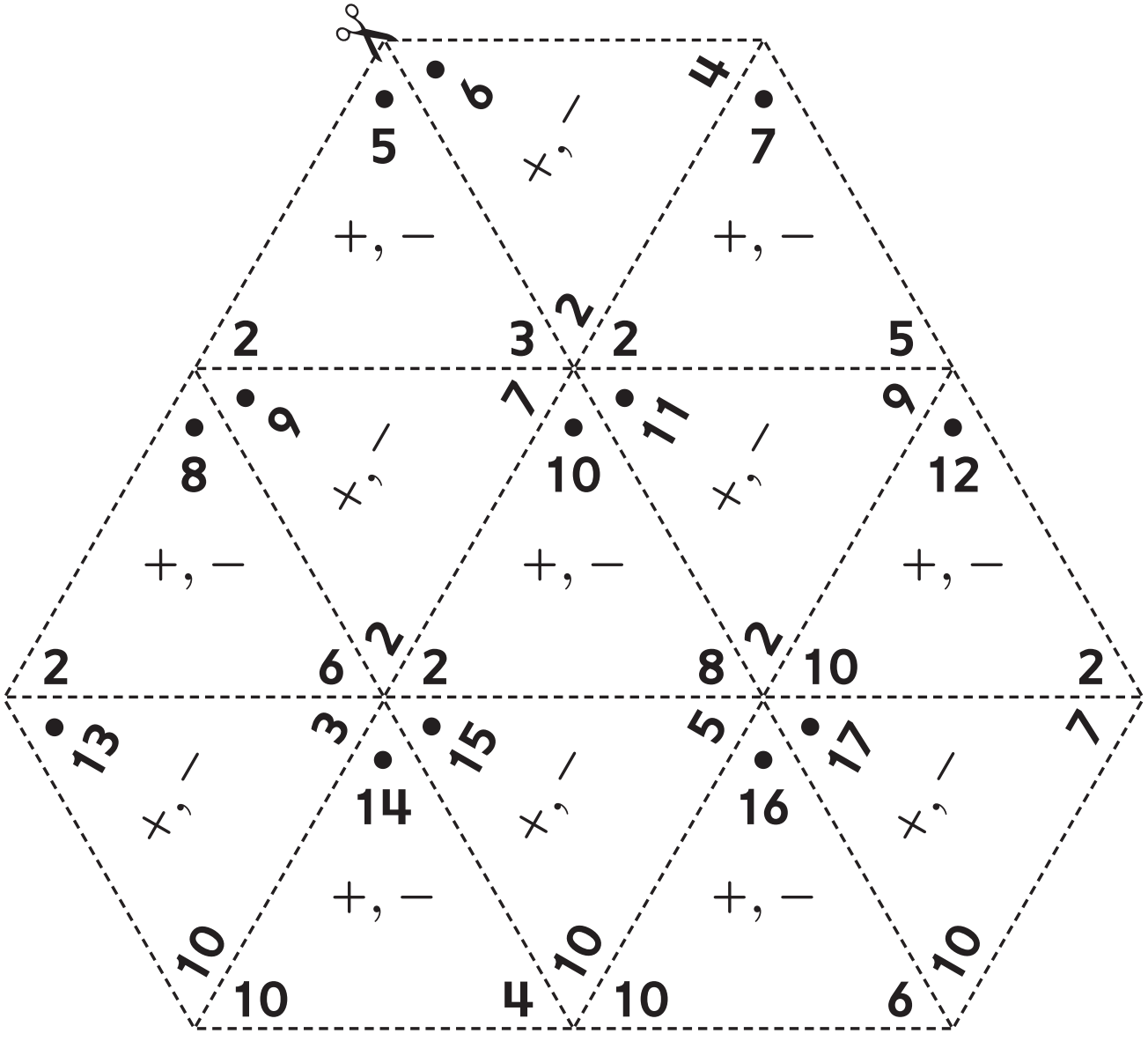
Make this activity brief and fun. Spend about 5–10 minutes each night over the next few weeks or until your child masters all of the facts. The work that you do at home will help your child develop an instant recall of facts and will complement the work that we are doing at school.

Fact Triangles
(continued)

Lesson 3-3

NAME DATE

Cut out the Fact Triangles. Show someone at home how you use them to practice adding and subtracting.

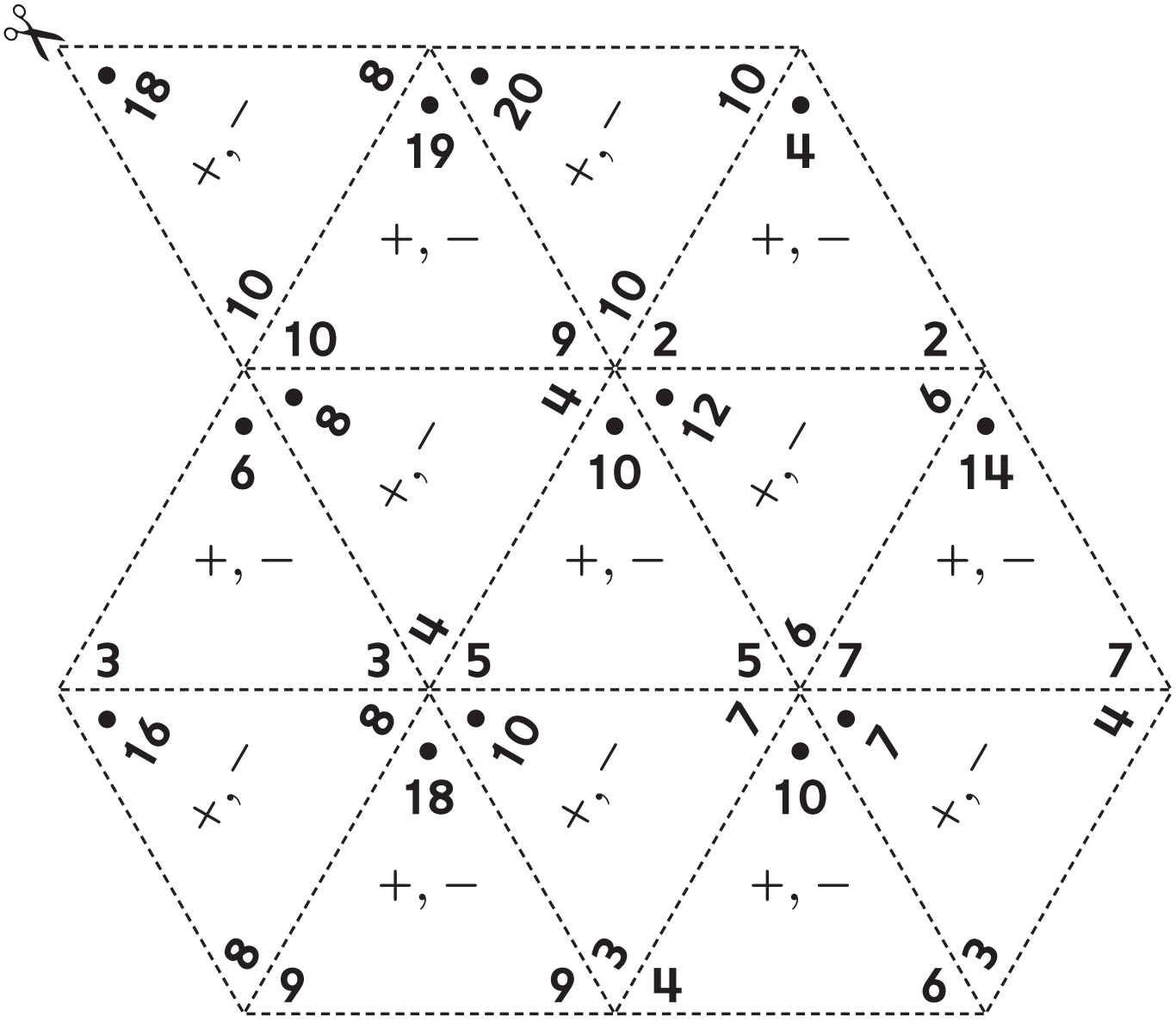


Fact Triangles
(continued)

Lesson 3-3

NAME DATE

Cut out the Fact Triangles. Show someone at home how you use them to practice adding and subtracting.



Finding Missing Addends

Home Link 3-4

NAME DATE

Family Note

In this lesson children played *Salute!* to practice finding missing addends, which helps them develop fluency with basic facts. Children may solve missing-addend problems by subtracting, counting up, or counting back. *Salute!* is played with three players and a deck of cards. Remove the face cards and jokers before you begin.

$3 + \square = 5$

addend missing addend sum

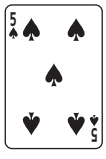
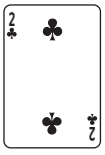
Directions

1. One person is selected as the dealer. The dealer gives one card to each of the other two players.
2. Without looking at their cards, players hold them on their foreheads with the number facing out.
3. The dealer looks at both cards and says the sum of the two numbers.
4. Each player looks at the other player's card, keeping in mind the sum said by the dealer. The object is for the players to figure out the number on their own card and say it aloud.
5. After both players have said their numbers, they can look at their own cards.
6. Rotate roles and repeat the game.
7. Play continues until all cards have been used or each player has been the dealer five times.

Please return this Home Link to school tomorrow.

Find the missing addends for the rounds of *Salute!*

MRB 162-163

	Partner 1	Partner 2	Dealer says the sum is ...
Round 1			10
Round 2			8
Round 3			12

Counting Up and Counting Back

Home Link 3-5

NAME DATE

Family Note

Today we learned about two subtraction strategies: counting up and counting back. We can use the counting-up strategy when the numbers in a subtraction problem are close together. For example, to solve 11 − 9 it is easier to start at 9 and count up to 11. This takes 2 counts (9 to 10 and 10 to 11), so the answer is 2. When the number being subtracted is small, the counting-back strategy is easier. For example, to solve 12 − 3 it is easier to start at 12 and count back 3 (12 to 11, 11 to 10, and 10 to 9). We end on 9, so the answer is 9.

Please return this Home Link to school tomorrow.

MRB 49

Use the counting-up strategy to solve.

① 7 − 4 = _____ ② 9 − 7 = _____

③ 11 − 8 = _____ ④ 13 − 11 = _____

Use the counting-back strategy to solve.

⑤ 9 − 2 = _____ ⑥ 12 − 3 = _____

⑦ 14 − 2 = _____ ⑧ 15 − 4 = _____

Write "counting up" or "counting back" on the line.

⑨ To solve 13 − 9, _____ is faster.

⑩ To solve 13 − 2, _____ is faster.

Explain your answer. _____

_____

Practice

Write the turn-around fact for each addition fact.

⑪ 7 + 6 = 13 _____ ⑫ 4 + 8 = 12 _____

Using Subtraction Strategies

Home Link 3-6

NAME DATE

Family Note

In today's lesson children explored the − 0 (minus 0) and − 1 (minus 1) fact strategies:

- If 0 is subtracted from any number, that number doesn't change.
  Examples: **3** − 0 = **3** and **27** − 0 = **27**
- If 1 is subtracted from any number, the result is the next smaller number.
  Examples: **7** − 1 = **6** (6 is the next smaller number) and **48** − 1 = **47** (47 is the next smaller number)

Children also played *Subtraction Top-It* to practice using subtraction strategies. They will be exposed to various strategies throughout the year to help develop fluency with subtraction facts.

Please return this Home Link to school tomorrow.

Solve.

Unit

(1) 8 − 1 = _____

(2) _____ = 11 − 0

(3) 9 − 1 = _____

(4) 12 − _____ = 12

(5) 13 − 1 = _____

(6) _____ = 10 − 1

Practice

Solve.

(7) 5 + 5 = _____

(8) 5 + 7 = _____

(9) _____ = 9 + 9

(10) _____ = 8 + 9

"What's My Rule?"

Home Link 3-7

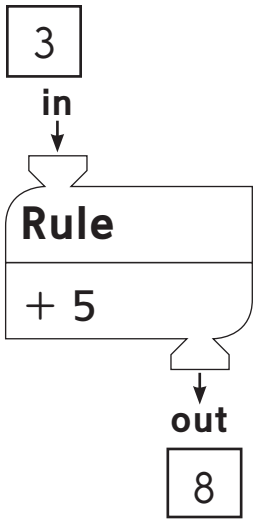
NAME DATE

Family Note

Today your child learned about a kind of problem you may not have seen before. We call it a "What's My Rule?" problem. Please ask your child to explain it to you.

Background information: Imagine a machine with an input funnel on top and an output tube at the bottom. The machine is programmed so that if you drop a number into the funnel, the machine does something to the number, and a new number comes out of the tube. *For example:* The machine is set to add 5 to any input number. If you put in 3, 8 comes out. If you put in 7, 12 comes out.

We call this device a function machine.



You can show the results of the rule "+ 5" in a table:

in	out
3	8
7	12
15	20

In a "What's My Rule?" problem, some of the information is missing. To solve the problem, you have to find the missing information, which could be the numbers that come out of a function machine, the numbers that are dropped in, or the rule for programming the machine. *For example:*

Rule: Add 6

in	out
3	
5	
8	

Missing: *out* numbers

Rule:

in	out
6	3
10	7
16	13

Missing: *rule*

Rule: + 4

in	out
	6
	16
	11

Missing: *in* numbers numbers

Like Frames-and-Arrows problems, "What's My Rule?" problems help children practice facts (and other addition and subtraction problems) in a problem-solving format.

Please return the second page of this Home Link to school tomorrow.

"What's My Rule?"
(continued)

Home Link 3-7

NAME DATE

Give the Family Note to someone at home. Show that person how you can complete "What's My Rule?" tables. Show that person how you can find rules.

① Fill in the table.

Rule
+ 9

in	out
1	10
4	13
6	
8	
5	

② Fill the rule.

Rule

in	out
10	2
12	4
9	1
14	6
8	0

③ Fill in the table.

Rule
+ 6

in	out
4	10
	12
	9
	15
	6

Try This

④ Fill the rule and fill in the missing *in* and *out* numbers.

Rule

in	out
8	13
4	9
13	
	10

Finding Missing Addends

Home Link 3-8

NAME DATE

Family Note

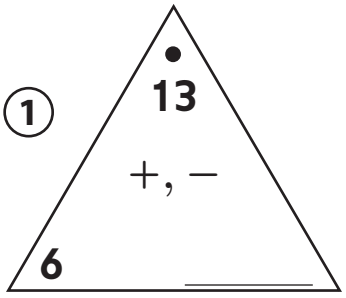
In this lesson children learned about using doubles facts to help solve subtraction facts. This is a strategy children can use whenever a subtraction fact is related to an addition double or to an addition fact close to a double. To solve 8 − 4 = ____, children might think of the related addition double 4 + 4 = 8 to find the answer 4. To solve 15 − 8 = ____, children could think 8 + ____ = 15. Starting from the double 8 + 8 = 16, they will find the solution is 1 less than 8, or 7.

Please return this Home Link to school tomorrow.

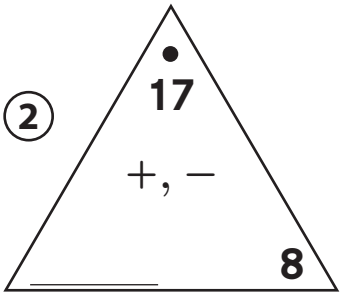
Look at the missing addend in each Fact Triangle. Tell someone at home how to use doubles to help find it.

Unit

MRB 48

① 

Explain how you found the missing addend.

② 

Explain how you found the missing addend.

Practice

Solve.

③ 8 + 2 = _____ ④ 8 + 3 = _____

Subtraction Strategy: Going Back Through 10

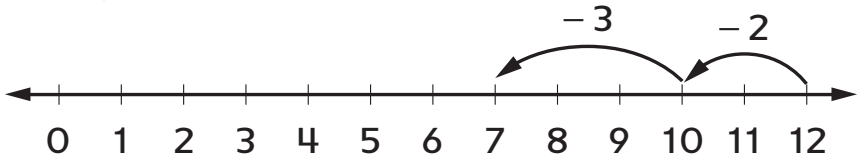
Home Link 3-9

NAME DATE

Family Note

In today's lesson your child learned a subtraction strategy called **going back through 10.** Because 10 is a friendly number that children are comfortable working with, children break the subtraction into two steps, using 10 as a breaking point. To solve 12 − 5 = ? your child may say:

- Start from 12, take away 2 to get to 10, and then take away 3 more to get to 7. By taking away the two parts 2 and 3, I get to 7. So the answer is 12 − 5 = 7.

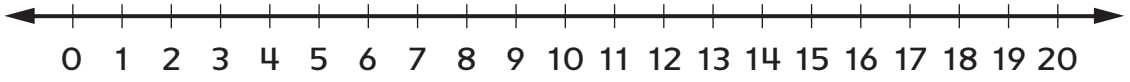


Your child may choose to use a different strategy to subtract, but it's important to expose him or her to various strategies. Help your child solve the problems below by going back through 10.

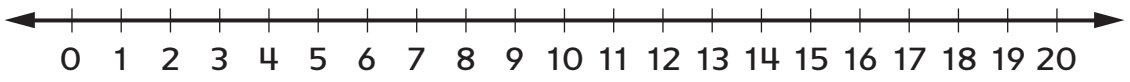
Please return this Home Link to school tomorrow.

Solve each problem using the going-back-through-10 strategy. Use the number line to show your work. Then explain your thinking.

① 13 − 4 = _____



② 15 − 7 = _____



Explain how you solved Problems 1–2 to someone at home.

Practice

Write the turn-around fact.

③ 3 + 5 = 8 _____ ④ 15 = 9 + 6 _____

Going-Through-10 Strategies

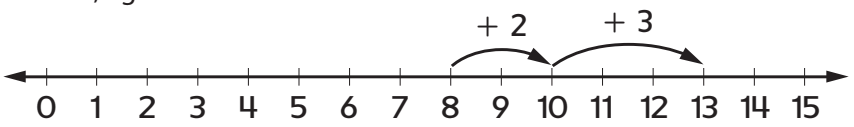
Home Link 3-10

NAME DATE

Family Note

In today's lesson your child learned a subtraction strategy called going up through 10. This strategy is similar to the going-back-through-10 strategy your child learned in Lesson 3-9. Children use 10 as a friendly number to solve subtraction facts, but they go up instead of back. To solve 13 − 8 = ? your child may say the following:

- Start from 8. Go up to 10, which is 2. Then go up to 13, which is 3 more. By adding together the two parts 2 and 3, I get 5. So the answer is 13 − 8 = 5.

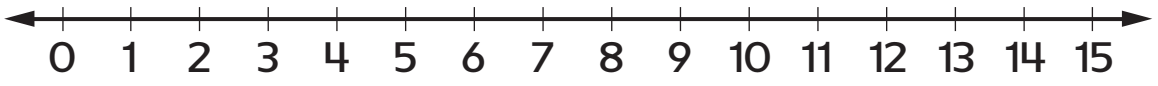


Your child might use a different strategy to subtract, but it's important to expose him or her to a variety of strategies. Parents can help children by guiding them to solve problems using the going-up-through-10 strategy and asking them to explain what they are thinking as they use it.

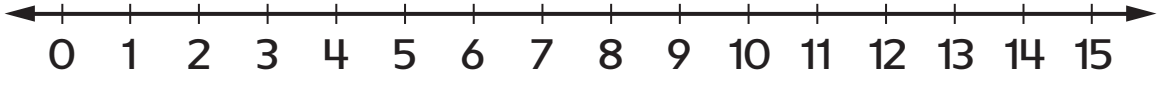
Please return this Home Link to school tomorrow.

Solve each problem using the going-up-through-10 strategy. Use the number line to show your work. Then explain your thinking to someone at home.

1 11 − 5 = _____



2 13 − 6 = _____



Practice

Solve.

3 _____ = 6 + 6 **4** 9 + 1 = _____ **5** _____ = 6 + 8

Counting Coins

Home Link 3-11

NAME DATE

Family Note

In this activity your child will count combinations of coins and write each group's value. Children have learned to count coins in order of value: they count quarters first, then dimes, then nickels, and finally pennies. Your child will also draw coins to show different ways to make a certain amount of money. For example, your child might show 28¢ with 1 quarter and 3 pennies or with 2 dimes, 1 nickel, and 3 pennies. You might provide real coins for your child to use for this Home Link.

Please return this Home Link to school tomorrow.

In Problems 1–3, write the total amount.

① 

Total _____¢

② 

Total _____¢

③ 

Total _____¢

④ Show two different ways to make 57¢.
Use Ⓟ, Ⓝ, Ⓓ, and Ⓠ.

Unit 4: Family Letter

Home Link 3-12

NAME DATE

Place Value and Measurement

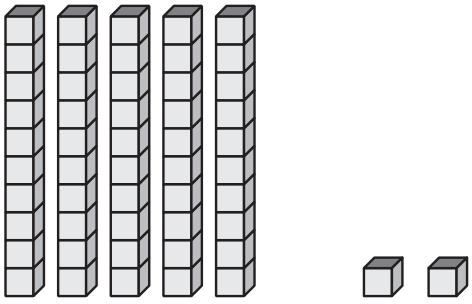
In Unit 4 your child will tell and write times using analog and digital clocks and discuss how to use A.M. and P.M. to specify the time of day.

Children will read, write, and compare numbers from 0 through 999, building on concepts and skills explored in *Everyday Mathematics* for Kindergarten and first grade. They will also review and extend their understanding of place value, which is the system that gives each digit a value according to its position in a number. In the number 52, for example, the 5 represents 5 tens (or 50), and the 2 represents 2 ones (or 2).

Unit 4 also focuses on estimating and measuring lengths using inches, centimeters, and feet. Children will learn that measurements are not exact, and they will use terms such as *close to, a little more than, a little less than, between,* and *about* when describing measurements.

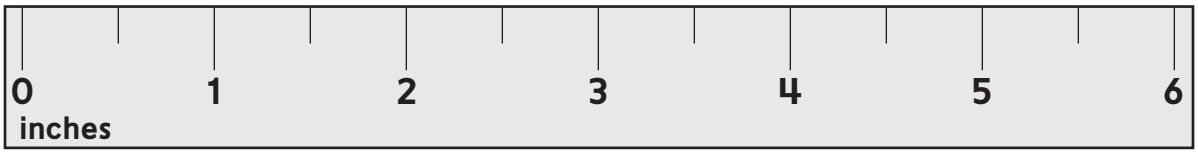
Math Tools

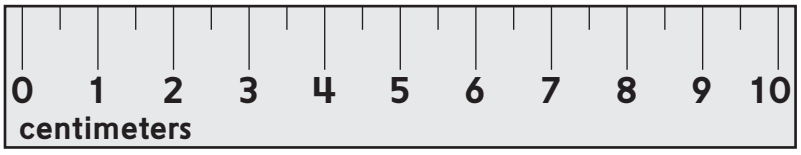
Children will use **base-10 blocks** to help them understand place value. These blocks represent the number 52.



5 tens **2 ones**

Your child will use rulers marked with standard units to measure length. *Everyday Mathematics* uses both U.S. customary and metric units.





Vocabulary

Important terms in Unit 4:

analog clock A clock that shows time by the position of the hour and minute hands.

digital clock A clock that shows time with numbers of hours and minutes, usually separated by a colon.

base-10 blocks In *Second Grade Everyday Mathematics,* a set of blocks for representing ones, tens, and hundreds.

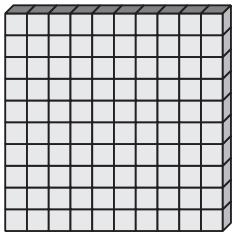
cube A base-10 block representing 1 in *Second Grade Everyday Mathematics.*

cube

long A base-10 block representing 10 in *Second Grade Everyday Mathematics.*

long

flat A base-10 block representing 100 in *Second Grade Everyday Mathematics.*



A flat

base-10 shorthand Simple drawings of base-10 blocks used to quickly record work.

Base-10 shorthand

digit Any one of the symbols 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9. Numbers are made up of digits. The number 145, for example, is made up of the digits 1, 4, and 5. In the base-10 number system the value of a digit depends on its place in the number. In the number 145 the digit 1 is worth 100 because it is in the hundreds place.

standard unit A unit of measure that has been defined by a recognized authority, such as a government or a standards organization. Inches, feet, and centimeters are examples of standard units.

foot (ft) A U.S. customary unit of length equal to 12 inches.

inch (in.) A U.S. customary unit of length equal to $\frac{1}{12}$ of a foot.

centimeter (cm) A metric unit of length equal to $\frac{1}{100}$ of a meter.

Do-Anytime Activities

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

1. Have your child tell the time shown on an analog clock to the nearest half hour or 5 minutes, depending on your child's skill level. By the end of second grade, children are expected to tell time to the nearest 5 minutes.
2. Draw an analog clock without hands. Say or write a time and have your child draw hands in the correct positions on the clock face.
3. Ask your child to tell you the value of a digit in any 3-digit number. In 694, for example, the 6 is worth 600, the 9 is worth 90, and the 4 is worth 4.

4. Name pairs of numbers and ask your child to determine which number is larger.
5. Discuss the different things you could measure with a ruler or a tape measure, such as the length of a book, the height of a table, or the distance from the refrigerator to the sink. Have your child give an estimate of a length or distance before measuring. Record the data and continue periodically to measure things with your child.

Building Skills through Games

In Unit 4 your child will practice mathematical skills by playing the following games.

Evens and Odds

Each player draws a card. If the card shows an even number, the player writes that number as a sum of two equal numbers. (For 6, the child writes $3 + 3 = 6$.) If the card shows an odd number, the player writes that number as the sum of two equal numbers plus or minus 1. (For 7, the child writes $3 + 3 + 1 = 7$ or $4 + 4 - 1 = 7$.)

Addition Top-It

Each player draws two number cards and adds the two numbers. The player with the larger sum takes all four cards.

Number Top-It

Each player uses two or more cards to build a multidigit number. The player with the largest number wins the round.

Target

Players draw number cards to create 1- and 2-digit numbers and use base-10 blocks to represent them. Players add or subtract each new number from their current total until the blocks on one player's mat have a value of exactly 50.

The Exchange Game (with Base-10 Blocks)

Each player rolls a die and collects that number of base-10 cubes from the bank. As players accumulate cubes, they exchange 10 cubes for 1 long. As they accumulate longs, they exchange 10 longs for 1 flat.

As You Help Your Child with Homework

When your child brings home assignments, you may want to go over the instructions together, clarifying them as necessary. The following answers will guide you through the Unit 4 Home Links.

Home Link 4-1

1. 4:00 **2.** 8:30 **3.** 11:30

4.  **5.**  **6.** 

7. 11 **8.** 4 **9.** 6 **10.** 16

Home Link 4-2

1. Answers vary. **2.** 6:30

3. 9:40 **4.** 1:25 **5.** 2:15

6.  **7.** 

8.  **9.** 

10. 12 **11.** 8 **12.** 7 **13.** 13

Home Link 4-3

1. Answers vary.

2. 9 **3.** 7 **4.** 2 **5.** 9

Home Link 4-4

1. a. 374 **b.** 507 **2.** 740

3. 936 **4.** 8; 0; 6 **5.** 2; 3; 5

Home Link 4-5

Answers vary for the rounds of *Number Top-It*.

1. 14 **2.** 16 **3.** 8 **4.** 7

Home Link 4-6

1. 145 **2.** 328 

Home Link 4-7

1. 32; 17; 49

Sample answer:

2. 26; 34; 60

Sample answer:

3. 32

Sample answer:

29

Home Link 4-8

Answers vary.

Home Link 4-9

1. Answers vary.

2. 14 **3.** 6 **4.** 13 **5.** 13

Home Link 4-10

1. Answers vary.

2. 8 **3.** 5 **4.** 9 **5.** 15

Home Link 4-11

12 cm; 6 cm; 8 cm; 26 cm