## Solving Addition Facts

## Family Note

Today we continued working with addition facts. Children can develop number-fact reflexes the same way that they develop any other habit-by practicing them over and over. In Everyday Mathematics knowing facts automatically is called fact power. We discussed ways to develop fact power, such as practicing with Fact Triangles and playing fact games.

When your child has solved the addition facts below and is ready to draw the mouse's path through the maze, explain that the mouse can move up, down, left, right, or diagonally to find the cheese.

Please return this Home Link to school tomorrow.

Solve the facts. Then draw a path for the mouse to find the cheese. The mouse can go through only those boxes with a sum of 7 .

| 2 | 0 | 0 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |

## Paying for Items

## Family Note

In class today we reviewed coin equivalencies and found different coin combinations to represent the same amount of money. For example, $12 \zeta$ can be shown with 12 pennies, with 2 nickels and 2 pennies, with 1 nickel and 7 pennies, or with 1 dime and 2 pennies. In this activity your child looks through advertisements, selects items that cost less than $\$ 2$, and shows how to pay for those items by drawing coins and bills. If you do not have access to advertisements, make up some items and prices.

Please return this Home Link to school tomorrow.

Look at newspaper or magazine ads. Find three items that cost less than $\$ 2$. Write the name and the price of each item. Show someone at home how you could pay for these items with coins and a $\$ 1$ bill. Write $®, \mathbb{®},(\mathbb{)}, \odot$, and $\$ 1$.
(1) I would buy $\qquad$ . It costs $\qquad$ .

This is how I would pay:
(2) I would buy $\qquad$ . It costs $\qquad$ .

This is how I would pay:
(3) I would buy $\qquad$ . It costs $\qquad$ .

This is how I would pay:

## Practice

Fill in the unit box. Solve.
(4) $17-8=$ $\qquad$ (5) $6+\square=13$
(6)
$-4=9$
(7) $9+7=$ $\qquad$

## Change at a Garage Sale

## Family Note

Today your child practiced making change by counting up. For example: Suppose an apple costs 17¢ and is paid for with a quarter (or 25 c ). One way to make change by counting up is to put down three pennies as you say " $18,19,20$ " and then put down a nickel and say " 25 cents," making 8 c in change.

In today's Home Link activity your child "sells" small items from around your home at a mock garage sale. Using real coins will make this activity easier. If you feel your child is ready, you can increase the cost of some items and use combinations of coins to pay for them.

Please return the second page of this Home Link to school tomorrow.
Pretend you are having a garage sale. Do the following:

- Find small items in your home to "sell."
- Give each item a different price. Every price should be less than 254.
- Pretend that customers pay for each item with a quarter.
- Show someone at home how you would make change by counting up. Use @, ©, © , and © to draw the change.


## Example:

The customer buys a pen for $2 / \phi$.


The change is

(1) The customer buys $\qquad$ for $\qquad$
The change is $\qquad$ .
(2) The customer buys $\qquad$ for $\qquad$ .

The change is $\qquad$ .
(3) The customer buys $\qquad$ for $\qquad$ .

The change is $\qquad$ .
(4) The customer buys $\qquad$ for $\qquad$ .

The change is $\qquad$ .

## Practice

Fill in the unit box. Solve.
(5) $11-\quad=8$
(6) $8+\square=15$
(7) $+7=14$
(8) $13-8=$ $\qquad$

## Counting Up to Make Change

## Family Note

Help your child identify the change he or she would receive by counting up from the price of the item to the amount of money used to pay for it. Use real coins and bills to act out the problems with your child. You will need a $\$ 1$ bill and at least 3 quarters, 5 dimes, 5 nickels, and 5 pennies.

Please return this Home Link to school tomorrow.

Complete the table.

| I Buy | It Costs | I Pay With | My Change |
| :---: | :---: | :---: | :---: |
| A box of raisins | 70\$ | (1) (Q) | \$ |
| A box of crayons | 65\$ | \$1 | \$ |
| A pen | 59\$ | @@@ | \$ |
| An apple | 45\$ | (D)(D)(D)(D)( | ¢ |
| A notebook | 73¢ | (Q@(D)(D) | \$ |
| A ruler | 48\$ | \$1 | \$ |
|  | - | - | _ \$ |

## Practice

Solve.

(1) $12-$ $=9$
(2) $9+$ $\qquad$ $=16$
(3)
$+8=11$
(4) $14-8=$ $\qquad$

## Clock Faces and Digital Notation

## Family Note

Today your child played Clock Concentration, a game that involves matching clock faces to times in digital notation (such as 6:00 or 12:30). By the end of Grade 2 , your child is expected to tell time to the nearest 5 minutes. By the end of Grade 3, your child will be expected to tell time to the nearest minute.

Please return this Home Link to school tomorrow.

Draw a line matching each clock face to a time.
(1)


4:15
(2)

(3)


7:10
(4)


8:30

## Practice



# Adding and Subtracting <br> 10 and 100 

## Family Note

Today we learned rules for adding and subtracting 10 :

- To add 10 , increase the tens digit of a number by 1 :

$$
\begin{array}{ll}
24+10=34 & 772+10=782 \\
98-10=88 & 615-10=605
\end{array}
$$

- To subtract 10 , decrease the tens digit of a number by 1 :

When the number has a 9 in the tens place (for addition) or 0 in the tens place (for subtraction), the hundreds digit also changes:

- To add 10 , increase the hundreds digit by 1 and change the tens digit to 0 :
- To subtract 10 , decrease the hundreds digit by 1 and change the tens digit to 9 : $703-10=693$ We also learned rules for adding and subtracting 100:
- To add 100, increase the hundreds digit of a number by 1 :
$643+100=743$
- To subtract 100, decrease the hundreds digit of a number by 1 :
$451-100=351$
These rules help children mentally add or subtract 10 or 100.
Please return this Home Link to school tomorrow.

Solve mentally. Tell someone at home about the rules you used.
(1) $62+10=$ $\qquad$
(2) $58-10=$ $\qquad$
(3) $116+10=$ $\qquad$
(4) $=391-10$
(5) $=786+100$
(6) $625-100=$ $\qquad$
(7) Clare did 24 sit-ups. She rested and then did 10 more. How many sit-ups did she do in all? $\qquad$
(8) Freddie had 215 marbles. He gave 10 to a friend. How many does he have left? $\qquad$ marbles

## Practice

(9) $3+$ $\qquad$ $=12$
(10) $16-9=$ $\qquad$
(11) $\qquad$ $+8$
(12) 11 - $\qquad$ $=8$

## Using Open Number Lines

## Family Note

Today your child learned about open number lines. Children can use open number lines to quickly record their thinking when they use mental strategies to add or subtract.

Here is an example: To solve $29+36$, think of 36 as three 10 s and six 1 s. Add the 10 s first. Think, " 29 plus 10 is 39 , plus 10 more is 49 , plus 10 more is 59. ."


Then add the 1 s . Think, "If I add 1 more, I get to 60 . Then I still have 5 to go; 60 plus 5 is 65. ."


Open number lines are quick and easy to draw because they show only the numbers needed to solve a particular problem. For example, the open number line above only shows 29, 39, 49, 59, 60, and 65 because these are the stopping points used in the mental addition strategy described above.

Please return this Home Link to school tomorrow.
Solve. You may use the open number lines to help.
(1) There are 32 beads on one necklace and 26 beads on another. How many beads in all? $\qquad$ beads
(2) You have 16 apples in your basket. You pick 17 more. How many do you have now? ___ apples

## Change Number Stories

## Family Note

Your child has learned how to represent a problem by using a change diagram, which is shown in the example below. Using diagrams like this can help children organize the information in a problem. When the information is organized, it is easier to decide which operation $(+,-, \times, \div)$ to use to solve the problem. Change diagrams are used to represent problems in which a starting quantity is increased or decreased. For the number stories on this Home Link, the starting quantity is always increased.

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

Do the following for each number story on the next page:

- Write the numbers you know in the change diagram.
- Write ? for the number you need to find.
- Write a number model. Use ? for the number you need to find.
- Answer the question.

Example: Twenty-five children are riding on a bus. At the next stop, 5 more children get on. How many children are on the bus now?


The number of children on the bus has increased by 5 .
Possible number model: $25+5=$ ?
Answer: There are now 30 children on the bus.

## Change Number <br> Stories (continued)

(1) Becky ate 11 grapes after lunch. She ate 7 more grapes after dinner. How many grapes did she eat in all?
Start ${ }^{\text {Change }}$

Number model:
$\qquad$ ___ grapes
(2) Bob has 30 baseball cards. He buys 8 more. How many baseball cards does Bob have now?


Number model:
$\qquad$ cards
(3) A large fish weighs 42 pounds. A small fish weighs 10 pounds. The large fish swallows the small fish. How much does the large fish weigh now?

Draw your own change diagram.

Number model: $\qquad$ __ pounds

## Parts-and-Total Number Stories

## Family Note

Your child has learned how to represent and solve problems by using parts-and-total diagrams. Parts-and-total diagrams are used to organize the information in problems in which two or more quantities (parts) are combined to form a total quantity.

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


Large suitcase 45 pounds


Small suitcase 30 pounds


Backpack 17 pounds


Package 15 pounds

Use the weights shown in the pictures above to do the following for each number story on the next page:

- Write the numbers you know in a parts-and-total diagram.
- Write ? for the number you need to find.
- Write a number model. Use ? for the number you need to find.
- Answer the question.

Example: You carry the small suitcase and the package. How many pounds do you carry in all?

The parts are known. The total is to be found. Possible number model: $30+15=$ ? Answer: 45 pounds

## Parts-and-Total Number Stories

(continued)
(1) You wear the backpack and carry the small suitcase. How many pounds do you carry in all?

| Total |  |
| :---: | :---: |
| Part | Part |
|  |  |

Number model:

Answer: $\qquad$ pounds
(2) You carry the large suitcase and the small suitcase. How many pounds do you carry in all?

| Total |  |
| :---: | :---: |
| Part | Part |
|  |  |

Number model:

Answer: $\qquad$ pounds
(3) You wear the backpack and carry the package. How many pounds do you carry in all?

Draw your own parts-and-total diagram:

Number model: $\qquad$
Answer: $\qquad$ pounds

## Temperature

## Family Note

In today's lesson your child solved problems involving temperatures. Thermometers provide a realworld context for solving problems involving change, such as an increase (a change to more) or a decrease (a change to less) in temperature. Change diagrams help children organize information and find the change in a change problem.

On the thermometers on these Home Link pages, the longest degree marks are spaced at 10-degree intervals, the shortest marks are spaced at 1-degree intervals, and the mid-length marks are spaced at 2-degree intervals. Point to these mid-length degree marks while your child counts by 2 s : 30, 32, $34,36,38,40,42,44$ degrees.

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

For Problems 1-2 on the next page, follow these steps:

- Decide whether the change in temperature is a change to more or a change to less.
- Fill in the diagram with numbers from the problem.

Use ? for the number you want to find.

- Write a number model. Use ? for the number you want to find.
- Find the change in temperature.

Example:
Start


Answer: $14^{\circ} \mathrm{F}$

Start


Number model: $\qquad$ Answer: ___ ${ }^{\circ} \mathrm{F}$

## Change



Number model: $\qquad$
Answer: ___ ${ }^{\circ} \mathrm{F}$
(3) Explain how you found the answer to Problem 2.
$\qquad$
$\qquad$
$\qquad$

## Addition Strategies

## Home Link 5-11

## Family Note

In this lesson we added multidigit numbers. Your child solved an addition number story using two different strategies. Being able to solve problems more than one way and with different tools can help children confirm their answers and choose methods that work well in certain situations. Adding multidigit numbers will be revisited throughout the year.

Please return this Home Link to school tomorrow.

Uma bought a telephone for $\$ 36$ and blank CDs for $\$ 14$. What was her total cost?
(1) Show how to solve this problem using base-10 blocks.

Answer:
(2) Show how to solve this problem using an open number line.

## Answer:

## Whole Number Operations and Number Stories

In Unit 6 children collect data about the number of pockets on their clothing and display the data in a picture graph (shown below at left) and a bar graph (right).


Children also continue solving number stories and learn to use a new diagram, the comparison diagram, to organize information from number stories that involve comparing two different quantities. The comparison diagram at the right shows the information from this comparison number story:

Barbara has 35 markers. Edward has 20 markers. How many more markers does Barbara have than Edward?

Children also revisit the diagrams introduced in Unit 5, using them to organize their thinking and plan their strategies for solving one- and two-step number stories. Organizing information from a given number story in one of these diagrams can help children decide, for example, whether they should add or subtract to solve the number


A comparison diagram story.

Throughout the first part of Unit 6, children practice writing number models for number stories using ? to represent the number they need to find. For example, a number model for the number story about Barbara's and Edward's markers might be $20+?=35$.

In the final part of this unit, children invent and use their own strategies to add 2-and 3-digit numbers and are introduced to a formal addition strategy called partial-sums addition. Home Links 6-6, 6-7, and 6-8 provide more information about the various addition strategies your child will encounter.
Please keep this Family Letter for reference as your child works through Unit 6.

## Vocabulary Important terms in Unit 6:

bar graph A graph with horizontal or vertical bars that represent data. The heights (or lengths) of the bars show the counts for each category. For example, the bar graph on the previous page shows that 4 children are wearing clothes with 5 pockets each.
picture graph A graph with pictures or symbols that represent data. The number of pictures above (or next to) each category shows the count for that category. For example, the picture graph on the previous page shows that 3 children are wearing clothes with 6 pockets each.
graph key A list of the symbols used on a graph that explains how to read the graph. The key on the picture graph on the previous page shows that each smiley-face symbol stands for 1 child.
comparison number story A number story involving the difference between two quantities. For example: Ross squeezed 12 lemons. Anthony squeezed 5 lemons. How many more lemons did Ross squeeze than Anthony?
comparison diagram A diagram used to organize information from a comparison number story. For example, the diagram at the right organizes the information from Ross and Anthony's lemon story.

$\square$

## 5

Difference
two-step number story A number story that most children solve using two arithmetic operations. For example: Kyla had 6 leaves. She found 8 more in the woods. Then she gave 3 to her sister. How many leaves does Kyla have now?
ballpark estimate A rough estimate that is reasonable or "in the ballpark." Children can use ballpark estimates to check the reasonableness of answers they find using other computation methods. A ballpark estimate for the problem $23+81$ might be 100 because $20+80=100$.
partial-sums addition An addition strategy in which separate sums are computed for each place-value column that are then added to get a final sum. More information on partial-sums addition will be provided in the Family Note for Home Link 6-8.
expanded form A way of writing a number as the sum of the values of its digits. For example, the expanded form of 356 is $300+50+6$.

## Do-Anytime Activities

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

1. Encourage your child to show you his or her favorite addition strategy.
2. Ask your child to make a ballpark estimate for the sum of two 2 - or 3-digit numbers.
3. Pose one- and two-step number stories for your child to solve. Ask your child to explain his or her solution strategy to you.
4. Have your child compare two objects' lengths. Ask which object is longer and prompt your child to use a ruler or a tape measure to find the difference between the lengths.

## Building Skills through Games

In Unit 6 your child will practice mathematical skills by playing the following games.

## The Exchange Game

Each player rolls a die and collects that number of base10 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.

## Salute!

The dealer gives one card to each of two players. Without looking at their cards, the players place them on their foreheads facing out. The dealer finds the sum of the numbers on the cards and says it aloud. Each player uses the sum and the number on the opposing player's forehead to find the number on his or her own card.

## Beat the Calculator

One player is the Caller, who names two 1-digit numbers. Another player is the Brain, who adds the two numbers mentally. A third player is the Calculator, who adds the numbers with a calculator. The Brain tries to find the sum faster than the Calculator.


## 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 Unit 6 Home Links.

## Home Link 6-1

1. Answers vary.
2. Answers vary.

## Home Link 6-2

1. 



## Quantity

10 ?

## Difference

Rosa; Sample answer: 29-10 = ?; \$19
2.


Difference
Sample answer: $8+$ ? $=15 ; 7$ miles

## Home Link 6-3

1. Sample answer: $16+7=$ ?; 23 inches
2. Sample answer: $24+$ ? $=30 ; 6$ blocks

## Home Link 6-4

1. 20 feet 22 feet

## Home Link 6-5

1. Sample answers: $11+6-8=$ ?; $11+6=$ ? and $17-8=$ ?; 9 children

## Home Link 6-6

For 1-2, strategies will vary.

1. Sample estimate: $30+60=90 ; 93$
2. Sample estimate: $20+70=90 ; 85$
3. 246
4. $200 ; 70 ; 8$
5. 350
6. $400 ; 20$

## Home Link 6-9

1. 10
2. 8
3. a. 28
b. 25
c. 25
d. 29

## Home Link 6-10

1. XXXXXXXX

XXXXXXXX
Sample answer: $8+8=16$
2. $X X X X X X$
xXXXXX
XXXXXX
XXXXXX
Sample answer: $6+6+6+6=24$
3. XXXXXXX

XXXXXXX
XXXXXXX
Sample answer: $7+7+7=21$

## Home Link 6-7

".||.... |l|l.
$70+5=75$
2.

$40+12=52$
3. 532
4. $300 ; 40$
5. 405
6. $600 ; 9$

## Home Link 6-8

In 1-3, sample estimates are shown.

1. $50+40=90 ; 89$
2. $30+80=110 ; 108$
3. $125+240=365 ; 363$
