Connecting Math Concepts

COMPREHENSIVE EDITION

A DIRECT INSTRUCTION PROGRAM

Lesson 16

EXERCISE 1: PLACE-VALUE ADDITION `REMEDY`

a. I'll say the equation for 70 plus 4. 70 plus 4 equals 74.
- Say the equation for 70 plus 4. (Signal.) *70 plus 4 equals 74.*
  (Repeat step a until firm.)
b. Say the equation for 70 plus 9. (Signal.) *70 plus 9 equals 79.*
- Say the equation for 40 plus 9. (Signal.) *40 plus 9 equals 49.*
- (Repeat for 40 + 1, 90 + 6, 30 + 5, 50 + 3.)
  (Repeat step b until firm.)

INDIVIDUAL TURNS

Now I'll call on individuals.
(Call on individual students to perform one or two of the following tasks.)

- Say the equation for 40 plus 1. (Call on a student.) *40 + 1 = 41.*
- Say the equation for 90 plus 6. (Call on a student.) *90 + 6 = 96.*
- Say the equation for 30 plus 5. (Call on a student.) *30 + 5 = 35.*

EXERCISE 2: MIXED COUNTING `REMEDY`

a. My turn to start with 7 and count by ones to 17. I'll get 7 going. Then I'll count. Listen: Sevennn, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17. Your turn to start with 7 and count to 17.
- What number do you start with? (Signal.) *7.*
- Get 7 going. *Sevennn.* Count. (Tap 10.) *8, 9, 10, 11, 12, 13, 14, 15, 16, 17.*
  (Repeat until firm.)
b. Now you'll start with 24 and count to 34. What number will you start with? (Signal.) *24.*
- Get 24 going. *Twenty-fouuur.* Count. (Tap 10.) *25, 26, 27, 28, 29, 30, 31, 32, 33, 34.*
  (Repeat step b until firm.)
c. My turn to start with 10 and count backward: Tennn, 9, 8, 7, 6, 5, 4, 3, 2, 1.
- Your turn: Start with 10 and count backward. Get 10 going. *Tennn.* Count backward. (Tap 9.) *9, 8, 7, 6, 5, 4, 3, 2, 1.*
  (Repeat step c until firm.)

d. My turn to count by tens to 100: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100.
- Your turn: Count by tens to 100. Get ready. (Tap 10.) *10, 20, 30, 40, 50, 60, 70, 80, 90, 100.*
- Now you'll start with 40 and count by tens to 90. Get 40 going. *Fortyyy.* Count by tens. (Tap 5.) *50, 60, 70, 80, 90.*
- Now you'll start with 20 and count by tens to 90. Get 20 going. *Twentyyy.* Count by tens. (Tap 7.) *30, 40, 50, 60, 70, 80, 90.*
  (Repeat step d until firm.)
e. My turn to start with 23 and plus tens to 93: 23, 33, 43, 53, 63, 73, 83, 93.
- Your turn: Start with 23 and plus tens to 93. Get 23 going. *Twenty-threee.* Count. (Tap 7.) *33, 43, 53, 63, 73, 83, 93.*
  (Repeat step e until firm.)
f. My turn to start with 28 and plus tens to 98: 28, 38, 48, 58, 68, 78, 88, 98.
- Your turn: Start with 28 and plus tens to 98. Get 28 going. *Twenty-eieieight.* Count. (Tap 7.) *38, 48, 58, 68, 78, 88, 98.*
  (Repeat step f until firm.)

EXERCISE 3: TURN-AROUNDS
COMMUTATIVE PROPERTY OF ADDITION

a. (Display:)   [16:3A]

$$5 + 1 = 6$$
$$1 + 7 = 8$$
$$9 + 0 = 9$$

Here's a fact.
- (Point to **5 + 1 = 6**.) Everybody, read the fact. (Touch.) *5 + 1 = 6.*
- (Point to **1**.) My turn to read the turn-around fact. (Touch.) 1 plus 5 equals 6.
b. (Point to **1**.) Your turn to read the turn-around fact. (Touch.) *1 + 5 = 6.*
  (Repeat step b until firm.)
c. My turn to say the fact that starts with 5: 5 plus 1 equals 6.
  My turn to say the turn-around fact: 1 plus 5 equals 6.

d. Your turn: Say the fact that starts with 5. (Signal.) *5 + 1 = 6.*
• Say the turn-around fact that starts with 1. (Signal.) *1 + 5 = 6.*
  (Repeat step d until firm.)
e. (Point to **1 + 7 = 8.**) Here's a new fact. Everybody, read the fact. (Touch.) *1 + 7 = 8.*
• (Point to **7.**) Read the turn-around fact. (Touch.) *7 + 1 = 8.*
f. My turn to say the fact that starts with 1: 1 plus 7 equals 8.
• Your turn: Say the fact that starts with 1. (Signal.) *1 + 7 = 8.*
• Start with 7 and say the turn-around fact. (Signal.) *7 + 1 = 8.*
  (Repeat step f until firm.)
g. (Point to **9 + 0 = 9.**) Here's a new fact. Read the fact. (Touch.) *9 + 0 = 9.*
• (Point to **0.**) Read the turn-around fact. (Touch.) *0 + 9 = 9.*
h. Say the fact that starts with 9. (Signal.) *9 + 0 = 9.*
• Start with zero and say the turn-around fact. (Signal.) *0 + 9 = 9.*
  (Repeat step h until firm.)

EXERCISE 4: READING 3-DIGIT NUMBERS   REMEDY

Note: Hundreds numbers like 132 are read without the word **and:** "One hundred thirty-two," not: "A hundred and thirty-two."

a. (Display:)   [16:4A]

$$1\underline{32} \qquad 1\underline{60}$$
$$1\underline{17} \qquad 1\underline{47}$$

These are hundreds numbers. Part of each hundreds number is underlined. You'll read the underlined part. Then you'll read the whole number.
• (Point to **1**<u>**32**</u>**.**) Read the underlined part. (Touch.) *32.*
• The whole number is one hundred 32. What's the whole number? (Touch.) *132.*

b. (Point to **1**<u>**17**</u>**.**) Read the underlined part. (Touch.) *17.*
• What's the whole number? (Touch.) *117.*
c. (Point to **1**<u>**60**</u>**.**) Read the underlined part. (Touch.) *60.*
• What's the whole number? (Touch.) *160.*
d. (Point to **1**<u>**47**</u>**.**) Read the underlined part. (Touch.) *47.*
• What's the whole number? (Touch.) *147.*
  (Repeat steps b through d until firm.)

━━━━━ **INDIVIDUAL TURNS** ━━━━━

(Call on individual students to identify one or two numbers.)

EXERCISE 5: FACTS
MINUS 1

Note: Present steps a through c for students who enter the program on Lesson 16. Skip steps a through c for students who started on Lesson 1.

a. Listen: When you take away, you **minus.**
• Say **minus.** (Signal.) *Minus.*
  (Observe children and give feedback.)
• What's another word for take away? (Signal.) *Minus.*
  (Display:)   [16:5A]

$$5 - 1 = 4$$
$$5 - 5 = 0$$

b. (Point to **5 − 1 = 4.**) This says (Touch symbols.) 5 take away 1 equals 4. My turn to read the equation with another word for take away. (Touch symbols.) 5 minus 1 equals 4.
• Your turn: Read the equation with the word **minus.** Get ready. (Touch symbols.) *5 minus 1 equals 4.*
  (Repeat until firm.)
c. (Point to **5 − 5 = 0.**) This equation has a minus sign.
• Read this equation. Get ready. (Touch.) *5 minus 5 equals zero.*
• (Point to **5 − 1.**) Read this equation. (Touch.) *5 minus 1 equals 4.*
  (Repeat step c until firm.)
  Remember, another word for take away is **minus.**

d. You're going to say facts that minus 1.
- Listen: 9 minus 1 equals 8.
- Say the fact. (Signal.) *9 minus 1 equals 8.*
- Say the fact for 8 minus 1. (Signal.) *8 minus 1 equals 7.*
- Say the fact for 4 minus 1. (Signal.) *4 minus 1 equals 3.*
- Say the fact for 7 minus 1. (Signal.) *7 minus 1 equals 6.*
- Say the fact for 2 minus 1. (Signal.) *2 minus 1 equals 1.*
- Say the fact for 9 minus 1. (Signal.) *9 minus 1 equals 8.*
  (Repeat step d until firm.)

EXERCISE 6: ONE MORE THAN

a. I'll tell you a number and you'll tell me the next number when you count by ones.
- Listen: 6. What's the next number? (Signal.) *7.*
  (To correct:)
  - Listen: 4, 5, siiiix. What's the next number? (Signal.) *7.*
- Listen: 7. What's the next number? (Signal.) *8.*
- Listen: 9. What's the next number? (Signal.) *10.*
- Listen: 4. What's the next number? (Signal.) *5.*
- Listen: 2. What's the next number? (Signal.) *3.*
  (Repeat step a until firm.)
b. The **next** number is **one more.**
- Your turn: 6. What's 1 more than **6?** (Signal.) *7.*
  So what's 1 plus 6? (Signal.) *7.*
- What's 1 more than **7?** (Signal.) *8.*
  So what's 1 plus 7? (Signal.) *8.*
- What's 1 more than **8?** (Signal.) *9.*
  So what's 1 plus 8? (Signal.) *9.*
- What's 1 more than **9?** (Signal.) *10.*
  So what's 1 plus 9? (Signal.) *10.*
c. Let's do some more.
- Listen: 2. What's 1 more than 2? (Signal.) *3.*
  So what's 1 plus 2? (Signal.) *3.*
d. (Repeat the following tasks for 5, 3, 4:)
- What's one more than __?
- So what's 1 plus __?
  (Repeat steps that were not firm.)

EXERCISE 7: MIXED COUNTING
COUNTING BACKWARD

a. Now we'll count backward. I'll start with 7 and count backward. Sevennn, 6, 5, 4, 3, 2, 1.
- Your turn: Start with 7 and count backward. Get 7 going. *Sevennnn.* Count backward. (Tap 6.) *6, 5, 4, 3, 2, 1.*
  (Repeat until firm.)
b. I'll start with 37 and count backward to 31.
- What am I going to start with? (Signal.) *37.* Thirty-sevennn, 36, 35, 34, 33, 32, 31.
- Your turn: Start with 37 and count backward to 31. Get 37 going. *Thirty-sevennn.* Count backward. (Tap 6.) *36, 35, 34, 33, 32, 31.*
  (Repeat step b until firm.)
c. Your turn: Start with 87 and count backward to 81.
- Get 87 going. *Eighty-sevennn.* Count backward. (Tap 6.) *86, 85, 84, 83, 82, 81.*
  (Repeat step c until firm.)
d. Your turn: Start with 27 and count backward to 21.
- Get 27 going. *Twenty-sevennn.* Count backward. (Tap 6.) *26, 25, 24, 23, 22, 21.*
  (Repeat step d until firm.)
e. Your turn to count by tens.
- Count by tens to 100. Get ready. (Tap 10.) *10, 20, 30, 40, 50, 60, 70, 80, 90, 100.*
  (Repeat step e until firm.)

EXERCISE 8: NUMBER FAMILIES

a. (Display:)   [16:8A]

These are **number families.**
- What are they? (Signal.) *Number families.*
  If you learn number families, you don't have to count to figure out the answer to problems that plus or minus.
  Remember: If you know the three numbers in a family, you don't have to count to work plus or minus problems with these numbers.

b. Each number family is on an arrow. Each number family has three numbers.
- How many numbers does each number family have? (Signal.) *Three.*
- (Point to 5 →ı 6.) How many numbers are in this family? (Touch.) *Three.*
- (Point to 3 →ı 4.) How many numbers are in this family? (Touch.) *Three.*
- (Point to 7 →ı 8.) How many numbers are in this family? (Touch.) *Three.*

c. Two numbers are small numbers.
- How many are small numbers? (Signal.) *Two.*
- (Point to **5** and **1**.) The small numbers in this family are 5 and 1. What are the small numbers in this family? (Touch.) *5 and 1.*
- (Point to **6**.) The big number is 6. What's the big number? (Touch.) *6.*

d. (Point to 5 →ı 6.) Again, what are the small numbers? (Signal.) *5 and 1.*
- What's the big number? (Signal.) *6.*
  (Repeat step d until firm.)

e. (Point to **3** and **1**.) The small numbers in this family are 3 and 1. What are the small numbers? (Touch.) *3 and 1.*
- (Point to **4**.) This is the big number. What's the big number? (Touch.) *4.*

f. (Point to 3 →ı 4.) What are the small numbers? (Signal.) *3 and 1.*
  What's the big number? (Signal.) *4.*
- (Point to 7 →ı 8.) What are the small numbers in this family? (Touch.) *7 and 1.*
  What's the big number? (Touch.) *8.*

g. Let's do those again.
- (Point to 5 →ı 6.) What are the small numbers in this family? (Signal.) *5 and 1.*
  What's the big number? (Signal.) *6.*
- (Point to 3 →ı 4.) What are the small numbers in this family? (Signal.) *3 and 1.*
  What's the big number? (Signal.) *4.*
- (Point to 7 →ı 8.) What are the small numbers in this family? (Signal.) *7 and 1.*
  What's the big number? (Signal.) *8.*
  (Repeat step g until firm.)

EXERCISE 9: TURN-AROUNDS
COMMUTATIVE PROPERTY OF ADDITION

a. Listen: 4 plus 1.
   Here's the turn-around: 1 plus 4.
- Say 4 plus 1. (Signal.) *4 plus 1.*
- Say the turn-around. (Signal.) *1 plus 4.*

b. Listen: 8 plus 3.
   Here's the turn-around: 3 plus 8.
- Say 8 plus 3. (Signal.) *8 plus 3.*
- Say the turn-around. (Signal.) *3 plus 8.*

c. Say 1 plus 6. (Signal.) *1 plus 6.*
- Say the turn-around. (Signal.) *6 plus 1.*
  (Repeat steps b and c until firm.)

d. Listen: 4 plus 1 equals 5. Say the fact. (Signal.) *4 + 1 = 5.*
   If 4 plus 1 equals 5, 1 plus 4 equals 5.
- Say the fact for 4 plus 1. (Signal.) *4 + 1 = 5.*
- Start with 1 and say the turn-around fact. (Signal.) *1 + 4 = 5.*
  (Repeat step d until firm.)

e. Say the fact for 7 plus 1. (Signal.) *7 + 1 = 8.*
   Start with 1 and say the turn-around fact. (Signal.) *1 + 7 = 8.*
- Say the fact for 3 plus 1. (Signal.) *3 + 1 = 4.*
   Start with 1 and say the turn-around fact. (Signal.) *1 + 3 = 4.*
  (Repeat step e until firm.)

EXERCISE 10: WORD PROBLEMS
PLUS/MINUS DISCRIMINATION

a. (Distribute unopened workbooks to students. Hold up workbook opened to Lesson 16.) (Teacher reference:)

Lesson 16   Name _____

Part 1
a. + −   d. + −
b. + −   e. + −
c. + −   f. + −

Part 2
a. ____   d. ____
b. ____   e. ____
c. ____   f. ____

Part 3
11 12 ___ 14 ___ ___ 17 ___ ___

Part 4
a. 5 + 1 =   d. 3 + 1 =   g. 6 + 1 =
b. 9 + 1 =   e. 4 + 1 =   h. 8 + 1 =
c. 2 + 1 =   f. 7 + 1 =   i. 1 + 1 =

Part 5
a. 4 + 0 =   b. 2 + 0 =   c. 7 + 0 =
   4 + 1 =   2 + 1 =   7 + 1 =
   4 + 2 =   2 + 2 =   7 + 2 =

Part 6
a. 30 + 10 =   b. 50 + 10 =   c. 80 + 10 =

This is Lesson 16 of your workbook.
(Point to the number 16.) This number (touch 16) shows that this is the worksheet for Lesson 16.
- Open your workbook to Lesson 16. (Observe children and give feedback.)
- Find part 1 on your worksheet. ✔
  There's a **plus** sign and a **minus** sign next to A.
- Touch the plus sign. ✔
- Touch the minus sign. ✔

b. I'm going to say sentences. You're going to circle the plus sign if the sentence pluses. You're going to circle the minus sign if it minuses.
Here's the sentence for A: Jim took 3 frying pans from the kitchen.
• Did the **kitchen** end up with more frying pans or less frying pans? (Signal.) *Less (frying pans).*
• So did the **kitchen** plus or minus frying pans? (Signal.) *Minus (frying pans).*
• Circle the minus sign for A.
(Observe children and give feedback.)
c. Here's the sentence for B: 12 dogs went out of the park.
• Did the **park** end up with more dogs or less dogs? (Signal.) *Less (dogs).*
• So did the **park** plus or minus dogs? (Signal.) *Minus (dogs).*
• Circle the minus sign for B.
(Observe children and give feedback.)
d. Here's the sentence for C: 45 people got on a plane.
• Did the **plane** end up with more people or less people? (Signal.) *More (people).*
• So did the **plane** plus or minus people? (Signal.) *Plus (people).*
• Circle the plus sign for C.
(Observe children and give feedback.)
e. Here's the sentence for D: Ms. Anderson put 5 tools in the garage.
• Think to yourself if the **garage** ended up with more tools or less tools. ✔
• Did the **garage** plus or minus tools? (Signal.) *Plus (tools).*
• Circle the plus sign for D.
(Observe children and give feedback.)
f. Here's the sentence for E: 9 children got out of the swimming pool.
• Think to yourself if the **swimming pool** ended up with more children or less children. ✔
• Did the **swimming pool** plus or minus children? (Signal.) *Minus (children).*
• Circle the minus sign for E.
(Observe children and give feedback.)
g. Here's the sentence for F: Millie put 9 cookies on the table.
• Think to yourself if the **table** ended up with more cookies or less cookies. ✔

• Did the **table** plus or minus cookies? (Signal.) *Plus (cookies).*
• Circle the plus sign for F.
(Observe children and give feedback.)

EXERCISE 11: WRITING TWO-PART NUMBERS

a. Find part 2 on your worksheet. ✔
(Teacher reference:)

a. ____   d. ____
b. ____   e. ____
c. ____   f. ____

You're going to write numbers that have two parts.
• Touch space A. ✔
• You'll write 31 in space A. What number? (Signal.) *31.*
• Write 31.
(Observe children and give feedback.)
(Display:) W   [16:11A]

| a. | 31 |

Here's what you should have.
• (Point to **31.**) What number? (Touch.) *31.*
b. Touch space B. ✔
• You'll write 18 in space B. What number? (Signal.) *18.*
• Write 18.
(Observe children and give feedback.)
(Add to show:)   [16:11B]

| b. | 18 |

Here's what you should have.
• (Point to **18.**) What number? (Touch.) *18.*
c. (Repeat the following tasks for C, 12; D, 53; E, 71; F, 98:)
• Touch space __.
• You'll write __ in space __. What number?
• Write __.
(Observe children and give feedback.)
(Add to show:)   [16:11C-F]
Here's what you should have.
• (Point to __.) What number?
(Teacher reference:)

a. 31	d. 53
b. 18	e. 71
c. 12	f. 98

EXERCISE 12: NUMBER LINE
TEEN NUMBERS

a. Find part 3 on your worksheet. ✔
(Teacher reference:)

11 12 ___ 14 ___ ___ 17 ___ ___

This is a number line for teen numbers, but some of the numbers are missing.

• Raise your hand when you know the first missing number. ✔
• What's the first missing number? (Signal.) *13.*

b. Raise your hand when you know the next missing number. ✔

• What's the next missing number? (Signal.) *15.*
You'll write the missing numbers later as part of your independent work.

EXERCISE 13: INDEPENDENT WORK

a. Find part 4 on your worksheet. ✔
(Teacher reference:)

Part 4		
a. $5 + 1 =$	d. $3 + 1 =$	g. $6 + 1 =$
b. $9 + 1 =$	e. $4 + 1 =$	h. $8 + 1 =$
c. $2 + 1 =$	f. $7 + 1 =$	i. $1 + 1 =$

Part 5		
a.	b.	c.
$4 + 0 =$	$2 + 0 =$	$7 + 0 =$
$4 + 1 =$	$2 + 1 =$	$7 + 1 =$
$4 + 2 =$	$2 + 2 =$	$7 + 2 =$

Part 6		
a. $30 + 10 =$	b. $50 + 10 =$	c. $80 + 10 =$

These problems plus 1. Later, you'll write answers to the problems.

b. Find part 5 on your worksheet. ✔
Each item has a plus zero, a plus-1, and a plus-2 problem. You'll write the answers to each problem.

c. Find part 6 on your worksheet. ✔
These problems plus 10. Later you'll complete each equation.

d. Complete the worksheet. Finish writing the numbers for the number line. Then work all of the problems in part 4, part 5, and part 6.
(Observe children and mark incorrect responses on children's worksheets as you give feedback.)

Lesson 16

Name _____

Part 1

a. $+$ $-$ d. $+$ $-$

b. $+$ $-$ e. $+$ $-$

c. $+$ $-$ f. $+$ $-$

Part 2

a. ____   d. ____

b. ____   e. ____

c. ____   f. ____

Part 3

11   12   ___   14   ___   ___   17   ___   ___

Part 4

a. $5 + 1 =$ d. $3 + 1 =$ g. $6 + 1 =$

b. $9 + 1 =$ e. $4 + 1 =$ h. $8 + 1 =$

c. $2 + 1 =$ f. $7 + 1 =$ i. $1 + 1 =$

Part 5

a.
$4 + 0 =$
$4 + 1 =$
$4 + 2 =$

b.
$2 + 0 =$
$2 + 1 =$
$2 + 2 =$

c.
$7 + 0 =$
$7 + 1 =$
$7 + 2 =$

Part 6

a. $30 + 10 =$ b. $50 + 10 =$ c. $80 + 10 =$

16   Lesson 16   Connecting Math Concepts

Lesson 73

EXERCISE 1: NUMBER FAMILIES
MISSING NUMBER IN FAMILY

a. (Display:)   [73:1A]

You're going to say the problem for the missing number in each family.

b. (Point to $\overset{6}{\longrightarrow}$11.) Say the problem for the missing number. Get ready. (Touch.) *11 minus 6.*
* What's 11 minus 6? (Signal.) *5.*

c. (Point to $\overset{2}{\longrightarrow}$5.) Say the problem for the missing number. (Touch.) *5 minus 2.*
* What's 5 minus 2? (Signal.) *3.*

d. (Repeat the following tasks for remaining families:)

(Point to __.)	Say the problem for the missing number.	What's __?	
$\overset{6\quad 1}{\longrightarrow}$_	6 + 1	6 + 1	7
$\overset{7}{\longrightarrow}$9	9 – 7	9 – 7	2
$\overset{6\quad 4}{\longrightarrow}$_	6 + 4	6 + 4	10
$\overset{2}{\longrightarrow}$10	10 – 2	10 – 2	8
$\overset{6}{\longrightarrow}$12	12 – 6	12 – 6	6
$\overset{10\quad 6}{\longrightarrow}$_	10 + 6	10 + 6	16
$\overset{3}{\longrightarrow}$9	9 – 3	9 – 3	6

(Repeat for families that were not firm.)

EXERCISE 2: 3-D OBJECTS

a. (Display:)   [73:2A]
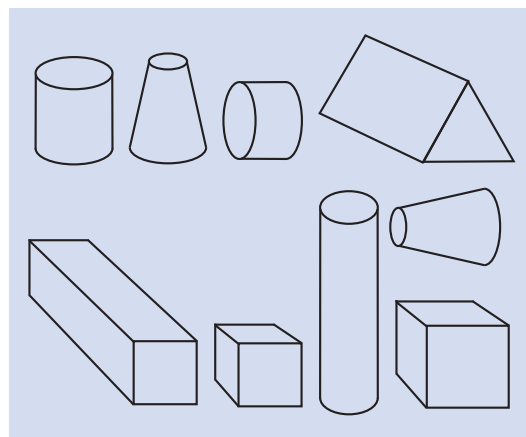
Last time you learned about cylinders. A cylinder has a circle on each end and the circles are the same size.
* (Point to ⌷.) Does this object have a circle on each end? (Touch.) *Yes.*
* Are the circles the same size? (Touch.) *Yes.*
* So is this a cylinder? (Touch.) *Yes.*

b. (Point to ⌂.) Does this object have a circle on each end? (Touch.) *Yes.*
* Are the circles the same size? (Touch.) *No.*
* So is this a cylinder? (Touch.) *No.*

c. Some of these objects are cylinders. Some are cubes.
* (Point to ⬭.) Is this a cylinder? (Touch.) *Yes.*

d. (Point to △.) Is this a cylinder? (Touch.) *No.*
* Is this a cube? (Touch.) *No.*

e. (Point to ▱.) Is this a cylinder? (Touch.) *No.*
* Is this a cube? (Touch.) *No.*
* Why not? (Call on a student. Idea: *The faces are not all squares.*)

f. (Point to ▢.) Is this a cylinder? (Touch.) *No.*
* Is this a cube? (Touch.) *Yes.*

g. (Point to ⌸.) Is this a cylinder? (Touch.) *Yes.*

h. (Point to ◁.) Is this a cylinder? (Touch.) *No.*
* Why not? (Call on a student. Idea: *The circles are not the same size.*)

i. (Point to ▭.) Is this a cylinder? (Touch.) *No.*
* What is it? (Touch.) *(A) cube.*

EXERCISE 3: COLUMN PROBLEMS
CARRYING PRESKILL

a. (Display:) W   [73:3A]

$$\begin{array}{r} 5\ 4 \\ +\ 3\ 9 \\ \hline \end{array}$$

Listen: The answer to the problems in the ones column is a two-digit number. I'll show you where to write the tens digit.
- (Point to **54**.) Read this problem. (Touch.) *54 plus 39.*
- (Point to the **4**.) Read the problem for the ones column. (Touch.) *4 plus 9.*
- The answer is 13. What's the answer? (Signal.) *13.*
- Is 13 a two-digit answer? (Signal.) *Yes.*
- What's the tens digit of 13? (Signal.) *1.*
- What's the ones digit of 13? (Signal.) *3.*
  I write the tens digit in the tens column, and the 3 in the ones column.
  Watch:
  (Add to show:)   [73:3B]

$$\begin{array}{r} \scriptstyle 1 \\ 5\ 4 \\ +\ 3\ 9 \\ \hline 3 \end{array}$$

b. (Display:) W   [73:3C]

$$\begin{array}{r} 2\ 9 \\ +\ 4\ 1 \\ \hline \end{array}$$

- (Point to **29**.) Read this problem. (Touch.) *29 plus 41.*
- (Point to the **9**.) Read the problem for the ones column. (Touch.) *9 plus 1.*
- What's the answer? (Signal.) *10.*
- Is 10 a two-digit answer? (Signal.) *Yes.*
- What's the tens digit of 10? (Signal.) *1.*
  I write that digit in the tens column and the zero in the ones column.
  Watch:
  (Add to show:)   [73:3D]

$$\begin{array}{r} \scriptstyle 1 \\ 2\ 9 \\ +\ 4\ 1 \\ \hline 0 \end{array}$$

c. (Display:) W   [73:3E]

$$\begin{array}{r} 1\ 2 \\ +\ 6\ 8 \\ \hline \end{array}$$

- (Point to **12**.) Read this problem. (Touch.) *12 plus 68.*
- (Point to the **2**.) Read the problem for the ones column. (Touch.) *2 plus 8.*
- What's the answer? (Signal.) *10.*
- Is 10 a two-digit answer? (Signal.) *Yes.*
- What's the tens digit of 10? (Signal.) *1.*
- Where do I write the tens digit? (Signal.) *In the tens column.*
- Where do I write zero? (Signal.) *In the ones column.*
  (Repeat until firm.)
  (Add to show:)   [73:3F]

$$\begin{array}{r} \scriptstyle 1 \\ 1\ 2 \\ +\ 6\ 8 \\ \hline 0 \end{array}$$

d. (Display:) W   [73:3G]

$$\begin{array}{r} 3\ 6 \\ +\ 1\ 6 \\ \hline \end{array}$$

- (Point to **36**.) Read this problem. (Touch.) *36 plus 16.*
- (Point to the **6**.) Read the problem for the ones column. (Touch.) *6 plus 6.*
- What's the answer? (Signal.) *12.*
- Is 12 a two-digit answer? (Signal.) *Yes.*
- What's the tens digit of 12? (Signal.) *1.*
- Where do I write the tens digit? (Signal.) *In the tens column.*
- Where do I write 2? (Signal.) *In the ones column.*
  (Repeat until firm.)
  (Add to show:)   [73:3H]

$$\begin{array}{r} \scriptstyle 1 \\ 3\ 6 \\ +\ 1\ 6 \\ \hline 2 \end{array}$$

Remember how to write two-digit answers for the ones column.

EXERCISE 4: FACTS
SUBTRACTION

a. (Display:)   [73:4A]

12 − 6	9 − 2	8 − 6
14 − 4	8 − 3	9 − 3
11 − 5	10 − 4	11 − 2

You're going to say the facts for all of these minus problems.
- (Point to **12 − 6**.) Read the problem. Get ready. (Touch.) *12 minus 6.*
- What's 12 minus 6? (Signal.) *6.*
- Say the fact. (Signal.) *12 − 6 = 6.*

b. (Repeat the following tasks for the remaining problems:)
- (Point to __.) Read the problem.
- What's __?
- Say the fact.
(Repeat problems that were not firm.)

EXERCISE 5: MONEY
WRITING DOLLAR AMOUNTS

a. (Display:)   [73:5A]

$3.18	$9.70
$5.98	$15.11
$11.40	

You'll read these dollar amounts.
- (Point to **$3.18**.) Read this. (Signal.) *3 dollars and 18 cents.*
- (Repeat for remaining amounts.)
(Repeat amounts that were not firm.)

b. (Distribute unopened workbooks to students.)
- Open your workbook to Lesson 73 and find part 1.
(Observe children and give feedback.)
(Teacher reference:)

a. $_____   b. $_____   c. $_____

You're going to write dollar amounts. The dollar sign is already written for each amount.

- Touch space A. ✔
- You'll write 6 dollars and 31 cents in space A. What will you write? (Signal.) *6 dollars and 31 cents.*
- Touch the dollar sign for A. ✔
- What do you write after the dollar sign for 6 dollars and 31 cents? (Signal.) *6.*
- What do you write next? (Signal.) *(The) dot.*
- What do you write after the dot? (Signal.) *31.*
- Write 6 dollars and 31 cents.
(Observe children and give feedback.)

c. Check your work.
- Touch the dollar sign for A. ✔
- Touch the number 6. ✔
- Touch the dot. ✔
- Touch the number 31. ✔
- Did you do everything right?

d. Touch the space for B. ✔
You'll write 8 dollars and 70 cents for space B.
- What will you write? (Signal.) *8 dollars and 70 cents.*
- What do you write after the dollar sign for 8 dollars and 70 cents? (Signal.) *8.*
- What do you write next for 8 dollars and 70 cents? (Signal.) *(The) dot.*
- What do you write after the dot? (Signal.) *70.*
- Write 8 dollars and 70 cents.
(Observe children and give feedback.)

e. Check your work.
- Touch the dollar sign for B. ✔
- What's the first thing you wrote? (Signal.) *8.*
- What's the next thing you wrote? (Signal.) *(A) dot.*
- What's the next thing you wrote? (Signal.) *70.*
- Read the amount for B. Get ready. (Signal.) *8 dollars and 70 cents.*

f. Touch the space for C. ✔
You'll write 13 dollars and 59 cents for space C.
- What will you write? (Signal.) *13 dollars and 59 cents.*
- What do you write after the dollar sign for 13 dollars and 59 cents? (Signal.) *13.*
- What do you write next for 13 dollars and 59 cents. (Signal.) *(The) dot.*
- What do you write after the dot? (Signal.) *59.*
- Write 13 dollars and 59 cents.
(Observe children and give feedback.)

g. Check your work.
- Touch the dollar sign for C. ✔
- What's the first thing you wrote? (Signal.) *13.*
- What's the next thing you wrote? (Signal.) *(A) dot.*
- What's the next thing you wrote? (Signal.) *59.*
- Read the amount for C. Get ready. (Signal.) *13 dollars and 59 cents.*

EXERCISE 6: RULER
COUNT BACKWARD

a. Find part 2 on worksheet 73. ✔
(Teacher reference:)

$$\underline{\quad} + 6 = 41 \qquad \underline{\quad} + 4 = 26$$
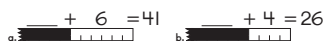
We're going to figure out how many centimeters are shaded for each ruler.
- Touch ruler A. ✔
- Touch the number above the unshaded part. ✔
- How many centimeters is the unshaded part? (Signal.) *6.*
- Touch the number after equals. ✔
- How many centimeters is ruler A? (Signal.) *41.*
- Touch the end of the ruler. ✔
I'll get 41 going and count backward. You'll touch the correct lines. Tell me to stop when you're touching the end of the shaded part.
(Children should be touching the end of the ruler.) *Forty-wuuun.* (Children touch lines.) *40, 39, 38, 37, 36, 35. Stop.*
(Repeat until firm.)
b. Your turn to count backward.
- What number will you get going? (Signal.) *41.*
- Touch the end of the ruler. ✔
- Get it going. *Forty-wuuun.* Touch and count. (Tap.) *40, 39, 38, 37, 36, 35, stop.*
(Repeat step b until firm.)
c. How many centimeters is the shaded part? (Signal.) *35.*
- Write 35. ✔
- Touch and read the equation. Get ready. (Signal.) *35 + 6 = 41.*
d. Touch ruler B. ✔
- Touch the number above the unshaded part. ✔
- How many centimeters is the unshaded part? (Signal.) *4.*
- Touch the number after the equals. ✔
- How many centimeters are both parts? (Signal.) *26.*

- You're going to get 26 going and count backward. You'll touch the correct lines and say stop when you get to the end of the shaded part.
- Touch the end of ruler B. ✔
- Get it going. *Twenty-siiix.* Touch and count. (Tap.) *25, 24, 23, 22, stop.*
(Repeat until firm.)
e. How many centimeters is the shaded part? (Signal.) *22.*
- Write 22. ✔
- Touch and read the equation. Get ready. (Signal.) *22 + 4 = 26.*

EXERCISE 7: 3 ADDENDS IN COLUMNS

a. Find part 3 on worksheet 73. ✔
(Teacher reference:)
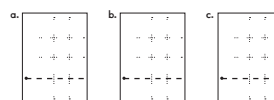
I'll tell you problems that plus three numbers. You're going to write those problems in columns. Only part of the column and row lines are shown and the equals bar is dotted. You'll write the digits and the signs in the right place and make the equals bar.
- Touch where you'll write column problem A. ✔
Listen to problem A: 12 plus 630 plus 7.
- Listen again: 12 plus 630 plus 7. Say problem A. (Signal.) *12 plus 630 plus 7.*
(Repeat until firm.)
b. Put your pencil where you'll write the first digit of 12. ✔
- Put your pencil where you'll write the plus sign. ✔
- Put your pencil where you'll write the first digit of 630. ✔
- Put your pencil where you'll write 7. ✔
- Put your pencil where you'll start the equals bar.
c. Say the problem 12 plus 630 plus 7 for problem A. Get ready. (Signal.) *12 plus 630 plus 7.*
- Write 12 plus 630 plus 7 for problem A. Remember to make the equals bar.
(Observe children and give feedback.)
(Teacher reference:)
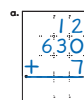
d. Touch where you'll write column problem B. ✔
Listen to problem B: 532 plus 64 plus 3.
• Listen again: 532 plus 64 plus 3. Say problem B. (Signal.) *532 plus 64 plus 3.* (Repeat until firm.)
• Write 532 plus 64 plus 3 for problem B. Remember to make the equals bar. (Observe children and give feedback.) (Teacher reference:)

```
b.
   5 3 2
    6 4
+    3
```

e. Touch where you'll write column problem C. ✔
Listen to problem C: 401 plus 2 plus 95.
• Listen again: 401 plus 2 plus 95. Say problem C. (Signal.) *401 plus 2 plus 95.* (Repeat until firm.)
• Write 401 plus 2 plus 95 for problem C. Remember to make the equals bar. (Observe children and give feedback.) (Teacher reference:)

```
c.
   4 0 1
      2
+   9 5
   4 9 8
```

Later, you'll work the problems in part 3 as part of your independent work.

EXERCISE 8: FACTS
ADDITION   REMEDY

a. Find part 4 on worksheet 73. ✔
(Teacher reference:)   R Part H

```
              d. 2 + 7      h. 6 + 10
a. 7 + 1      e. 6 + 6      i. 5 + 6
b. 4 + 6      f. 4 + 2      j. 6 + 2
c. 5 + 3      g. 3 + 6
```

These are plus problems for families you know. You're going to read each problem and tell me the answer. Then you'll go back and work all of the problems.
• Touch and read problem A. Get ready. (Signal.) *7 plus 1.*
• What's 7 plus 1? (Signal.) *8.*
b. Touch and read problem B. (Signal.) *4 plus 6.*
• What's 4 plus 6? (Signal.) *10.*
c. (Repeat the following tasks for problems C through J:)
• Touch and read problem __.
• What's __?

d. Complete the equations for all of the problems in part 4. (Observe children and give feedback.)
e. Check your work. You'll touch and read each fact.
• Fact A. (Signal.) *7 + 1 = 8.*
• (Repeat for:) B, *4 + 6 = 10;* C, *5 + 3 = 8;* D, *2 + 7= 9;* E, *6 + 6 = 12;* F, *4 + 2 = 6;* G, *3 + 6 = 9;* H, *6 + 10 = 16;* I, *5 + 6 = 11;* J, *6 + 2 = 8.*

EXERCISE 9: WORD PROBLEMS (COLUMNS)

a. Find part 5 on worksheet 73. ✔
(Teacher reference:)

```
a.            b.
```
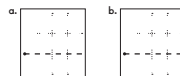
You're going to write the symbols for word problems in columns and work them. Only part of the column and row lines are shown and the equals bars are dotted. You'll write the numbers and the sign in the right places, and you'll make the equals bar.
b. Touch where you'll write the symbols for problem A. ✔
Listen to problem A: There were 580 apples on a tree. Jan and Jerry picked 430 of those apples. How many apples were still on the tree?
• Listen again and write the symbols for both parts: There were 580 apples on a tree. Jan and Jerry picked 430 of those apples.
• Everybody, touch and read problem A. Get ready. (Signal.) *580 minus 430.*
c. Work problem A. Put your pencil down when you know how many apples were still on the tree. (Observe children and give feedback.)
• Read the problem and the answer you wrote for A. Get ready. (Signal.) *580 – 430 = 150.*
• How many apples were still on the tree? (Signal.) *150.*

d. Touch where you'll write the symbols for problem B. ✔
Listen to problem B: Mr. Briggs painted 113 pictures last year. He painted 46 this year. How many pictures did he paint altogether?

• Listen again and write the symbols for both parts: Mr. Briggs painted 113 pictures last year. He painted 46 this year.

• Everybody, touch and read problem B. Get ready. (Signal.) *113 plus 46.*

e. Work problem B. Put your pencil down when you know how many pictures Mr. Briggs painted altogether.
(Observe children and give feedback.)
(Answer key:)

• Read the problem and the answer you wrote for B. Get ready. (Signal.) *113 + 46 = 159.*

• How many pictures did Mr. Briggs paint altogether? (Signal.) *159.*

EXERCISE 10: INDEPENDENT WORK

a. Find part 6 on worksheet 73. ✔
(Teacher reference:)

There are only two facts for this number family. You'll write the facts in the spaces below.

b. Turn to the other side of worksheet 73 and find part 7. ✔
(Teacher reference:)

You'll complete the equations for the rulers and the objects.
In part 8, you'll circle the words one dollar or write the cents for each group of coins. You'll write an equals and the number of dollars to show what the group of bills is worth.
In part 9, you'll write the row of Ss.
You'll work the problems in parts 10 and 11.

c. Complete worksheet 73. Remember to work the problems in part 3 and write the facts for part 6 on the other side of it.
(Observe children and mark incorrect responses on children's worksheets as you give feedback.)
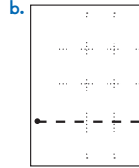
Lesson 73 *Side 1* Name _____

Part 1

a. $ _____   b. $ _____   c. $ _____

Part 2

___ + 6 = 41   ___ + 4 = 26

a. ▰▰▭▭▭▭▭   b. ▰▰▭▭▭

Part 3

a. [grid]   b. [grid]   c. [grid]

Part 4

d. 2 + 7   h. 6 + 10

a. 7 + 1   e. 6 + 6   i. 5 + 6
b. 4 + 6   f. 4 + 2   j. 6 + 2
c. 5 + 3   g. 3 + 6

Part 5

a. [grid]   b. [grid]

Part 6

$\dfrac{6 \quad 6}{} \rightarrow 12$

_____

_____

Lesson 73 *Side 2*   Name _____

Part 7

27 + ___ = ___   c. 48 + ___ = ___

a. ▰▰▭▭▭▭

68 + ___ = ___   d. 53 + ___ = ___

b. ▰▰▰▭▭▭

Part 8

a. [coins] = [ ] one dollar   b. [coins] = [ ] one dollar

c. [10] [10] [10] [10]
   [5] [5] [5] [1] [1]

Part 9

SSSSSSSSSSSSSSSSSSSSSSSSSS

Part 10

a. 963   b. 475   c. 435
   −243   −423   +263

Part 11

a. ___ + ___ + __ = 307   d. 100   e.
b.   __ + __ = 82   10
c. 600 + 40 + 3 = ___   +   9   +
                                              508