Parts-and-Total Situations

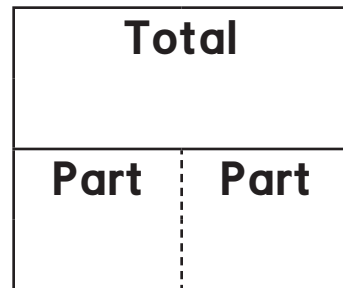## Family Note

Parts-and-total situations are also known as "putting together" or "taking apart" situations. Two or more quantities (parts) are put together to make a total, or a total number is separated into parts. Children are asked to find the total or a missing part in a number story. This is one of many kinds of addition and subtraction number stories your child solves in first grade.
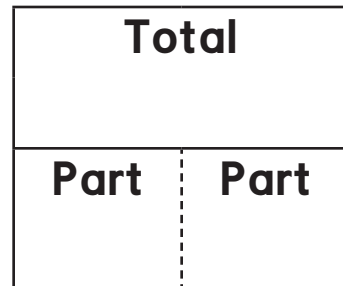
Please return this Home Link to school tomorrow.

Solve. Use the parts-and-total diagrams to help you.

1 Jenny answered every test question.
She got 5 right and 3 wrong.
How many questions were on the test?

_____ questions

Total	
Part	**Part**

2 There are 10 kids on Kevin's team.
8 are boys.
The rest are girls.
How many girls are on the team?

_____ girls

Total	
Part	**Part**

Practice

3 Count by 1s.

43, 44, _____, _____, _____, _____

Practicing Number Stories

Family Note

Today your child practiced solving number stories and shared problem-solving strategies. To solve number stories, children learn that they must first make sense of the stories, then carry out the operations. Do not expect your child to have mastered these skills yet. There will be many more opportunities to practice solving number stories throughout the year.

Please return this Home Link to school tomorrow.

1 Solve. Explain your strategy to someone at home.
Walt was at the carnival.
He had 8 carnival tickets and 2 pens.
He traded 4 tickets for 1 more pen.

How many tickets does Walt have now? _____ tickets

How many pens does Walt have now? _____ pens

2 Write a number story that matches this number sentence.
$4 + 3 = 7$

_____

_____

_____

Practice

Count up to solve.

3 What number is 4 more than 12? _____

4 What number is 3 more than 17? _____

5 What number is 9 more than 26? _____

Ordering Objects by Length

Family Note

Today your child explored length by directly comparing the lengths of objects side-by-side. This activity helps prepare children to compare lengths of objects indirectly and to measure length more formally. In the next unit, your child will begin to measure length using items in the classroom, such as blocks and paper clips. Children also explored doubles facts and counted a collection of objects. Children also counted the number of chair legs in the classroom and wrote number models for matching pairs.

Please return this Home Link to school tomorrow.

1 Find two things in your home that are about the same length. Draw pictures of them.

2 Find two things that have very different lengths. Draw pictures of them.

Practice

3 Start at 2. Count up 3. Where do you land?

_____

Start at 3. Count up 2. Where do you land?

_____

Did you end at the same number for both? _____

Number Stories

Family Note

Today, your child drew pictures and wrote number models to represent number stories. After your child completes this Home Link, ask him or her to explain how the numbers in the number model are represented in the picture.

Please return this Home Link to school tomorrow.

1 Dillon's family has 5 fish and 3 cats.
Draw a picture of the fish and the cats.

How many pets does Dillon's family have in all?

_____ pets

Write a number model.

_____

Practice

2 Laura had 14 tickets.
She bought an eraser.
She has 7 tickets left.
How many tickets did the eraser cost?

14 − _____ = 7

Unit
tickets

Counting on Number Lines
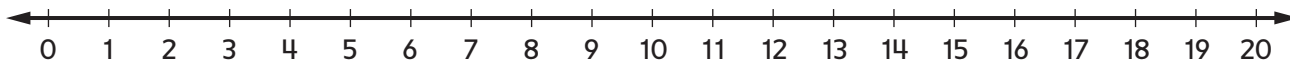
Family Note

Today your child learned many ways to count on a number line. Ask your child to tell you about patterns in number-line counts.

Please return this Home Link to school tomorrow.

```
0  1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16  17  18  19  20
```

(1) Count by 10s. 0, _____ , _____

(2) Count by 5s. 0, _____ , _____ , _____ , _____

(3) Count by 2s. 0, _____ , _____ , _____ , _____

(4) Count by 1s.   0, _____ , _____ , _____ , _____

(5) How is counting by 5s like counting by 10s?

_____

_____

_____

Practice

Find the sums.

(6) [dice: 6] + [dice: 4] = _____

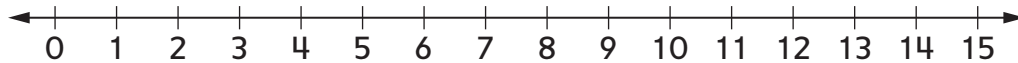**(7)** [dice: 4] + [dice: 4] = _____

Counting to Add and Subtract

Family Note

Today your child solved problems like $3 + 2$ and $8 - 5$ by counting up and back on a number line. Ask your child to show you how to do this.
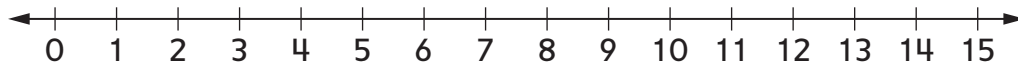
Please return this Home Link to school tomorrow.

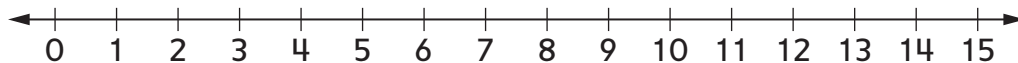Draw hops on the number line to help you solve these problems.

(1) $9 + 4 = $ _____

```
◄──┼───┼───┼───┼───┼───┼───┼───┼───┼───┼───┼───┼───┼───┼───┼──►
   0   1   2   3   4   5   6   7   8   9  10  11  12  13  14  15
```

(2) $3 + 8 = $ _____

```
◄──┼───┼───┼───┼───┼───┼───┼───┼───┼───┼───┼───┼───┼───┼───┼──►
   0   1   2   3   4   5   6   7   8   9  10  11  12  13  14  15
```

(3) $11 - 4 = $ _____

```
◄──┼───┼───┼───┼───┼───┼───┼───┼───┼───┼───┼───┼───┼───┼───┼──►
   0   1   2   3   4   5   6   7   8   9  10  11  12  13  14  15
```

Practice

(4) Circle the winning card in *Top-It.*

```
┌──────┐        ┌──────┐
│  18  │        │  12  │
└──────┘        └──────┘
```
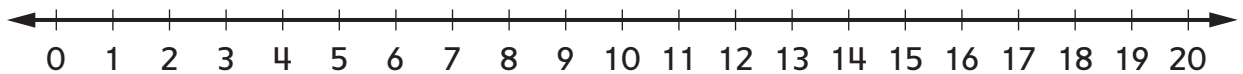
More Counting to Add and Subtract

Family Note

Today your child worked with number sentences that have unknowns in different positions. Children solved number sentences such as $4 + ? = 7$ and $? - 5 = 3$. Ask your child to show how to use a number line to find unknown numbers. For example, to solve $4 + ? = 7$, your child might start at 4 and count the number of hops it takes to get to 7.

Please return this Home Link to school tomorrow.

Find the missing number.
Use the number line.

$$\overset{\longleftrightarrow}{\underset{0 \quad 1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \quad 8 \quad 9 \quad 10 \quad 11 \quad 12 \quad 13 \quad 14 \quad 15 \quad 16 \quad 17 \quad 18 \quad 19 \quad 20}{}}$$

(1) $\boxed{} + 8 = 13$ **(2)** $\boxed{} - 9 = 6$

(3) $\boxed{} + 9 = 18$ **(4)** $5 + \boxed{} = 11$

(5) $14 - \boxed{} = 7$ **(6)** $12 - \boxed{} = 8$

Practice

Flowers	
Roses	~~HHH~~ ~~HHH~~ //
Daisies	~~HHH~~ ///

(7) How many flowers in all?

_____ flowers

(8) Make tally marks to show how many flowers in all.

_____

Skip Counting to Add and Subtract

Family Note

Today your child found patterns on the number grid and used them to add and subtract.

Please return this Home Link to school tomorrow.

(1) Start at 5. Count by 5s.
Draw an X on each square to show the count.

									0
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

(2) Use the number grid.
Count by 5s to find the missing numbers.

$5 + 5 =$ _____

$20 - 15 =$ _____

Practice

Solve. Use the number grid above to help you.

(3) Start at 17. Count up 7 hops. Where do you land? _____

(4) Start at 21. Count up 10 hops. Where do you land? _____

(5) Start at 25. Count up 14 hops. Where do you land? _____

(6) Start at 28. Count up 18 hops. Where do you land? _____

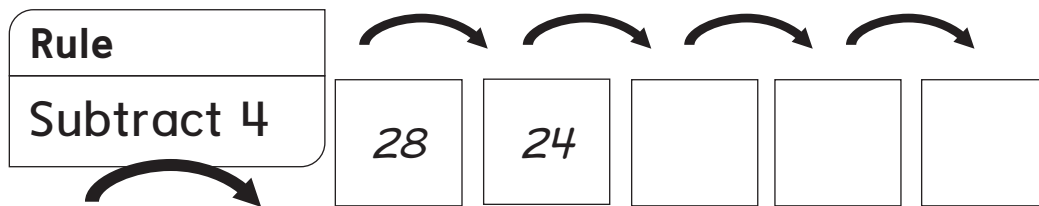# Frames-and-Arrows Diagrams

Family Note

Your child is bringing home an activity that may not be familiar to you. It is called "Frames and Arrows." A Frames-and-Arrows diagram shows a sequence of numbers that follow a given rule. Each frame contains a number. The arrow stands for the rule that determines the next number in the sequence or the number that goes in the next frame.

Rule
Add 2

| 2 | 4 | 6 | 8 | 10 |
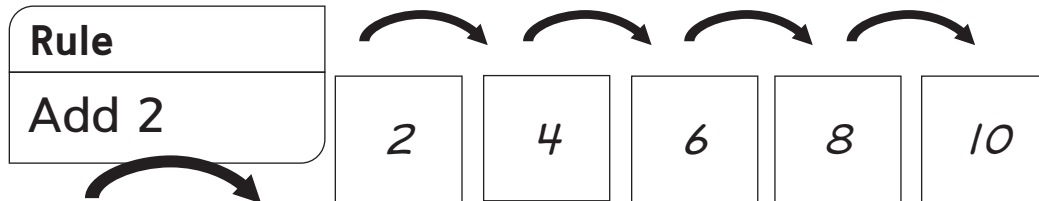
The rule for the Frames-and-Arrows diagram above is "Add 2," "+ 2," or "Count by 2s."

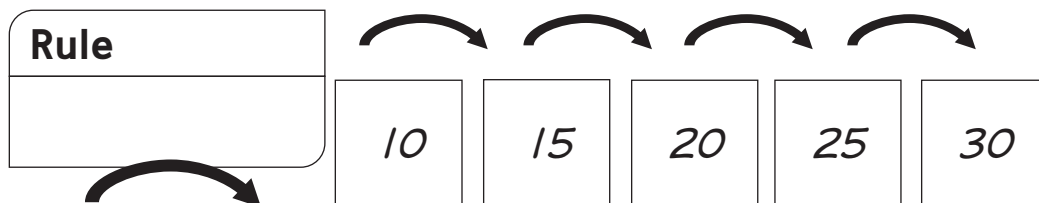To solve the Frames-and-Arrows problem below, use the rule to find the missing numbers.

Example 1:

Rule
Subtract 4

| 28 | 24 | | | |

Solution: Write 20, 16, and 12 in the empty frames.

For the next Frames-and-Arrows diagram, look at the number sequence. Determine the arrow rule.

Example 2:

Rule

| 10 | 15 | 20 | 25 | 30 |

Solution: The arrow rule is "Add 5," "+ 5," or "Count by 5s."
Your child has been solving problems like Example 1, in which the arrow rule is given and some of the numbers in the frames are missing. In the next lesson, children will do problems like Example 2, in which the numbers in the frames are given and the arrow rule is missing.

Frames-and-Arrows Diagrams (cont.)

Family Note

Ask your child to tell you about Frames and Arrows. Take turns making up and solving Frames-and-Arrows problems.

Please return this page of the Home Link to school tomorrow. Save page 77 for future reference.

Find the missing numbers.

1 Rule | Add 2

| 5 | | 9 | | 13 | |

2 Rule | Count back by 1s

| 18 | | 16 | 15 | | |

3 Rule | 5 more

| 5 | 10 | | | | 30 |

Practice

4 Count hops on the number line to solve.

$$0 \quad 1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \quad 8 \quad 9 \quad 10 \quad 11 \quad 12 \quad 13 \quad 14 \quad 15 \quad 16 \quad 17 \quad 18 \quad 19 \quad 20$$
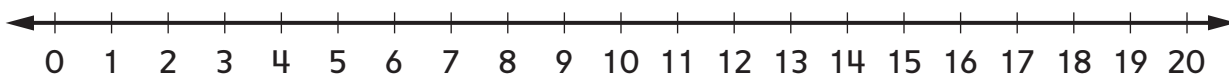
$6 + 3 =$ _____   _____ $= 10 - 2$

_____ $= 9 - 5$ $7 - 4 =$ _____

Finding the Rule

Family Note

Today your child worked with Frames-and-Arrows diagrams that had missing rules. You may wish to refer to the Family Note for Lesson 3-9 to review the Frames-and-Arrows routine.

Please return this Home Link to school tomorrow.

Show someone at home how to find the rules.
Then write each rule.

(1) **Rule**

| 3 | 5 | 7 | 9 | 11 |

(2) **Rule**

| 5 | 10 | 15 | 20 | 25 |

(3) **Rule**

| 18 | 15 | 12 | 9 | 6 |

Practice

(4) Draw 35 stars on the back of the page.

Counting with Calculators

Write the counts.

1 Start at: 3
Count: up
By: 3s

_____, _____, _____, _____, _____, _____, _____

2 Start at: 20
Count: back
By: 2s

_____, _____, _____, _____, _____, _____, _____

3 Start at: 45
Count: back
By: 5s

_____, _____, _____, _____, _____, _____, _____

Practice

**4** Write number sentences to show the domino sums.

_____   _____
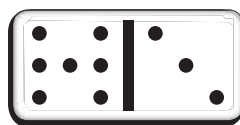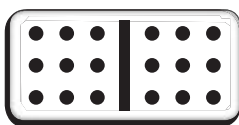
Length and Addition Facts

Two ideas are emphasized in Unit 4: length measurement and addition fact fluency.

Children begin the unit by directly comparing the lengths of two objects. Then they compare the lengths of two objects indirectly by using a third object, such as a piece of string. Later children learn to measure length using nonstandard units like paper clips.

They learn that measurement units must be the same size.
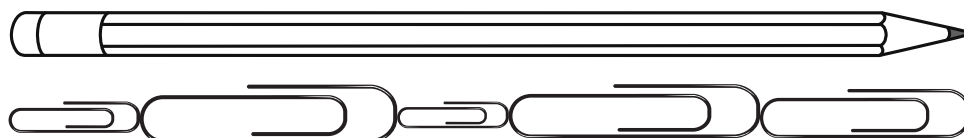
Using different-size units does not provide an accurate measurement.

They also learn that the units must be arranged without gaps or overlaps.
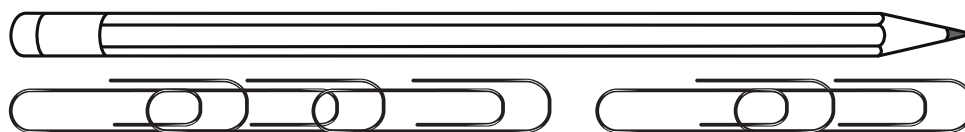
Measuring with gaps and overlaps does not provide an accurate measurement.

Correct measures use same-size units with no gaps and overlaps.

The pencil is about 4 paper clips long.

Also in this unit, children transition from displaying data in tally charts to displaying data in bar graphs. Their work with comparing lengths will help them interpret data by comparing the lengths of the bars in the graphs.

Other lessons in Unit 4 focus on addition facts. One of the Grade 1 standards requires children to fluently add and subtract within 10. In order to achieve fluency, they must be efficient at recalling these facts and using the facts in a variety of situations. Doubles and combinations of 10 are some of the easiest facts for children to remember and are emphasized in Unit 4. Once children learn these facts, they can use them to help figure out other facts. Fact fluency is emphasized and developed throughout the year, so do not worry if your child does not achieve this goal right away.

In Unit 4, children also begin developing strategies for adding more than two numbers and using place value to mentally add or subtract 10 from other 2-digit numbers.
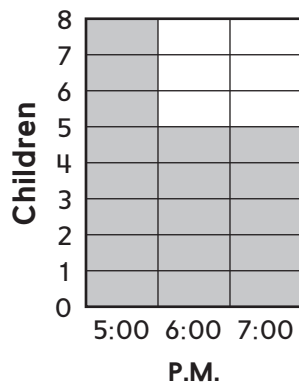
Vocabulary   Important terms in Unit 4:

bar graph A graph with bars that represent data.

What time do we eat dinner?

addition facts Two numbers from 0 to 10 and their sum, such as $9 + 7 = 16$.

combinations of 10 Addition facts in which the numbers add to 10. For example, $4 + 6 = 10$ and $3 + 7 = 10$ are combinations of 10.

doubles Addition facts in which both numbers being added are the same. For example, $4 + 4 = 8$ and $9 + 9 = 18$ are doubles.

helper fact A fact you know well that can be used to help solve a fact you do not know well.

Do-Anytime Activities

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

1. Measure flat objects in your home using paper clips. For example, you might measure the length of your mobile phone, the width of a small table, or the length of a spoon. Work with your child to place the paper clips end-to-end, without gaps or overlaps.

2. Use your fingers to help your child practice finding combinations of 10. For example, show both hands with 2 fingers up and the rest closed. Your child should tell you that you have 2 fingers up and 8 fingers down. Continue with different finger combinations. You can also practice doubles facts this way by placing a number of fingers up, and asking your child to tell you double that number of fingers.

3. Draw a bar graph like the one shown above, but list three activities your child likes to do after school along the bottom, such as play with friends, ride bikes, and read. Have your child keep track of the number of times he or she does each activity in a given week. For example, if your child comes home and plays with friends, he or she should color up to the number 1 above "play with friends" on the bar graph. At the end of the week, discuss which activity your child did most often and least often.

Building Skills through Games

Below are some of the games your child will play in Unit 4:

Fishing for 10
Each player draws 5 number cards. The object is to "fish for" pairs that add to 10.

Roll and Record Doubles
Each player rolls a die, doubles the number that was rolled, and records the total on a chart. The game ends when one column of the chart is filled.

What's Your Way?
Players take turns mentally finding 10 more and 10 less than a given number and sharing their strategies for doing so.

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 4-1
1–2. Answers vary.

3. Sample answer: No. Everything in Problem 1 is longer than the string, so the things in Problem 1 are longer than the things in Problem 2.

4. 9; 9 dots on the left side of the domino

Home Link 4-2
1–4. Answers vary. **5.** 55

Home Link 4-3
1–3. Answers vary.

4. 13 **5.** 14 **6.** 12 **7.** 16

Home Link 4-4
1–3. Answers vary. **4.** 12; $5 + 7 = 12$

Home Link 4-5
1. Answers vary. **2.** 7; $3 + 4 = 7$

Home Link 4-6
1. 5 **2.** 4 **3.** Before bedtime; 2

4. 11, 13, 15, 17, 19

Home Link 4-7
1–4. Answers vary.

Home Link 4-8
1. Answers vary. **2.** 6 pennies

Home Link 4-9
1–4. Answers vary. **5.** 17; $9 + 8 = 17$

Home Link 4-10
1–2. 14; Answers vary. **6.** 11, 10

3–5. 17; Answers vary.

Home Link 4-11
1. 33 **2.** 13 **3.** 48 **4.** 28

5. 12; $8 + 4 = 12$