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1st grade | Teacher's Guide
Part 1

MATH

PAGE 13: BEFORE AND AFTER

MATERIALS NEEDED

- pencil
- number symbol cards from page 12
- chart of numbers to 99

Concept:

writing numbers before to 99

Teacher Goal:

To teach the children to select the numbers before to 99.

Teaching Page 13:

Repeat the exercise from page 12 using the number symbol cards to identify numbers *before* and *after*.

Turn to page 13 and read the instructions. Work the two examples with the students and then allow them to complete the page independently. Be sure they understand that, on this page, they are to circle the number *before*.

The students should prepare for the Self Test. Ask the students to look over and read the Self Test but they should not write the answers to any questions. After looking over the Self Test the students should go to the beginning of the unit and reread the text and review the answers to the activities up to the Self Test.

The students are to complete the Self Test the next school day. This should be done under regular test conditions without allowing the students to look back. A good idea is to clip the pages together before the test.

Unit 1 | NUMBER ORDER, ADD/SUBTRACT

Put a circle around the number ...

that comes before 64. 63 65	that comes before 43. 42 44
that comes before 29. 28 30	that comes before 98. 97 98
that comes before 44. 45 43	that comes before 90. 89 91
that comes before 49. 48 50	that comes before 61. 62 60
that comes before 40. 41 39	that comes before 75. 76 74
that comes before 15. 14 16	that comes before 48. 49 47
that comes before 21. 22 20	that comes before 84. 83 85

Before you take the Self Test, study what you have read and done. The Self Test will check what you remember.

Section 2 | 13

PAGE 14: SELF TEST 2

MATERIALS NEEDED

- pencil
- chart of numbers to 99

Concept:

number order to 99

Teacher Goal:

To teach the children to learn to check their progress periodically.

Teaching Page 14:

Turn to page 14. Read the directions to the children. Have the children repeat them after you while running their fingers under the sentence being read. Be sure the children understand what they are to do. If necessary, students may use the chart of numbers. Let the children complete the page. You may repeat the directions but give no other help.

Do not have the children check their own work. Check it as soon as you can, and go over it with each child. Show them where they did well and where they need extra help. If necessary, take time to review before going to the next section.

NUMBER ORDER, ADD/SUBTRACT | Unit 1

SELF TEST 2

Each answer = 1 point

Put a circle around each number bigger than 50.

28 55 50 10 82 76

Put a circle around each number smaller than 50.

17 45 50 59 62 39

Write the missing number on each line.

27, 28, 29, 30, 31, 32, 33, 34, 35, 36

85, 86, 87, 88, 89, 90, 91, 92, 93, 94

Put a circle around the number ...

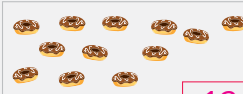
that comes **after** 44. that comes **before** 75.

43 45 76 74


that comes **after** 88. that comes **before** 58.

89 87 59 57


Write the number in the box.




How many? 12



How many? 9




18
22



Teacher Check

Initial Date



My Score

14 | Section 2

PAGES 3 & 4: ADDITION FACTS

MATERIALS NEEDED

- pencils
- new operation symbol cards for +, -, =
- number symbol cards (Unit 101, page 12)
- addition fact cards (Unit 101, page 16; Unit 102, page 2)

Concept:

add number facts

Teacher Goal:

To teach the children to add number facts horizontally and vertically.

Teaching Pages 3 and 4:

Turn to pages 3 and 4. Read the instructions at the top of the page with the children. Have them count aloud the number of dogs in the first two sets. Point to the symbols (+, =). Ask the children to read the problem aloud. (Three dogs plus two dogs equals five dogs.) Have the children point to the two number facts. Tell them that there are two ways to write their number facts, horizontally (across) and vertically (up and down). Ask them to read the number facts again. Follow the same procedure for the blocks. Ask the children to read the problem aloud as they point to the horizontal number fact. Tell them to fill in the blanks for the bunnies. They should follow the same steps to complete page 4.

Have the children use the number symbol cards and the new operation symbol cards to make addition number facts. Explain how the cards can be rearranged to show the facts horizontally and vertically. Ask the children to illustrate several number facts using the cards.

Select a group of number symbol cards and addition fact cards. Play a game of concentration.

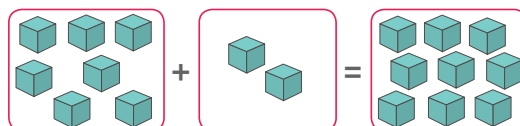
Unit 2 | ADD/SUBTRACT TO 10, SHAPES

Add the sets. Write the fact.


Number Fact: $3 + 2 = 5$

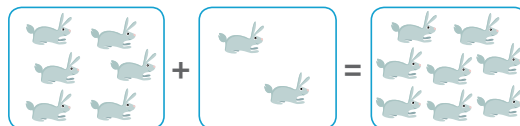
$$\begin{array}{r} 3 \\ + 2 \\ \hline 5 \end{array}$$

Add the sets. Write the fact.


Number Fact: $7 + 2 = 9$

$$\begin{array}{r} 7 \\ + 2 \\ \hline 9 \end{array}$$

Add the sets. Write the fact.

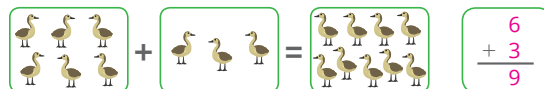

Number Fact: $6 + 2 = 8$

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

Section 1 | 3

ADD/SUBTRACT TO 10, SHAPES | Unit 2

Add the sets. Write the facts.


 $6 + 3 = 9$

$$\begin{array}{r} 6 \\ + 3 \\ \hline 9 \end{array}$$


 $5 + 2 = 7$

$$\begin{array}{r} 5 \\ + 2 \\ \hline 7 \end{array}$$


 $4 + 6 = 10$

$$\begin{array}{r} 4 \\ + 6 \\ \hline 10 \end{array}$$


 $1 + 8 = 9$

$$\begin{array}{r} 1 \\ + 8 \\ \hline 9 \end{array}$$


 $0 + 9 = 9$

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

4 | Section 1

PAGE 5: ADDITION FACTS

MATERIALS NEEDED

- pencils

Concept:

add number facts horizontally

Teacher Goal:

To teach the children to add number facts to 10 horizontally.

Teaching Page 5:

Turn to page 5. Read the directions and have the children complete the number facts independently. When they have completed the page, select several facts at random and ask the students to read the facts aloud.

The students should prepare for the Self Test. Ask the students to look over and read the Self Test, but they should not write the answers to any questions. After looking over the Self Test the students should go to the beginning of the unit and reread the text and review the answers to the activities up to the Self Test.

The students are to complete the Self Test the next school day. This should be done under regular test conditions without allowing the students to look back. A good idea is to clip the pages together before the test.

Unit 2 | ADD/SUBTRACT TO 10, SHAPES



Write the number on the line.

$4 + 3 =$ <u>7</u>	$4 + 0 =$ <u>4</u>	$2 + 8 =$ <u>10</u>	$1 + 0 =$ <u>1</u>
$3 + 0 =$ <u>3</u>	$2 + 7 =$ <u>9</u>	$4 + 2 =$ <u>6</u>	$2 + 4 =$ <u>6</u>
$7 + 2 =$ <u>9</u>	$7 + 1 =$ <u>8</u>	$3 + 3 =$ <u>6</u>	$6 + 1 =$ <u>7</u>
$1 + 9 =$ <u>10</u>	$5 + 3 =$ <u>8</u>	$1 + 2 =$ <u>3</u>	$4 + 5 =$ <u>9</u>
$8 + 1 =$ <u>9</u>	$3 + 4 =$ <u>7</u>	$1 + 8 =$ <u>9</u>	$2 + 1 =$ <u>3</u>
$9 + 0 =$ <u>9</u>	$2 + 0 =$ <u>2</u>	$5 + 4 =$ <u>9</u>	$8 + 2 =$ <u>10</u>
$3 + 1 =$ <u>4</u>	$5 + 5 =$ <u>10</u>	$3 + 7 =$ <u>10</u>	$6 + 0 =$ <u>6</u>
$1 + 5 =$ <u>6</u>	$8 + 0 =$ <u>8</u>	$4 + 1 =$ <u>5</u>	$5 + 1 =$ <u>6</u>
$6 + 2 =$ <u>8</u>	$1 + 7 =$ <u>8</u>	$1 + 6 =$ <u>7</u>	$4 + 6 =$ <u>10</u>
$7 + 3 =$ <u>10</u>	$2 + 6 =$ <u>8</u>	$2 + 3 =$ <u>5</u>	$3 + 6 =$ <u>9</u>
$2 + 5 =$ <u>7</u>	$1 + 3 =$ <u>4</u>	$5 + 2 =$ <u>7</u>	$4 + 4 =$ <u>8</u>
$5 + 0 =$ <u>5</u>	$6 + 3 =$ <u>9</u>	$6 + 4 =$ <u>10</u>	$2 + 2 =$ <u>4</u>
$3 + 5 =$ <u>8</u>	$7 + 0 =$ <u>7</u>	$9 + 1 =$ <u>10</u>	$3 + 2 =$ <u>5</u>
$1 + 1 =$ <u>2</u>			$1 + 4 =$ <u>5</u>



Before you take the Self Test, study what you have read and done. The Self Test will check what you remember.

Section 1 | 5

PAGE 17: FRACTIONS

MATERIALS NEEDED

- pencils
- paper
- groups of objects in even number sets (four pencils, ten beads, twelve nickels, six crayons, eight blocks)

Concept:

fraction of one-half

Teacher Goals:

To teach the children to find one-half of a set, and to write the fraction $\frac{1}{2}$.

Teaching Page 17:

Give the children *four* pencils. Ask them to give half of the pencils back to you (2 pencils). Talk to the children again about the meaning of *one-half*. Explain to them that the *four* pencils represent *one* set. Ask them how many parts they divided the set into (2 parts). Have them draw a line on paper and write a 2 below the line to represent the number of parts into which the set has been divided. Have the children hold up the *two* pencils, and write a 1 above the line to represent the part of the set they are talking about. Ask the children to read the fraction (one-half). Ask them how many pencils are in *one-half* a set of *four* pencils (2 pencils). Repeat the same procedure with the *ten* beads. Emphasize that even though there are *ten* beads, they represent *one* set. Tell the children to divide the *ten* beads into *two* sets. Write the fraction on paper beginning with the number 2 below the line. Ask how many beads make up *one-half* of a set of *ten*. Continue in this manner with the set of *twelve* nickels, *six* crayons, and *eight* blocks.

Turn to page 17 and read the directions with the children. Emphasize that each picture represents *one* set. Have the children draw a line to divide each set into *two* parts, then write the fraction $\frac{1}{2}$ on the answer line. Ask them to say aloud, "One-half of a set of four boys is two boys," and so on.

Unit 3 | FRACTIONS, TIME, AND SYMBOLS

Circle $\frac{1}{2}$ of each set. Write the fraction on the line.

The page contains 10 sets of objects, each with a line for the fraction $\frac{1}{2}$ and a circled portion representing half of the set:

- 1. A circle with a slash through it (no-go symbol).
- 2. Four boys running.
- 3. Two girls.
- 4. Ten caterpillars.
- 5. Six bears.
- 6. Four cats.
- 7. Three people wearing hats.
- 8. Ten fish.
- 9. Two donkeys.
- 10. Eight dogs.
- 11. Six girls.

Section 3 | 17

PAGE 18: FRACTIONS

MATERIALS NEEDED

- pencils
- paper
- objects to illustrate one-half

Concept:

fraction of one-half

Teacher Goals:

To teach the children to find one-half of a single object or of a set, and to write the fraction $\frac{1}{2}$.

Teaching Page 18:

Use the materials to talk about the fraction *one-half* to the children. Show them a single object, and have them illustrate *one-half* of the object. Ask the children to tell you how many halves there are (2). Give them a set of objects, and have them illustrate *one-half* of one set of objects. Be sure they understand the concept that many objects in a group represents a set of one.

Turn to page 18 and read the directions aloud. Tell the children that they should draw a line for each object or set to show *one-half*. Then, they should write the fraction $\frac{1}{2}$ on the answer line.

FRACTIONS, TIME, AND SYMBOLS | Unit 3

Show $\frac{1}{2}$ of each object or set. Write the fraction on the line.

The page contains 10 examples of objects or sets with a line drawn through them to represent one-half, and the fraction $\frac{1}{2}$ written on a line to the right:

- A circle with a cat's face, split vertically.
- Two identical girl figures, with the first one circled.
- A pumpkin, split vertically.
- A purple triangle, split vertically.
- A set of six blue fish, with three circled.
- A set of six mice, with three circled.
- A red apple, split vertically.
- A yellow 'W' shape, split vertically.
- A set of six blue bottles, with three circled.
- A set of six red houses, with three circled.
- A yellow smiley face, split vertically.

18 | Section 3

PAGE 32: MEASURING INCHES

MATERIALS NEEDED

- pencils
- addition fact cards for 4s through 6s
- paper
- ruler made in unit 101, page 25

Concept:

measuring in inches

Teacher Goal:

To teach the children to use their rulers to measure inches.

Teaching Page 32:

Begin today's lesson with a review of addition fact cards 4s through 6s.

Draw several lines on paper (in inches from one to six), and have the children measure each line. Ask the children to say the length of the line aloud. Be sure they use the word *inches* in giving their answer.

Turn to page 32. Read the directions at the top of the page. Point out the number line.

Have the children count from *zero* to *twenty-five*, pointing to the line as they count. Tell the children that Jim is going to his friend Raymond's house so that they can play catch with Jim's new ball. There are a lot of things to see as Jim walks along, trees and flowers, a sandbox in the park, and a picnic table to take a rest. Jim's path is laid out in inches on the paper. First, have the children estimate how far Jim walked (in inches) and write the number on the line at the top of the page. (Do not be concerned if children give exaggerated answers.) Then have them measure the distance. Tell them to measure each line and to keep adding on the number line for each measurement they take.

When finished, the number line should tell the children how far Jim walked. Write the number on the line at the bottom of the page. Have the children compare their estimations and their answers.

ADD TO 18, MONEY, MEASUREMENT | Unit 4

Teacher check
 estimate: _____ inches

How Far Did Jim Walk?

measure: 22 inches

32 | Section 5

PAGE 33: REVIEWING FACTS

MATERIALS NEEDED

- pencils

Concept:
review addition and subtraction facts

Teacher Goal:
To teach the children to review addition and subtraction facts.

Teaching Page 33:
Turn to page 33. Read the directions at the top of the page with the children, and allow them to complete the page independently. Be sure they are reading the signs (+ and -) carefully. They may use the number line at the top of the page to help them answer the math problems.

The children should prepare for the Self Test. Ask the children to look over and read the Self Test, but they should not write the answers to any questions. After looking over the Self Test, the children should go to the beginning of the unit and reread the text and review the answers to the activities up to the Self Test.

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Unit 4 | ADD TO 18, MONEY, MEASUREMENT



Add or subtract. Put the answer in the .

$\begin{array}{r} 3 \\ + 5 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ + 8 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ + 7 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ + 4 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ + 2 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ + 1 \\ \hline \end{array}$
$\begin{array}{r} 9 \\ - 4 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ - 3 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ - 0 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ - 2 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ - 4 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ - 1 \\ \hline \end{array}$
$\begin{array}{r} 2 \\ + 5 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ + 9 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ + 4 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ + 9 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ + 3 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ + 6 \\ \hline \end{array}$
$\begin{array}{r} 10 \\ - 4 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ - 1 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ - 6 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ - 1 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ - 6 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ - 4 \\ \hline \end{array}$
$\begin{array}{r} 3 \\ + 8 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ + 7 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ + 9 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ + 3 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ + 6 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ + 5 \\ \hline \end{array}$
$\begin{array}{r} 7 \\ - 1 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ - 5 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ - 1 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ - 4 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ - 2 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ - 7 \\ \hline \end{array}$



Before you take the Self Test, study what you have read and done. The Self Test will check what you remember.

Section 5 | 33

5. NUMBER LINE

PAGE 30: NUMBER WORDS

MATERIALS NEEDED

- pencils
- addition fact cards for 6s, 7s, and 8s


Concept:
number words to twenty

Teacher Goal:
To teach the children to read and write number words to twenty.

Teaching Page 30:
Turn to page 30. Read the directions with the children. Read the number words aloud with them several times until they say them easily. Have them look for clues to help them recognize the words (*four* in *fourteen*, “*fif*” for *five* in *fifteen*). Let them complete the page independently.
Review fact cards for 6s, 7s and 8s.

COLUMN ADDITION AND ESTIMATION | Unit 5

5. NUMBER LINE

 Write the number on the line.

sixteen	16	fourteen	14
twenty	20	seventeen	17
eleven	11	thirteen	13
twelve	12	eighteen	18
nineteen	19	fifteen	15

Write the word on the line.

11	eleven	16	sixteen
12	twelve	17	seventeen
13	thirteen	18	eighteen
14	fourteen	19	nineteen
15	fifteen	20	twenty

Write the number symbol or number word before and after.

15	16	17	eleven	twelve	thirteen
fifteen	sixteen	seventeen	11	12	13
18	19	20	thirteen	fourteen	fifteen
eighteen	nineteen	twenty	13	14	15

30 | Section 5

PAGE 31: NUMBER LINE

MATERIALS NEEDED

- pencils

Concept:

add and subtract on a number line

Teacher Goal:

To teach the children to add and subtract on a number line.

Teaching Page 31:

Turn to page 31, and point to the number line at the top of the page.

Read the first set of directions.

Tell the children to put their pencils on the number line at 6 and add 4.

Tell them to write on the line where they are now on the number line (10).

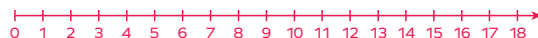
Have them subtract 3 and write where they are now on the line (7).

Have them add 5 and write where they are now (12).

Have them write the answer to, "Where did you end?" (12)

Have them complete the page in this manner. Their answers should be in number words for the second half of the page.

Unit 5 | COLUMN ADDITION AND ESTIMATION



Write number symbols.

Put your pencil on the number line at 6, then add 4 10, subtract 3 7, add 5 12. Where did you end? 12

Put your pencil on the number line at 7, then subtract 3 4, subtract 2 2, add 7 9. Where did you end? 9

Begin at 9. Add 5 14, add 3 17, subtract 6 11. Where did you end? 11



Write number words.

Begin at eleven. Subtract six five, subtract three two, add twelve fourteen. Where did you end? fourteen

Begin at fourteen. Add three seventeen, subtract one sixteen, subtract seven nine. Where did you end? nine

Begin at eighteen. Subtract five thirteen, add two fifteen, subtract four eleven. Where did you end? eleven

Section 5 | 31



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