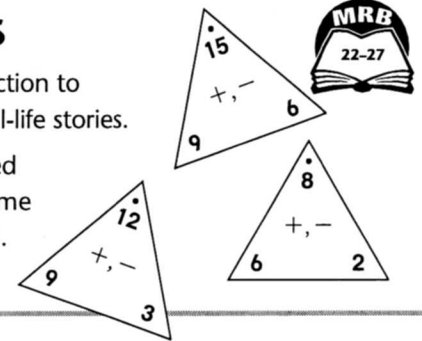




## Addition and Subtraction Facts

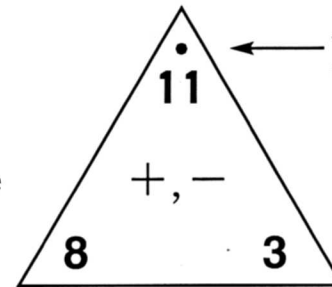
Unit 2 focuses on reviewing and extending addition facts and linking subtraction to addition. Children will solve basic addition and subtraction facts through real-life stories.

In *Everyday Mathematics*, the ability to recall number facts instantly is called “fact power.” Instant recall of the addition and subtraction facts will become a powerful tool in computation with multidigit numbers, such as  $29 + 92$ .



### Math Tools

Your child will be using **Fact Triangles** to practice and review addition and subtraction facts. Fact Triangles are a “new and improved” version of flash cards; the addition and subtraction facts shown are made from the same three numbers, helping your child understand the relationships among those facts. The Family Note on Home Link 2-7, which you will receive later, provides a more detailed description of Fact Triangles.



← The dot designates the largest number.

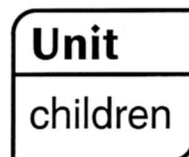
A Fact Triangle showing the fact family for 3, 8, and 11

## 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 always 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 involving children in the class, the unit box would be as follows:



A unit box allows children to remember that numbers have a context without having to repeat the label in each problem.

**number story** A story involving numbers made up by children, teachers, or parents. Problems from the story can be solved with one or more of the four basic arithmetic operations.

**number model** A number sentence that shows how the parts of a number story are related. For example,  $5 + 8 = 13$  models the number story: “5 children skating. 8 children playing ball. How many children in all?”

**fact power** The ability to instantly recall basic arithmetic facts.

**doubles fact** The sum or product of the same two 1-digit numbers, such as  $2 + 2 = 4$  or  $3 \times 3 = 9$ .

**turn-around facts** A pair of addition (or multiplication) facts in which the order of the addends (or factors) is reversed, such as  $3 + 5 = 8$  and  $5 + 3 = 8$  (or  $3 \times 4 = 12$  and  $4 \times 3 = 12$ ). If you know an addition or multiplication fact, you also know its turn-around fact.

**fact family** A collection of four addition and subtraction facts, or multiplication and division facts, relating three numbers. For example, the addition/subtraction fact family for the numbers 2, 4, and 6 consists of:

$$2 + 4 = 6 \quad 4 + 2 = 6$$

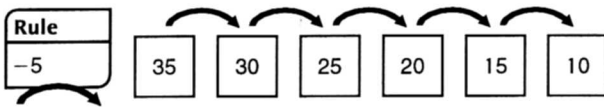
$$6 - 4 = 2 \quad 6 - 2 = 4$$

The multiplication/division fact family for the numbers 2, 4, and 8 consists of:

$$2 \times 4 = 8 \quad 8 \div 2 = 4$$

$$4 \times 2 = 8 \quad 8 \div 4 = 2$$

**Frames-and-Arrows diagram** A diagram used to represent a number sequence, or a list of numbers ordered according to a rule. A Frames-and-Arrows diagram has frames connected by arrows to show the path from one frame to the next. Each frame contains a number in the sequence; each arrow represents a rule that determines which number goes in the next frame.

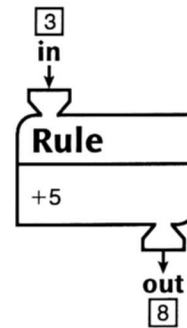


**“What’s My Rule?” problem** A problem in which number pairs are related to each other according to a rule or rules. A rule can be represented by a **function machine**.

in	out
3	8
5	10
8	13

“What’s My Rule?” table

**Function machine** In *Everyday Mathematics*, an imaginary device that receives input numbers and pairs them with output numbers according to a set rule.



## Do-Anytime Activities

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

1. Talk with your child about why it is important to learn basic facts.
2. Create addition and subtraction stories about given subjects.
3. Have your child explain how to use a facts table.
4. As you discover which facts your child is having difficulty mastering, make a Fact Triangle using the three numbers of that fact family.
5. Name a number and ask your child to think of several different ways to represent that number. For example, 10 can be represented as  $1 + 9$ ,  $6 + 4$ ,  $12 - 2$ , and so on.

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

## Building Skills through Games

In Unit 2, your child will practice addition facts and find equivalent names for numbers by playing the following games.

### **Beat the Calculator**

A “Calculator” (a player who uses a calculator to solve the problem) and a “Brain” (a player who solves the problem without a calculator) race to see who will be first to solve addition problems.



### **Domino Top-It**

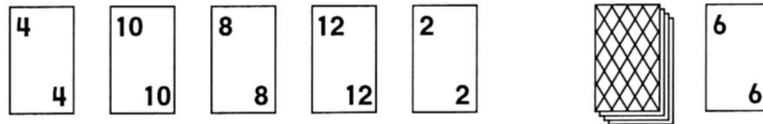
Each player turns over a domino and finds the total number of dots. The player with the larger total then takes both dominoes from that round.

### **Doubles or Nothing**

Each player adds numbers across each row, down each column, and along each diagonal in a grid for each round, circles identical sums, and finds the total of doubles as a score for the round.

### **Name That Number**

Each player turns over a card to find a number that must be renamed using any combination of five faceup cards.



$$6 = 8 - 2$$

$$6 = 10 - 4$$

$$6 = 4 + 2$$


# 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 this unit's Home Links.

## Home Link 2-1

2. 8    3. 18    4. 7    5. 16

## Home Link 2-2

	2	0	5	1	2	3	1	3	4	1
	+4	+0	+4	+4	+5	+2	+9	+6	+4	+1
	6	0	9	5	7	5	10	9	8	2
	+0	+5	+1	+4	+2	+7	+3	+2	+4	+8
	2	8	6	5	11	7	5	4	9	10
	6	1	5	0	4	0	1	4	5	4
	+2	+6	+5	+6	+3	+5	+8	+6	+3	+0
	8	7	10	6	7	5	9	10	8	4
	0	6	8	9	3	7	2	1	5	6
	+8	+6	+2	+0	+3	+1	+6	+3	+2	+1
	8	12	10	9	6	8	4	7	7	4
	2	2	6	6	0	4	6	0	5	1
	+1	+9	+2	+4	+1	+2	+3	+2	+1	+2
	3	11	8	10	1	6	9	2	6	3
	4	7	6	9	1	0	1	7	0	6
	+5	+0	+2	+3	+5	+9	+7	+5	+3	+6
	9	7	8	12	6	9	8	6	10	6
	+1	+0	+2	+3	+0	+0	+3	+3	+8	+7
	10	8	8	11	1	6	3	3	11	10


## Home Link 2-3

1. a. 4    b. 10    c. 0    d. 14    e. 6  
       f. 16    g. 12    h. 18    i. 2    j. 8  
 3. a. 9    b. 9    c. 17    d. 13    e. 5  
       f. 15    g. 11

## Home Link 2-4

1. a. 7    b. 11    c. 7    d. 7    e. 11    f. 7  
 2. a. 8    b. 5    c. 6    d. 3    e. 7    f. 9  
 3. a. 11    b. 15    c. 16    d. 10    e. 14    f. 15  
       g. 17    h. 14    i. 18    j. 16    k. 13    l. 17

## Home Link 2-5

	2	2	1	0	5	3	7	4	1	4
	+6	+5	+6	+8	+7	+9	+0	+4	+5	+3
	8	7	7	8	12	12	7	8	6	7
	2	6	1	3	6	1	8	5	2	3
	+5	+7	+5	+9	+8	+2	+3	+4	+3	+7
	9	11	8	8	9	10	8	6	6	15
	4	5	9	0	4	7	5	8	5	6
	+4	+4	+3	+2	+6	+1	+5	+0	+8	+7
	8	9	12	10	8	10	8	14	13	7
	6	3	7	9	5	4	2	4	4	1
	+2	+9	+1	+2	+3	+4	+9	+8	+1	+2
	8	11	11	11	8	8	11	12	13	2
	3	6	8	7	7	6	7	3	4	6
	+4	+6	+4	+5	+0	+2	+6	+7	+8	+6
	7	12	12	12	7	8	10	9	11	11
	8	3	4	5	1	3	6	5	8	7
	+5	+6	+7	+6	+5	+7	+7	+3	+7	+4
	13	9	11	7	7	8	13	12	11	14
	6	8	2	7	4	1	0	3	4	6
	+1	+4	+6	+7	+2	+4	+7	+9	+5	+1
	7	12	8	14	6	5	7	12	9	10

## Home Link 2-6

2.  $9 + 6 = 15$ ;  $6 + 9 = 15$ ;  $15 - 6 = 9$ ;  $15 - 9 = 6$   
 3.  $8 + 7 = 15$ ;  $7 + 8 = 15$ ;  $15 - 7 = 8$ ;  $15 - 8 = 7$   
 4.  $5 + 9 = 14$ ;  $9 + 5 = 14$ ;  $14 - 9 = 5$ ;  $14 - 5 = 9$   
 5. 13    6. 14    7. 12    8. 16

## Home Link 2-10

- Rule: +6

3    9    15    21    27
- Rule: -3

31    28    25    22    19
- Rule: +5

7    12    17    22    27
- Rule: +3

8    11    14    17    20
- Rule: -2

40    38    36    34    32
- Rule: +10

20    30    40    50    60

## Home Link 2-11

1. Rule: +9	2. Rule: -8	3. Rule: +6	4. Rule: +5
in   out	in   out	in   out	in   out
1   10	10   2	4   10	8   13
4   13	12   4	6   12	4   9
6   15	9   1	3   9	13   18
8   17	14   6	9   15	5   10
5   14	8   0	0   6	Answers vary.

5. 18; 5