

# MATH KINDERGARTEN

## Teacher's Guide

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**Author:**

Carol Bauler, B.A.

**Revision Editor:**

Alan Christopherson, M.S.

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**804 N. 2nd Ave. E.  
Rock Rapids, IA 51246-1759**

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# INSTRUCTIONS FOR KINDERGARTEN MATH

The teacher instruction pages contain the objectives (concepts) to be taught in each lesson along with directions for teaching the corresponding student workbook pages. The activities included in the teaching page section that precede or follow the workbook assignments are used to reinforce or expand the concepts taught and are an integral part of the learning experience.

Students learn letter formation and penmanship in their language arts program. Because this is not a primary focus of math, the math curriculum begins immediately with the five-eighths separation between the bold writing lines along with the dotted guide line for lower-case letters.

Math is a subject that requires skill mastery, but skill mastery needs to be applied toward active student involvement. A list of materials/ manipulatives is provided on each instruction page. A complete list for the entire *Kindergarten Math* curriculum is included in this section.

The *Introduction of Skills* that appears in this section is a quick reference guide for the teacher who may be looking for a rule or explanation that applies to a particular skill or to find where or when certain skills are introduced in the curriculum. The skills are grouped by Lessons (1–40, 41–80, 81–120, 121–160) for a convenient teacher reference during student evaluation.

## MATERIALS/MANIPULATIVES

(As Required in Lesson Order)

- pencils
- plain and lined paper
- crayons—red, yellow, green, blue, brown, purple, orange, black, white, pink
- assorted objects
  - to illustrate big and little
  - for counting—beads, buttons, blocks, strips of cardboard, popsicle sticks, bottle caps, toothpicks, beans
- pictures illustrating big and little
- colored construction paper
- cardboard (cereal boxes work well)
- paste or glue
- scissors
- popsicle sticks may be substituted for counting strips (Lesson 9) (use marker to color sticks)
- paper or plastic bag
- pictures of objects to make sets
- empty metal or plastic containers of varying size—half cup to two cups
- string or yarn, bass brad, and permanent marker (Lesson 93)
- pictures of 2 dogs and 2 cats, 9 pieces of candy, 3 drinking glasses (Lesson 107)
- objects that are examples of 3D shapes—such as dice, a cereal box, a canned food item, a ball , etc. (Lesson 120)
- calendar
- pennies and dimes
- chart of numbers to 50 (Lesson 131)
- chart of numbers to 99 (Lesson 143)

Number Symbol Cards and Fact Cards

- Two sets of each
  - one set with numbers on both sides or facts with answer
  - one set with numbers or facts on just one side—reverse side blank (second set will be used for games of concentration)

Use pieces of cardboard, two inches by three inches, so that all cards are uniform in size and easily handled by the student.

1. Number symbols 1 through 12 (Lessons 30, 89)
2. Number picture cards (Lessons 32, 86—one set with reverse side blank)
3. Addition fact cards for 0 through 10 to a total of 10 (Lessons 59–60, 65, 71, 73–74, 105)
4. Number word cards for zero through ten (Lessons 86, 125)
5. Subtraction fact cards for 0 through 10 from up to 10 (Lessons 88, 91, 96, 125)

## MATH K INTRODUCTION OF SKILLS: LESSONS 41–80

CONCEPT	LESSON	CONCEPT	LESSON
Addition		Number order	
1–5 vertical	41	0–9	67
1–9 vertical	48	0–12	76
0–9 vertical	65	Ordinal numbers	55, 57, 79
0–9 horizontal as words	73	Problem solving/critical thinking	
0–9 horizontal as numbers	77	concentration	44, 67
Before and after	47, 79–80	how many ways to make a set 1–9	53
Colors		how many triangles from a square	69
orange	59	how many facts from a number 1–9 (addition)	75
Comparisons	44, 68, 79–80	Shapes	
Counting		circle, triangle, square, rectangle	46, 55, 60, 69–70, 79–80
0–9	64	Write numbers as words	
10–12	76	one – five	61
Following directions		six – nine	62
right, left, high, low, top, bottom, middle, above, below, inside, outside	44, 68, 79–80	zero	64
Matching	60, 67, 70	Write the number symbol	
Number(s) between	55, 59–60, 79–80	0–9	64
Number Bonds	45, 47, 54	10–12	76

# LESSON 1

## MATERIALS NEEDED

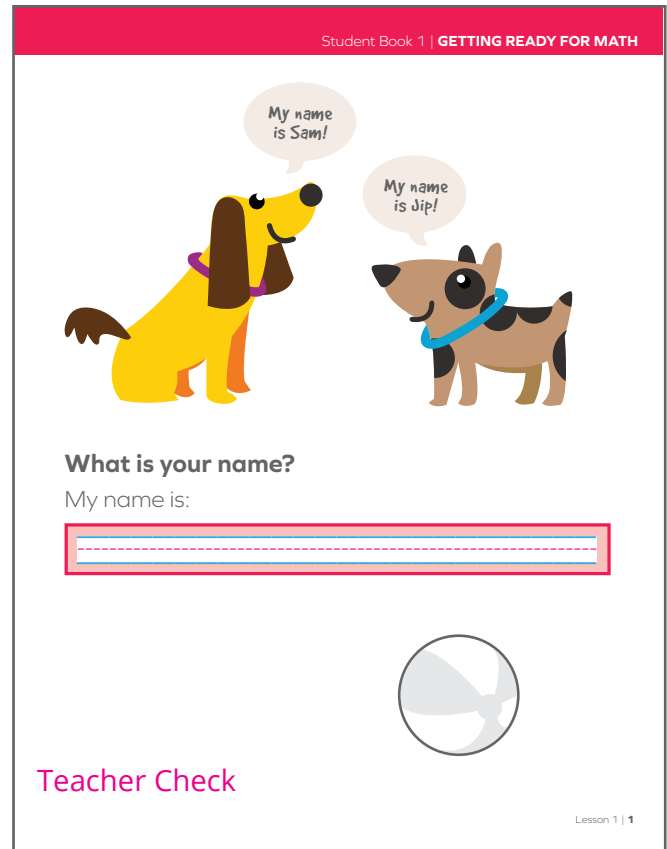
- pencils
- red, yellow, green, and blue crayons

### Objectives:

1. To follow directions.
2. To set a realistic goal for the completion of work.
3. To learn about right, left, up, down, high, low, inside, outside, top, bottom.
4. To learn about the colors red, yellow, green, and blue.

### Teaching Pages 1 and 2:

1. Turn to page 1. Point to the two dogs at the top of the page and say their names. Tell the children these two friends will be on many of the worksheets. Give the children time to look through the workbooks and to find the dogs.
2. Continue on page 1. Read what the dogs are saying. Point to the first line and read the words. Write each child's name on the line and ask him to read his name to you. Tell the children that the workbooks are divided into lessons and that together you will set a goal of completing one lesson each day. Show them that one lesson is usually two pages in their workbooks.
3. Introduce the red, yellow, green, and blue crayons to the children. Tell them that Sam and Jip have been playing with a big red ball and ask them to find the ball on the page. Compare the ball to a circle. Tell them they may color the ball using the red crayon. Instruct the children to always color in one direction and stay in the lines. Have the children complete the picture by adding green grass, a yellow sun, and a blue sky.



# LESSON 11

## MATERIALS NEEDED

- pencils
- red, yellow, blue, green, and brown crayons


### Objectives:

1. To count to 5.
2. To identify shapes.
3. To match one-to-one.
4. To identify big and little.

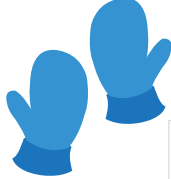


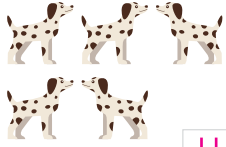
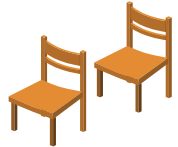

### Teaching Pages 22, 23, and 24:

1. Turn to page 22 in the workbook. Have the children identify the objects in the pictures. Have them count the objects while making a mark in the squares: one mitten - two mittens; one pot - two pots - three pots - four pots; and so on until the page is completed. Have the children follow the same instructions for page 23.

GETTING READY FOR MATH | Student Book 1



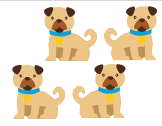




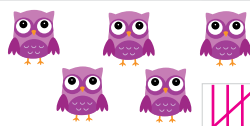




**Make a mark for each one.**

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22 | Lesson 11

Student Book 1 | GETTING READY FOR MATH

**Make a mark for each one.**

 <div style="border: 1px solid black; width: 30px; height: 30px; margin: 5px auto; position: relative;"> <span style="position: absolute; left: 5px; top: 5px; width: 10px; height: 10px; background-color: #ff00ff;"></span> </div>	 <div style="border: 1px solid black; width: 30px; height: 30px; margin: 5px auto; position: relative;"> <span style="position: absolute; left: 5px; top: 5px; width: 10px; height: 10px; background-color: #ff00ff;"></span> </div>
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Lesson 11 | 23



# LESSON 21

## MATERIALS NEEDED

- pencils
- red, yellow, blue, and green crayons

### Objectives:

1. To recognize big and little.
2. To match one-to-one.
3. To recognize colors and shapes.
4. To make a mark for each object.
5. To write numbers 1 to 5.

### Teaching Pages 46 and 47:

1. Turn to pages 46 and 47. Point to each set of instructions. Read one set of instructions, and allow the children to complete that section. Then, read the next set of instructions. The last exercise is for recognition of both colors and shapes. Give the children the opportunity to select the correct color and the correct shape as the directions are read to them: color the *circle(s)* blue, the *squares* red, the *triangles* green, and the *rectangles* yellow.

#### GETTING READY FOR MATH | Student Book 1

Write the numbers to 5.



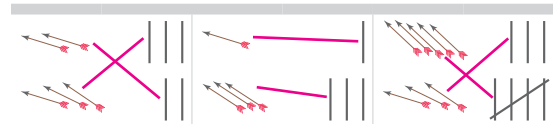
Write the number in the □.



46 | Lesson 21

#### Lesson 21 | GETTING READY FOR MATH

Draw a line to match.



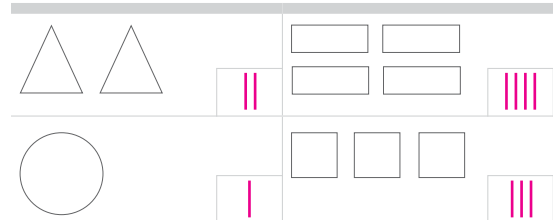
Circle the little one.



Circle the big one.



Make a mark for each one.



Lesson 21 | 47

LESSON 31

MATERIALS NEEDED

- pencils
- nine pieces of cardboard cut two inches by three inches, numbered 1 through 9

Objectives:

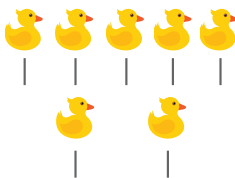

1. To use marks to count to 9.
2. To write the numbers 1 through 9.

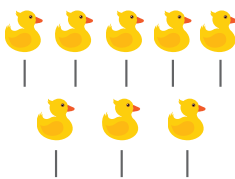

Teaching Pages 69, 70, and 71:

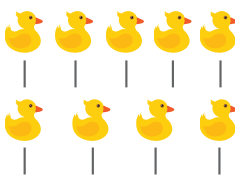

1. Turn to page 69. Read the directions at the top of the page. Show that each duck is matched to a mark. Point to the tally marks in the middle of the row. Say that the number of tally marks is the same as the number of ducks. Point to the number 7. Have the children count to 7. Count the ducks. Count the tally marks. Repeat this procedure with the next two rows.
2. Turn to page 70. Read the directions at the top of the page to the children. Have them complete the exercise. Do the same with the directions at the middle of the page.

Student Book 1 | GETTING READY FOR MATH

Match ducks to marks.

	Count 1, 2, 3, 4, 5, 6, 7		7
		Mark	Number

	Count 1, 2, 3, 4, 5, 6, 7, 8		8
		Mark	Number

	Count 1, 2, 3, 4, 5, 6, 7, 8, 9		9
		Mark	Number

Lesson 31 | 69

GETTING READY FOR MATH | Lesson 31

Now you fry!

Make a mark for each one.

Write the number in the .

			
<input type="text" value="2"/>	<input type="text" value="6"/>	<input type="text" value="7"/>	<input type="text" value="1"/>

			
<input type="text" value="4"/>	<input type="text" value="3"/>	<input type="text" value="5"/>	<input type="text" value="9"/>

			
<input type="text" value="4"/>	<input type="text" value="7"/>	<input type="text" value="2"/>	<input type="text" value="6"/>

70 | Lesson 31

# LESSON 41

## MATERIALS NEEDED

- pencils
- objects for counting (colored strips, blocks, beans, buttons)

### Objectives:

1. To add one object to a set up to 5.
2. To add number facts to 5 vertically.







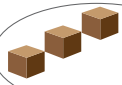

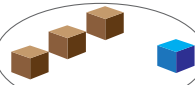



### Teaching Pages 94 and 95:

1. Explain to the children that this is an important day. Today, they will learn their first math operation. It is called *addition*. In today's lesson, they will add one object to the objects already in a set *up to 5*. Place four sets of blocks in front of the children—a set containing one block, a set containing two blocks, a set containing three blocks, and a set containing four blocks. Have the children count the number of blocks in each set. State that you are now going to add one block to each set.  
Give the children one block, and ask them to add it to the set of one.  
Ask, "When I add this one block to the set, how many blocks are now in the set?" (2).  
Give the children another block, and ask them to add it to the set of two.  
Ask, "When I add this one block to the set, how many blocks are now in the set?" (3).  
Continue with the set of three and the set of four.
2. Have the children turn to page 94, and together read the directions at the top of the page. Point to the green block, and explain that this represents the block in the set that they started with. Point to the blue block. Explain that this represents the block that they added. Ask them if the set they added is the same as the set on the page (2). Call attention to the number fact in the center. Introduce the plus (+) sign and the line drawn below the two 1s. Explain that this is how we write a problem in addition. Read it aloud: "One plus one equals two." Point to the first 1, and say, "The set had one block in it." Point to the second 1, and say, "Then, we added one block." Point to the number 2, and say, "Now, the set has two blocks."  
Ask: "How many blocks are in the next set?" (2); "Where is the number 2?"  
Point to its position in the problem; "How many did we add to the set?" (1);  
"Where is the number 1 in the problem?"; "Where is the sign that tells you to add?";  
"How many blocks are in the new set?" (3); and "Where is the number 3 in the problem?"  
Use this same procedure to complete page 94.

GETTING READY FOR MATH | Student Book 1

## ADD TO 5

Add 1  to the set.

	add 	$\begin{array}{r} 1 \\ + 1 \\ \hline 2 \end{array}$	
	add 	$\begin{array}{r} 2 \\ + 1 \\ \hline 3 \end{array}$	
	add 	$\begin{array}{r} 3 \\ + 1 \\ \hline 4 \end{array}$	
	add 	$\begin{array}{r} 4 \\ + 1 \\ \hline 5 \end{array}$	

94 | Lesson 41

# LESSON 51

## MATERIALS NEEDED

- pencils
- objects for counting

### Objectives:

1. To add four objects to a set.
2. To add number facts up to 9 vertically.

### Teaching Pages 116 and 117:

1. Review the addition facts through 9. Give the children any set of objects up to seven. Ask them to add one, two, or three to the different sets. (Do not exceed a total of 9.) Encourage them to picture the objects in their minds before giving the answer. Continue to give them the objects for counting (if necessary) to achieve the correct answer. Spend several minutes on this exercise. As they are able to answer more each day without using the objects for counting, let them know that they are making good progress.
2. Turn to page 116. Tell the children that today they will learn to add 4 to a set. Use the objects as manipulatives to illustrate each exercise on page 116. Call the children's attention to the number facts in the center of the page. Have the children read each fact aloud before going on to the next example.
3. Turn to page 117. Ask the children to read the problem (2 plus 4). Tell the children to make a set of 2 and a set of 4 and add them together (6). Write the answer below the line. Read the problem again. (2 plus 4 equals 6.) Proceed in the same manner to complete page 117.

## ADD TO 9

Look!



Add 4 s to the set.

	$\begin{array}{r} 2 \\ +4 \\ \hline 6 \end{array}$	
	$\begin{array}{r} 3 \\ +4 \\ \hline 7 \end{array}$	
	$\begin{array}{r} 4 \\ +4 \\ \hline 8 \end{array}$	
	$\begin{array}{r} 5 \\ +4 \\ \hline 9 \end{array}$	

Write the number in the .

Write!



$\begin{array}{r} 2 \\ +4 \\ \hline 6 \end{array}$	$\begin{array}{r} 3 \\ +4 \\ \hline 7 \end{array}$	$\begin{array}{r} 4 \\ +4 \\ \hline 8 \end{array}$	$\begin{array}{r} 5 \\ +4 \\ \hline 9 \end{array}$	$\begin{array}{r} 3 \\ +4 \\ \hline 7 \end{array}$	$\begin{array}{r} 5 \\ +4 \\ \hline 9 \end{array}$
$\begin{array}{r} 4 \\ +4 \\ \hline 8 \end{array}$	$\begin{array}{r} 2 \\ +4 \\ \hline 6 \end{array}$	$\begin{array}{r} 4 \\ +5 \\ \hline 9 \end{array}$	$\begin{array}{r} 3 \\ +4 \\ \hline 7 \end{array}$	$\begin{array}{r} 2 \\ +4 \\ \hline 6 \end{array}$	$\begin{array}{r} 4 \\ +4 \\ \hline 8 \end{array}$
$\begin{array}{r} 5 \\ +1 \\ \hline 6 \end{array}$	$\begin{array}{r} 6 \\ +1 \\ \hline 7 \end{array}$	$\begin{array}{r} 7 \\ +1 \\ \hline 8 \end{array}$	$\begin{array}{r} 8 \\ +1 \\ \hline 9 \end{array}$	$\begin{array}{r} 2 \\ +2 \\ \hline 4 \end{array}$	$\begin{array}{r} 3 \\ +2 \\ \hline 5 \end{array}$
$\begin{array}{r} 4 \\ +2 \\ \hline 6 \end{array}$	$\begin{array}{r} 5 \\ +2 \\ \hline 7 \end{array}$	$\begin{array}{r} 6 \\ +2 \\ \hline 8 \end{array}$	$\begin{array}{r} 7 \\ +2 \\ \hline 9 \end{array}$	$\begin{array}{r} 2 \\ +3 \\ \hline 5 \end{array}$	$\begin{array}{r} 3 \\ +3 \\ \hline 6 \end{array}$
$\begin{array}{r} 4 \\ +3 \\ \hline 7 \end{array}$	$\begin{array}{r} 5 \\ +3 \\ \hline 8 \end{array}$	$\begin{array}{r} 6 \\ +3 \\ \hline 9 \end{array}$	$\begin{array}{r} 3 \\ +4 \\ \hline 7 \end{array}$	$\begin{array}{r} 4 \\ +4 \\ \hline 8 \end{array}$	$\begin{array}{r} 5 \\ +4 \\ \hline 9 \end{array}$

# LESSON 61

## MATERIALS NEEDED

- pencils

### Objectives:

- To recognize the number word that goes with the number symbol.
- To write the number words one to five.

### Teaching Pages 138, 139, and 140:






- Turn to page 138. Read the title, and have the children point to the first set. Have the children count the number of ice cream cones in the first set. Point to the number 1, and state, "There is one ice cream cone." Point to the third column, and state, "This is the number 1, and this is the number word one." Repeat this procedure for each of the remaining sets on page 138. Then, ask the children to read the list of number words. Have the children put their fingers on the letters and trace the words by tracing each letter.
- Turn to page 139. Read the directions aloud. Have the children count the number of pigs in the first set (3), and have them find the number (3) at the top of the page. Tell them to write the number in the box.

## GETTING READY FOR MATH | Student Book 1

### SETS, NUMBERS, WORDS 1 TO 5



Read!

Look	Count	Write
	1	1 <u>one</u>
	1, 2	2 <u>two</u>
	1, 2, 3	3 <u>three</u>
	1, 2, 3, 4	4 <u>four</u>
	1, 2, 3, 4, 5	5 <u>five</u>

138 | Lesson 61

## Student Book 1 | GETTING READY FOR MATH

### Write the number symbol for the set.

1	2	3	4	5
one	two	three	four	five
				
				
				
				
				

Lesson 61 | 139

# LESSON 71

## MATERIALS NEEDED

- pencils
- paper
- objects for counting
- fact cards for 0s, 1s, 2s
- new set of fact cards ( $3 + 0$ ,  $3 + 1$ ,  $3 + 2$ ,  $3 + 3$ ,  $3 + 4$ ,  $3 + 5$ , and  $3 + 6$ )

### Objectives:

1. To use fact cards for 0s, 1s, 2s, 3s.
2. To write the number words up to nine.
3. To write number facts.


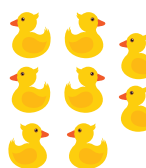

### Teaching Pages 160 and 161:

1. Review the fact cards for 0s, 1s, and 2s. Place the group of objects, so the children can reach them. Show the children the first fact card for 3s ( $3 + 0$ ). Have the children make a set of three objects. Ask them what the card tells them to add to the set of 3 (zero, nothing). Ask them what the answer is to  $3 + 0$  (3). Proceed in this manner until all fact cards for 3s have been used. Go through the fact cards a second time, and have the children look again at the sets they have made.
2. Give the children pencil and paper. Dictate the following problems (number facts), including answers, and have the children write them on paper. (For example, three plus two equals five.) Be sure the children use the plus (add) sign and draw the line between the problem and the answer.  
Dictate:
 

3	2	0	2	3	1
+ 2	+ 4	+ 1	+ 5	+ 0	+ 2
5	6	1	7	3	3
3. Turn to page 160. Read the directions, and have the children read the number words at the top of the page. Tell the children to point to the set of bears and count aloud (1-2-3-4-5-6). Have them read the number words. Ask them which words are missing. Tell them to write the missing words on the lines.

GETTING READY FOR MATH | Student Book 1

Write the missing number words.

0	1	2	3	4	5	6	7	8	9
zero	one	two	three	four	five	six	seven	eight	nine
									
			one, two, <u>three</u> , <u>four</u> , five, six, <u>seven</u>						
									
			one, two, three, <u>four</u> , five, six, <u>seven</u> , eight						
									
			one, <u>two</u> , three, four, five, <u>six</u> , seven, <u>eight</u> , nine						

160 | Lesson 71

# LESSON 81

## MATERIALS NEEDED

- pencil
- objects for counting

### Objectives:

1. To subtract one object from a set.
2. To subtract number facts up to 5 vertically.

### Teaching Pages 1, 2, and 3:

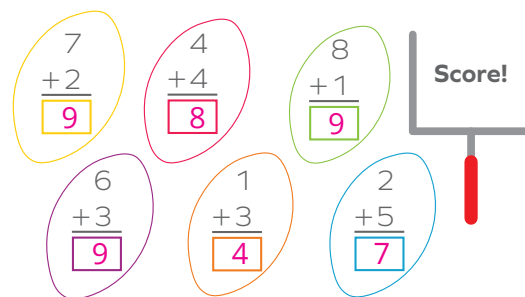
1. Turn to page 1. Point to the two dogs at the top of the page, and ask the children if they know the dogs' names. Ask the children if they can read what Sam and Jip are saying. Give the children time to look through the workbooks, and then tell them to write their names on the line on page 1. Ask them what *score* means. Tell them they should try to make good scores in this book. Allow time for them to complete the addition facts.
2. Explain to the children that this is an important day. Today, they will learn their second math operation. It is called subtraction. Place five sets in front of the children of 5, 4, 3, 2, and 1 objects.
3. Tell the children to *take away* one object from the set of 5, and ask how many objects are left (4).
4. Tell the children that *take away* is called subtraction. Ask them to *take away* (subtract) one object from each of the remaining sets and tell how many are left.
5. Continue on page 2. Point to the word *subtract*, and ask the children to say it aloud. Show the sets on page 2 to the children, and tell them to point to the sets of objects that they have been working with. Ask them if the answers are the same. Point to the number facts between the sets, and ask how they are different from the addition facts (minus sign  $-$ ). Ask the children to

Student Book 2 | GETTING READY FOR MATH



What is your name?

My name is:

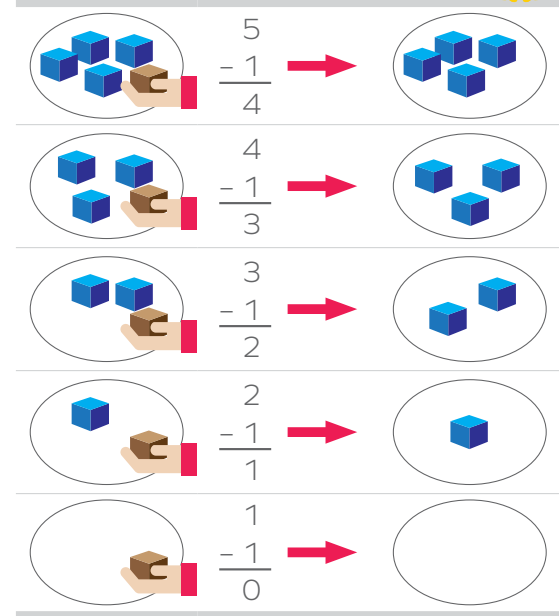


Lesson 81 | 1

GETTING READY FOR MATH | Student Book 2

## SUBTRACT TO 5

Subtract 1 from the set.



2 | Lesson 81

## LESSON 91

### MATERIALS NEEDED

- pencils
- objects for counting
- addition fact cards through 9
- subtraction fact cards for 1s, 2s, and 3s
- subtraction fact cards for 4s (4 – 1, 4 – 2, 4 – 3, and 4 – 4) and 5s (5 – 1, 5 – 2, 5 – 3, 5 – 4, and 5 – 5)

### Objective:

To review addition and subtraction facts up to 9.

### Teaching Pages 22 and 23:

1. It is important for students to visualize or form a mental picture of the addition and subtraction facts. Take time to allow them to do this. Students who simply try to memorize the facts will become confused.
2. Have students go through the *addition fact cards* in order. If they do not know an answer, make a set of objects for the first number, and then ask them to visualize adding the second number. If they still have difficulty, allow them to count out the additional objects. Set aside those fact cards they do not know, and work on them for a short time at the end of each day's lesson.
3. Turn to page 22. Read the directions, and tell the students to complete the page. They may use fact cards or objects for counting where necessary.
4. Have students go through the *subtraction fact cards* in order. If they do not know an answer, make a set of objects for the first number, and then ask them to visualize subtracting the second number of objects. If they still have difficulty, allow them to take away the objects. Set aside those fact cards they do not know, and work on them for a short time at the end of each day's lesson.

GETTING READY FOR MATH | Student Book 2



Write the number in the .

3	2	6	1	0	8
+1	+4	+2	+5	+2	+1
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
5	3	4	5	1	3
+2	+6	+4	+3	+2	+3
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
2	1	4	3	4	2
+3	+6	+2	+4	+5	+2
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
7	8	2	6	2	8
+1	+1	+5	+3	+7	+0
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
5	1	4	7	4	2
+2	+1	+5	+2	+1	+2
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

22 | Lesson 91



# LESSON 101

## MATERIALS NEEDED

- pencils
- objects for counting

### Objectives:

1. To count up to 14.
2. To learn about place value for 1s and 10s.

### Teaching Pages 47 and 48:

1. Turn to pages 47 and 48. Read the title aloud. Have the children point to the first set of ducks. Have the class count the ducks out loud and then count the marks aloud. Point to the number 10, and state, "This is the number 10. There are ten ducks and ten marks. Let's count to ten together." Point to the numbers in sequence as the class counts out loud. Repeat this procedure with each set of ducks on pages 47 and 48.
2. Begin a discussion of place value with the students. Have the students make a set of fourteen objects. Ask them to divide the set into two sets: one with 10 objects, and one with 4 objects. Point to the number 14 on page 48. Explain to them that in the number 14, the number symbol 1 stands for a set of 10 objects, and the number symbol 4 represents a set of 4 objects. Follow the same procedure working backward with numbers 13-12-11-10.

Student Book 2 | **GETTING READY FOR MATH**

## COUNTING

Look!

---

Mark

Count

1, 2, 3, 4, 5,  
6, 7, 8, 9, 10

10

Number

---

Mark

Count

1, 2, 3, 4, 5, 6,  
7, 8, 9, 10, 11

11

Number

Lesson 101 | 47

**GETTING READY FOR MATH** | Student Book 2

---

Mark

Count

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

12

Number

---

Mark

Count

1, 2, 3, 4, 5, 6, 7, 8,  
9, 10, 11, 12, 13

13

Number

---

Mark

Count

1, 2, 3, 4, 5, 6, 7, 8, 9,  
10, 11, 12, 13, 14

14

Number

48 | Lesson 101

# LESSON 111

## MATERIALS NEEDED

- pencils
- objects for counting

### Objectives:



1. To choose sets of 10.
2. To add numbers 10 up to 19.
3. To practice subtraction facts.

### Teaching Pages 68 and 69:

1. Write the numbers 0 through 19 on a piece of paper for the students to see. Have the students count ten objects and keep them together in a set. Tell them to read aloud the numbers from the paper. Ask them to point to the number that represents their set of ten (10). Point to the next number (11). Ask the children how many objects they would need to add to their set to make eleven (one). Continue this questioning, beginning each time with a set of ten, and ask how many to add to make twelve (2), thirteen (3), fourteen (4), fifteen (5), sixteen (6), seventeen (7), eighteen (8), and nineteen (9).
2. Turn to page 68 and 69. Have the children point to the first set. Tell them to count the sets and add them aloud. Point out the corresponding number fact. Show them where the 10 is written and where the 6 is written. Point out where the 16 is written in

### GETTING READY FOR MATH | Lesson 111

## ADD A NUMBER TO 10

$$\begin{array}{r} 10 \\ + 6 \\ \hline 16 \end{array}$$

10, ... 11, 12, 13, 14, 15, 16




$$\begin{array}{r} 10 \\ + 7 \\ \hline 17 \end{array}$$

10, ... 11, 12, 13, 14, 15, 16, 17




$$\begin{array}{r} 10 \\ + 8 \\ \hline 18 \end{array}$$

10, ... 11, 12, 13, 14, 15, 16, 17, 18




$$\begin{array}{r} 10 \\ + 9 \\ \hline 19 \end{array}$$

10, ... 11, 12, 13, 14, 15, 16, 17, 18, 19

68 | Lesson 111

### Student Book 2 | GETTING READY FOR MATH




$$\begin{array}{r} 10 \\ + 0 \\ \hline 10 \end{array}$$

10, ...

### Write the problems.

$$\begin{array}{r} 10 \\ + 6 \\ \hline 16 \end{array}$$

$$\begin{array}{r} 10 \\ + 7 \\ \hline 17 \end{array}$$

$$\begin{array}{r} 10 \\ + 8 \\ \hline 18 \end{array}$$

$$\begin{array}{r} 10 \\ + 9 \\ \hline 19 \end{array}$$

$$\begin{array}{r} 10 \\ + 0 \\ \hline 10 \end{array}$$

### Practice subtraction facts.

$$\begin{array}{r} 4 \\ - 3 \\ \hline 1 \end{array}$$

$$\begin{array}{r} 6 \\ - 2 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 7 \\ - 1 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 5 \\ - 2 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 3 \\ - 3 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 5 \\ - 4 \\ \hline 1 \end{array}$$

$$\begin{array}{r} 8 \\ - 1 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 6 \\ - 3 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 5 \\ - 0 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 9 \\ - 0 \\ \hline 9 \end{array}$$

Lesson 111 | 69

# LESSON 121

## MATERIALS NEEDED

- pencils
- addition number facts
- number word cards






### Objectives:

1. To subtract with words to nine.
2. To review addition facts.

### Teaching Pages 90 and 91:

1. Have the class point to the first box on page 90. Read the caption at the bottom of the box. Tell the children to point to the blocks. Say, "One block subtracted from one block." Emphasize the two ways to write this number fact shown at the right side of the box:  $1 - 1$  and  $one - one$ . Have the class read these number facts out loud as they point to them. Repeat this procedure with the remaining sets on page 90, and review  $6 - 1$ ,  $7 - 1$ ,  $8 - 1$ , and  $9 - 1$  with the children.
2. Turn to page 91. Have the students read the number words at the top of the page. Read the directions. Ask the students to read the first number fact aloud and say the answer. Then have them write the answer on the lines. Allow them to complete the page independently.
3. Play a game of concentration with selected addition number facts and the number word cards.

## SUBTRACTION NUMBER WORDS

	$1 - 1$ $one - one$ $one - one = zero$
	$2 - 1$ $two - one$ $two - one = one$
	$3 - 1$ $three - one$ $three - one = two$
	$4 - 1$ $four - one$ $four - one = three$
	$5 - 1$ $five - one$ $five - one = four$

90 | Lesson 121

### Write the number word.

zero one two three four five six seven eight nine

two	-	one	=	one
six	-	one	=	five
three	-	one	=	two
seven	-	one	=	six
four	-	one	=	three
eight	-	one	=	seven
five	-	one	=	four
nine	-	one	=	eight
one	-	one	=	zero

Lesson 121 | 91

LESSON 131

MATERIALS NEEDED

- pencils
- objects for counting
- chart of numbers 1 to 50

Objective:

To identify the number that comes before and after to 50.

Teaching Pages 110 and 111:

1. A chart of numbers is helpful for the next group of lessons. The chart from the beginning of the teacher’s guide or on page 106 may be cut out, pasted on cardboard, and displayed for the children.
2. Turn to page 110. Have the children point to the first row of numbers and read the numbers aloud.
3. Say, “Seven is before eight. Nine is after eight.” Repeat this procedure for the other examples using the chart for reference. Then have the students complete the page by circling the correct number as you read.

Circle the number ...

- |                   |               |
|-------------------|---------------|
| 1. 41    42    43 | 1. after 42.  |
| 2. 16    17    18 | 2. before 17. |
| 3. 5    6    7    | 3. before 6.  |
| 4. 30    31    32 | 4. after 31.  |
| 5. 24    25    26 | 5. after 25.  |
4. Turn to page 111. Read the first set of instructions out loud. Have the children read the numbers and circle the correct answer. Read the second set of instructions and follow the same procedure. Read the final set of instructions and have the children complete the page. Allow them to use the chart of numbers 1 to 50.

GETTING READY FOR MATH | Student Book 2

NUMBER ORDER  
(BEFORE, AFTER)

Before		After
7	8	9
7 is before 8.		
14	15	16
16 is after 15.		
21	22	23
21 is before 22.		
36	37	38
38 is after 37.		

---

41	42	43
16	17	18
5	6	7
30	31	32
24	25	26

110 | Lesson 131

Student Book 2 | GETTING READY FOR MATH

Circle the number before.

7	8	9	14	15	16
22	23	24	27	28	29
45	46	47	40	41	42
33	34	36	39	40	41

Circle the number after.

4	5	6	17	18	19
12	13	14	28	29	30
46	47	48	35	36	37
31	32	33	42	43	44

Write the number.

after 6	7	before 50	49
before 20	19	after 41	42
after 29	30	after 26	27
after 39	40	before 17	16

Lesson 131 | 111

# LESSON 141

## MATERIALS NEEDED

- pencils
- objects for counting
- chart of numbers 1 to 50 from Lesson 131

### Objectives:

1. To recognize number order.
2. To recognize the number that is greater or less.

### Teaching Pages 133 and 134:

1. Have the children read the numbers 1 to 50 on the chart aloud.
2. Turn to page 133. Read the title of the page and review the definitions of *greater* and *less* with the children. Display ten items for the class to see. Make two sets of items (four items and six items). Have the children count the numbers in the sets. State, "Four is smaller than six. Four is less than six. Six is bigger than four. Six is greater than four."

Repeat this procedure using the numbers on page 133. Then have the children point to the answers as you ask these questions: "Which number is *greater*, 7 or 8? Which number is *less*, 5 or 6? Which number is *greater*, 14 or 15? Which number is *less*, 25 or 26?" Children may use the chart of numbers as an added reference. Use objects for counting as much as possible to develop the concept of the size of different numbers. Have the students complete the page by circling the correct number as you read.

Circle the number...

1. that is greater (43).
2. that is less (13).
3. that is less (2).
4. that is greater (31).
5. that is less (22).

Student Book 2 | GETTING READY FOR MATH


## NUMBER ORDER (GREATER, LESS)

Less (Smaller)		Greater (Bigger)
7	8 is greater than 7.	8
5	5 is less than 6.	6
14	15 is greater than 14.	15
25	25 is less than 26.	26

---

**Circle the number.**

42	43
13	14
2	3
30	31
22	23



Lesson 141 | 133

# LESSON 151

## MATERIALS NEEDED

- pencils
- paper
- pennies

### Objective:


To add pennies.

### Teaching Pages 153 and 154:

1. Turn to page 153 and read the title of the page. Show a penny to the class and state, "This object is money. We call it a penny." (Write *penny* on paper.) "We can call it *one cent*." (Write  $1\text{¢}$  and *one cent* on the paper.) "We use the words *pennies*, *cents*, and the sign  $\text{¢}$  when we are talking about money." Have the children point to the number fact  $1\text{¢} + 3\text{¢} = 4\text{¢}$ . Read it aloud. Ask them what the plus sign is telling them to do (add). Repeat this procedure with each of the remaining number facts. Give the children pennies to model the number facts on the page. Then, have the children make up sets of pennies, add them, and write the corresponding number facts on a piece of paper.
2. Turn to page 154. Read the instructions aloud. Add the first number fact together with the class. Allow the children to complete the page independently. Check with the children periodically as they complete their work.

Student Book 2 | GETTING READY FOR MATH

## ADD PENNIES



1 ¢  
penny

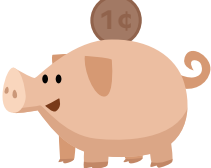
1 ¢  
1 cent

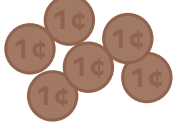
$$\begin{array}{r} 1\text{ ¢} \\ + 3\text{ ¢} \\ \hline 4\text{ ¢} \end{array}$$

$$\begin{array}{r} 1\text{ penny} \\ + 3\text{ pennies} \\ \hline 4\text{ pennies} \end{array}$$

$$\begin{array}{r} 5\text{ ¢} \\ + 3\text{ ¢} \\ \hline 8\text{ ¢} \end{array}$$


$$\begin{array}{r} 5\text{ cents} \\ + 3\text{ cents} \\ \hline 8\text{ cents} \end{array}$$





Lesson 151 | 153

GETTING READY FOR MATH | Student Book 2



**Write the number in the   .**

$\begin{array}{r} 2\text{ pennies} \\ + 1\text{ penny} \\ \hline \boxed{3}\text{ pennies} \end{array}$	$\begin{array}{r} 4\text{ pennies} \\ + 3\text{ pennies} \\ \hline \boxed{7}\text{ pennies} \end{array}$	$\begin{array}{r} 3\text{ pennies} \\ + 5\text{ pennies} \\ \hline \boxed{8}\text{ pennies} \end{array}$
$\begin{array}{r} 1\text{ cent} \\ + 8\text{ cents} \\ \hline \boxed{9}\text{ cents} \end{array}$	$\begin{array}{r} 7\text{ cents} \\ + 2\text{ cents} \\ \hline \boxed{9}\text{ cents} \end{array}$	$\begin{array}{r} 2\text{ cents} \\ + 3\text{ cents} \\ \hline \boxed{5}\text{ cents} \end{array}$

$\begin{array}{r} 6\text{ ¢} \\ + 1\text{ ¢} \\ \hline \boxed{7}\text{ ¢} \end{array}$	$\begin{array}{r} 7\text{ ¢} \\ + 0\text{ ¢} \\ \hline \boxed{7}\text{ ¢} \end{array}$	$\begin{array}{r} 4\text{ ¢} \\ + 1\text{ ¢} \\ \hline \boxed{5}\text{ ¢} \end{array}$	$\begin{array}{r} 3\text{ ¢} \\ + 3\text{ ¢} \\ \hline \boxed{6}\text{ ¢} \end{array}$	$\begin{array}{r} 5\text{ ¢} \\ + 2\text{ ¢} \\ \hline \boxed{7}\text{ ¢} \end{array}$	$\begin{array}{r} 4\text{ ¢} \\ + 0\text{ ¢} \\ \hline \boxed{4}\text{ ¢} \end{array}$
$\begin{array}{r} 1\text{ ¢} \\ + 1\text{ ¢} \\ \hline \boxed{2}\text{ ¢} \end{array}$	$\begin{array}{r} 2\text{ ¢} \\ + 7\text{ ¢} \\ \hline \boxed{9}\text{ ¢} \end{array}$	$\begin{array}{r} 6\text{ ¢} \\ + 3\text{ ¢} \\ \hline \boxed{9}\text{ ¢} \end{array}$	$\begin{array}{r} 4\text{ ¢} \\ + 4\text{ ¢} \\ \hline \boxed{8}\text{ ¢} \end{array}$	$\begin{array}{r} 3\text{ ¢} \\ + 2\text{ ¢} \\ \hline \boxed{5}\text{ ¢} \end{array}$	$\begin{array}{r} 4\text{ ¢} \\ + 5\text{ ¢} \\ \hline \boxed{9}\text{ ¢} \end{array}$

154 | Lesson 151

# STUDENT EVALUATION: LESSONS 121–160

## Following directions:

Use several objects to ask the student a series of questions. Place the objects in relation to each other so that the student can select the object that is:

___ on the right	___ on the left	___ high	___ low
___ on top	___ on the bottom	___ in the middle	
___ above	___ below	___ inside	___ outside

## Comparisons:

Use a group of objects. Some objects should be the same size and some should be different sizes. Place the objects so that the student can select the objects that are:

___ big	___ little	___ alike	___ different
---------	------------	-----------	---------------

## Matching:

Select six sets of related pictures or drawings—two in a set. Place them in two columns on a sheet of paper. Ask the student to *match* the related items. (The student should understand without being told that *match* means to draw a line between the related items.)

\_\_\_ The student requires an explanation of the word *match*.

\_\_\_ The student completes the task independently.

## Counting:

Ask the student to count aloud from 0 to 9 ___	from 0 to 19 ___
from 0 to 50 ___	from 0 to 99 ___

## Write the number symbols:

Have the student write the number symbols from 0 to 9 \_\_\_ from 10 to 19 \_\_\_

## Colors:

Place a selection of colors (crayons or paint swatches, for example) in front of the student. Select a color and ask the student to say the name.

___ red	___ yellow	___ green	___ blue	___ brown
___ purple	___ orange	___ black	___ white	___ pink

**Shapes:**

Cut a group of ten shapes from paper. They may be any kind or size but must include one circle, one triangle, one square, and one rectangle.

Ask the student to select by *name*. (Teacher says name. Student selects shape.)

\_\_\_\_ a circle      \_\_\_\_ a triangle      \_\_\_\_ a square      \_\_\_\_ a rectangle

Ask the student to select by *shape*. (Teacher selects shape. Student says name.)

\_\_\_\_ a circle      \_\_\_\_ a triangle      \_\_\_\_ a square      \_\_\_\_ a rectangle

Cut out images of the following 3D shapes: cube, rectangular prism, cone, sphere, cylinder.

Ask the student to select by name. (Teacher says name. Student selects shape.)

\_\_\_\_ a cube    \_\_\_\_ a prism    \_\_\_\_ a cone    \_\_\_\_ a sphere    \_\_\_\_ a cylinder

Ask the student to select by shape. (Teacher selects shape. Student says name.)

\_\_\_\_ a cube    \_\_\_\_ a prism    \_\_\_\_ a cone    \_\_\_\_ a sphere    \_\_\_\_ a cylinder

Place the images of the five 3D shapes and a circle, triangle, square, and rectangle in front of the student. Tell the student to sort the shapes into two groups: two-dimensional and three-dimensional shapes.

\_\_\_\_ The student needs additional explanation.

\_\_\_\_ The student completes the task independently.

**Write the number words:**

Have the student write the number words for:

\_\_\_\_ one, two, three, four, five      \_\_\_\_ six, seven, eight, nine      \_\_\_\_ zero

**Number order:**

Write these numbers on paper, and ask the student to write them in number order.

\_\_\_\_ 15, 17, 16      \_\_\_\_ 29, 30, 28      \_\_\_\_ 52, 54, 53      \_\_\_\_ 70, 69, 71

**Before and after:**

Give these instructions orally or write the number on paper, and ask the student to respond.

Ask the student to say the number:

\_\_\_\_ before 24      \_\_\_\_ after 39      \_\_\_\_ before 20      \_\_\_\_ after 68

**Numbers between:**

Give these instructions orally or write the numbers on paper, and ask the student to respond.

Ask the student to say the number:

\_\_\_\_ between 22 and 24    \_\_\_\_ between 59 and 61    \_\_\_\_ between 7 and 9    \_\_\_\_ between 83 and 85