Fact Strategies

Unit 2 focuses on developing strategies for solving addition facts. In *Everyday Mathematics* children learn basic facts by first focusing on specific groups of facts that can be solved using a particular strategy. Children build fluency and automatic recall as they develop strategies for all the different groups of facts. Achieving automatic recall of basic addition facts will enable your child to solve multidigit computation problems with ease later in the year.

Everyday Mathematics Program Routines

Your child will use two new program routines in this unit. **Name-collection boxes** provide a space for children to collect equivalent names for numbers. **Frames-and-Arrows diagrams** show sequences of numbers following a certain pattern. More information about these routines can be found in the Family Notes on Home Links 2-10 and 2-12.

10

ten	$1 + 9$
diez	$12 - 2$
$6 + 4$	$10 - 0$

A name-collection box

| Rule |
| -5 |

$35 \rightarrow 30 \rightarrow 25 \rightarrow 20 \rightarrow 15 \rightarrow 10$
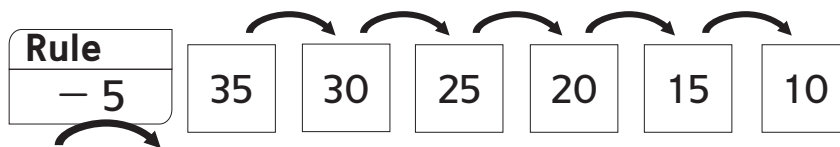
A frames-and-arrows diagram

Please keep this Family Letter for reference as your child works through Unit 2.

Vocabulary   Important terms in Unit 2:

label A unit, descriptive word, or phrase used to put a number or numbers in context. Using a label reinforces the idea that numbers often refer to something.

unit box A box that contains the label or unit of measure for the numbers in a problem. *For example:* In number stories that involve counting children in the class, the word *children* would go in the unit box.

| Unit |
| children |

number model A number sentence or other representation that fits a number story or situation. *For example:* $5 + 8 = 13$ models the number story "There are 5 children skating. There are 8 children playing ball. How many children are there in all?"

number story A story involving numbers that is made up by children, teachers, or parents. Children solve problems posed in number stories using many different methods. In Grade 2, number stories focus on addition and subtraction.

doubles fact An addition fact in which a number is added to itself, such as $4 + 4 = 8$ and $9 + 9 = 18$.

**combination of 10** An addition fact with a sum of 10, such as $6 + 4 = 10$ and $7 + 3 = 10$.

addend Any one of a set of numbers that is added. *For example:* In $5 + 3 = 8$, the addends are 5 and 3.

turn-around rule for addition A rule that says you can add two numbers in either order and get the same result (for example, $3 + 5 = 8$ and $5 + 3 = 8$).

name-collection box An empty box used to collect equivalent names for a given number. The tag in the top left corner identifies the number whose names are collected in the box.

Frames-and-Arrows diagram A diagram used to represent a number sequence, which is a list of numbers that follow some rule. A Frames-and-Arrows diagram consists of frames connected by arrows that show the path from one frame to the next. Each arrow represents a rule that determines which number goes in the next frame so that all of the frames contain the numbers in the sequence.

Rule
-5

35	30	25	20	15	10

10

ten	$1 + 9$
diez	$12 - 2$
$6 + 4$	$10 - 0$
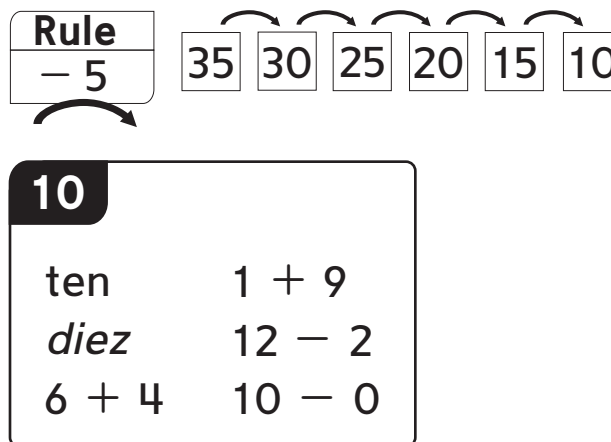
Building Skills through Games

In Unit 2 your child will explore place-value concepts and practice addition facts by playing the following games.

The Exchange Game
Each player rolls a die and collects that number of $1 bills from the bank. As players accumulate bills, they exchange ten $1 bills for one $10 bill and ten $10 bills for one $100 bill.

Evens and Odds
Each player draws a card. If the card shows an even number, the player writes it as a sum of two equal addends. If the card shows an odd number, the player writes it as the sum of two equal addends plus or minus 1. *For example:* A player who draws a 6 writes $3 + 3 = 6$, and a player who draws a 7 writes $3 + 3 + 1 = 7$ or $4 + 4 - 1 = 7$.

Name That Number
Players turn over a card to show a target number that must be renamed using any combination of five faceup cards.

4	10	8	12	2		6

$6 = 8 - 2$

$6 = 10 - 4$

$6 = 4 + 2$

Do-Anytime Activities

To work with your child on the mathematical concepts taught up to this point in the school year, try these interesting and rewarding activities:

1. Talk with your child about why it is important to learn basic facts.

2. Create addition number stories about common objects in your child's environment.

3. Have your child explain his or her favorite fact strategy to you.

4. Name a number and ask your child to think of several different ways to represent it. *For example:* 10 can be represented as $1 + 9$, ten tally marks, the word *ten,* and so on.

5. Ask your child to make fair exchanges between $1 and $10 bills or among coins.

6. Call out numbers and ask your child whether the numbers are even or odd.

As You Help Your Child with Homework

Your child will regularly bring home assignments with instructions you may want to go through together, clarifying them as necessary. The following represent the answers to every problem in the Unit 2 Home Links.

Home Link 2-1

1. 1
2. 100
3. 10
4. Sample answers: 5; 50
5. $14
6. $29
7. $120

Home Link 2-2

1. Answers vary.
2. 4
3. 8
4. 10
5. 14

Home Link 2-3

1. **a.** 4   **b.** 10   **c.** 0   **d.** 2   **e.** 14   **f.** 3   **g.** 16
2. Sample answers: $10 + 0$; $9 + 1$; $8 + 2$; $7 + 3$; $6 + 4$; $5 + 5$

Home Link 2-4

1. $10 + 0 = 10$; $9 + 1 = 10$; $8 + 2 = 10$; $7 + 3 = 10$; $6 + 4 = 10$; $5 + 5 = 10$; $4 + 6 = 10$; $3 + 7 = 10$; $2 + 8 = 10$; $1 + 9 = 10$; $0 + 10 = 10$
2. 11; $8 + 2 = 10$
3. 11; $4 + 6 = 10$
4. 12; $9 + 1 = 10$

Home Link 2-5

1. Answers: 9, 11; Helper fact: 10
2. Answers: 13, 15; Helper fact: 14
3. 7; Helper fact: $4 + 4 = 8$ or $3 + 3 = 6$
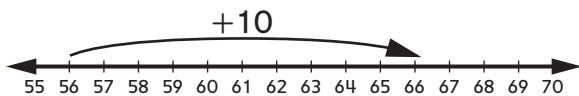4. 17; Helper fact: $8 + 8 = 16$ or $9 + 9 = 18$

Home Link 2-6

1. $2 + 4 = 6$; $4 + 2 = 6$

2. $3 + 5 = 8$; $5 + 3 = 8$

3. $4 + 6 = 10$; $6 + 4 = 10$

4. $3 + 8 = 11$; $8 + 3 = 11$

5. 10   **6.** 10

7. 10   **8.** 10

Home Link 2-7

1. $6 + 8 = 14$; $8 + 6 = 14$

2. 15; $3 + 12 = 15$

   3; $3 + 8 = 11$

3. a. 3   **b.** 5   **c.** 7   **d.** 6

Home Link 2-8

1. Answer: 66

$$+10$$

| 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |

2. Answer: 66

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80

Home Link 2-9

Children should circle 6, 18, 8, 14, 4, 10, 16, 2, 20, and 12; they should underline 9, 3, 11, 17, 15, 1, 7, 19, 13, and 5.

$7 \rightarrow 3 + 3 + 1$

$8 \rightarrow 4 + 4$

$11 \rightarrow 6 + 6 - 1$

$14 \rightarrow 7 + 7$

$17 \rightarrow 8 + 8 + 1$

$10 \rightarrow 5 + 5$

Home Link 2-10

1. Answers vary.

2. Sample answers: Ten, $11 - 1$, $10 - 0$, $10 + 0$, $5 + 5$, $13 - 3$, $8 + 1 + 1$, $2 + 2 + 2 + 2 + 2$, ~~HHH~~ ~~HHH~~ ,

   X X X X X
   X X X X X

3. Answers vary.

Home Link 2-11

1. Sample answers: $6 + 6 = 12$; $10 + 2 = 12$

2. Sample answers: $9 - 4 = 5$; $6 - 1 = 5$

3. Sample answers: $9 - 3 = 6$; $4 + 2 = 6$

4. 3   **5.** 1

6. 8   **7.** 10

Home Link 2-12

1.

Rule
$+ 2$

32 34 36 38 40

2.

Rule
$- 5$

45 40 35 30 25

3.

Rule
$+ 10$

38 48 58 68 78

4.

Rule
$+ 3$

8 11 14 17 20

5. Answers vary.