

ACHIEVEMENT GOALS PROGRAM

MATHEMATICS

GRADE 3, UNIT 1

TEACHER'S GUIDE

DRAFT

SAMPLE MINI UNIT

GRADE 3 - UNIT 1

OVERVIEW

OBJECTIVE: The student will be able to add or subtract any two or three whole numbers whose sum is 18 or less (basic facts).

PACING SUGGESTIONS:

| Teaching Unit - 8 Days | | | |
|------------------------|--|--|---|
| Lesson | Assignment | Skill | Materials |
| 1 | Text: pp. 2-4 | Addition with sums less than ten | Masking tape for dominoes, number line |
| 2 | Text: pp. 5-8 | Subtraction with sums to ten | Number line |
| 3 | Text: pp. 27-30 | Addition and subtraction with sums to 18 | Graph paper, crayons, beads, bead frame |
| 4 | Work Sheets T-1, T-2 | Addition and subtraction with sums to 18 | |
| 5 | Text: pp. 31-34 | Three addend addition | Number line, graph paper or tens blocks |
| 6 | Text: pp. 37-38 Work Sheet T-3 | Using the symbol for equals (=) | Containers Beans |
| 7 | Text: pp. 43-46 | Writing an addition fact (horizontally & vertically) and finding the sum or missing addend | Bead frame Counters |
| 8 | Work Sheets T-4, T-5 Unit Test 1 (Form A) | Assessment | |

| Reteaching Unit - 3 Days | | |
|--------------------------|--|-----------------|
| Lesson | Assignment | Materials |
| 1 | Work Sheets R-1, R-2, R-3, E-1 | Counters |
| 2 | Work Sheets R-4, R-5, R-6, E-2, E-3 | Die Counters |
| 3 | Work Sheets R-7, E-4 Unit Test 1 (Form B) | |

| Extension Unit - 3 Days | |
|-------------------------|----------------------|
| Lesson | Assignment |
| 1 | Work Sheet E-1 |
| 2 | Work Sheets E-2, E-3 |
| 3 | Work Sheets E-4, E-5 |

Additional reinforcement activities:
See suggestions on p. 49 of this guide.

TEACHING UNIT (8 days)

LESSON 1:

To complete addition exercises with sums less than 10

| Textbook | | District Work Sheets | Other Materials |
|----------|-------|-------------------------|---------------------------|
| T.E. | P.E. | | Masking tape for dominoes |
| 46,47 | 2,3,4 | | Number line |

TEACHER INFORMATION

The concept of addition is developed as the joining of two sets or groups through the use of dominoes. Students can add numbers to 3, 4, 5, 6, 7, 8, and 9 to get sums of 10 or less. Vertical and horizontal forms are used.

VOCABULARY

Plus (+)

PROCEDURE

Suggested Time

Whole Class Activity

Warm-up exercise

(5 min.)

Group Activity

- Using masking tape to show a large blank domino on the floor, have three boys stand on one side of the domino and two girls on the other. Have students discuss how many boys there are, how many girls, and how many there are in all.

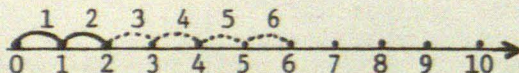
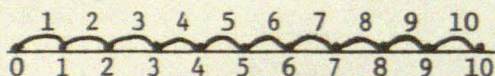
(4-6 min.)

Record findings on the chalkboard ($3 + 2 = 5$ /three *plus* two equals five). Repeat process several times, changing the number of boys and girls, but keeping the sum at 10 or less.

- Review the concept of a number line, noting that the points are equally spaced and the numbers assigned in order. Using a chalkboard number line, help the students count spaces rather than points.

(4-6 min.)

Use several examples to illustrate addition:



$$2 + 4 = 6$$

Count each space together orally.

- Have students work the following exercises on the chalkboard or at their seats: (3 min.)

$$3 + 1 = , \quad 5 + 4 = , \quad 7 + 3 = , \quad 5 + 3 = , \quad 7 + 3 = , \quad 8 + 1 = ,$$

$$9 + 0 = , \quad 1 + 8 =$$

- Have students work story problems using the number line:

1. Fred the frog jumped three spaces in the morning and two at noon. (4-6 min.)
How many spaces did he jump that day?
2. Maria had one blue ball. Father bought her two more balls. How many balls does she now have?
3. Tim worked in the yard for three hours on Monday and one hour on Wednesday.
How many hours did he work altogether?

- Assign textbook pages 2, 3, 4.

(1-2 min.)

Name _____

Date _____

| |
|--|
| GRADE 3, UNIT 1 TEACHING WORK SHEET T-4 LESSON 8 |
|--|

1)
$$\begin{array}{r} 3 \\ + 5 \\ \hline \end{array}$$

☐ 6☒ 8☐ 7☐ 2Hints For Taking Tests

1. Work the problem.
2. Look for an answer like yours.
3. Fill in the bubble next to the answer.
4. If there is no answer like yours, work the problem again.

2) $4 + 6 = \square + 4$

☐ 10☐ 14☐ 2☒ 6

5)
$$\begin{array}{r} 7 \\ 3 \\ + 4 \\ \hline \end{array}$$

☒ 14☐ 15☐ 13☐ 12

3)
$$\begin{array}{r} 13 \\ - 7 \\ \hline \end{array}$$

☐ 7☐ 20☒ 6☐ 8

6) $9 + 4 =$

☐ 14☒ 13☐ 12☐ 5

4) $17 - 8 =$

☐ 8☒ 9☐ 10☐ 7

7) $16 - 8 = \square + 4$

☐ 5☐ 12☒ 4☐ 8

Name _____ Date _____

Directions: Work each item on scratch paper; then fill in the answer which you think is correct.

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

- ☐ 5
☐ 6
☒ 7
☐ 8

2.
$$\begin{array}{r} 4 \\ + 5 \\ \hline \end{array}$$

- ☒ 9
☐ 7
☐ 8
☐ 1

3. $5 + 3 =$

- ☐ 9
☐ 6
☒ 8
☐ 7

4.
$$\begin{array}{r} 9 \\ + 8 \\ \hline \end{array}$$

- ☐ 15
☐ 16
☒ 17
☐ 18

5. $9 + 6 = \square + 9$

- ☐ 15
☒ 6
☐ 9
☐ 24

6.
$$\begin{array}{r} 6 \\ 4 \\ + 3 \\ \hline \end{array}$$

- ☐ 12
☐ 14
☐ 15
☒ 13

7.
$$\begin{array}{r} 1 \\ 2 \\ + 8 \\ \hline \end{array}$$

- ☐ 9
☒ 11
☐ 10
☐ 12

8. Bill had 5 books. John gave him 1 book. How many books does he have altogether?

- ☐ 1
☐ 5
☒ 6
☐ 7

RETEACHING UNIT - 3 days

GRADE 3 - UNIT 1
RETEACHING UNIT, LESSON 1

Lesson 1: To review concepts presented in Grade 3 - Unit 1.

| Text | | District Worksheets/Tests | Other Materials |
|------|------|---------------------------|-----------------|
| T.E. | P.E. | R-1, R-2, R-3 | Counters |
| | | E-1 | |

TEACHER INFORMATION

This 3-day unit is designed to follow Teaching Unit 1 if less than 80% of the students in the group reach mastery on Unit Test 1 (Form A). Students who do not attain mastery level should participate in the reteaching unit with direct instruction by the classroom teacher. Students who do reach mastery level should work independently (or with the assistance of an aide) on appropriate assignments from the Extension Activities.

PROCEDURE

Suggested Time

Whole Class Activity

- Warm-up exercise

(5 min.)

Group Activity

- Review Unit Test 1 (Form A). Review test items with all students in the group.

(10 min.)

Extension Group

- Assign extension activities to students who reached the mastery level on Unit Test 1 (Form A).

(2 min.)

Extension Activities

Assign work sheet E-1. This work sheet reinforces basic number combinations to 18.

See page 44 of this guide.

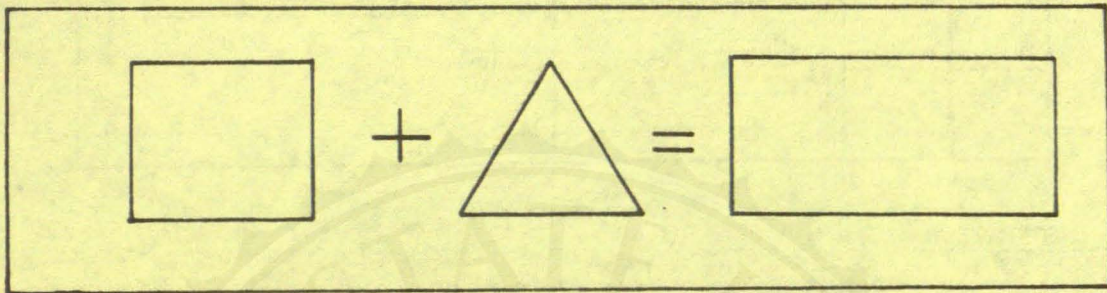
| | | | |
|----|----|----|----|
| | 9 | 8 | 7 |
| 11 | +2 | +3 | +4 |



Reteaching Group

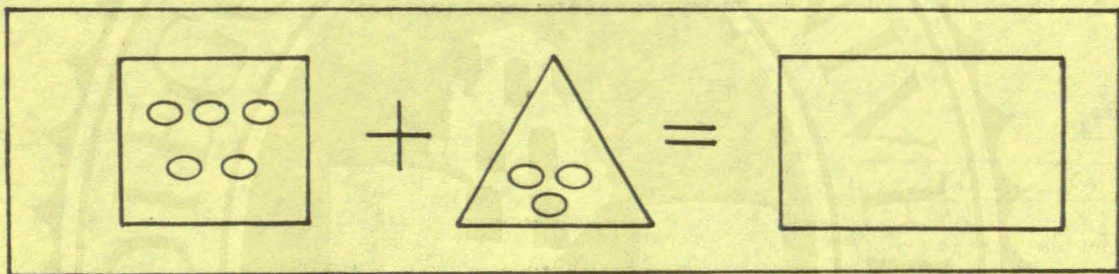
Have students who did not reach ~~mastery level~~ ^{level of achievement} on Unit Test 1 (Form A) participate in the following lesson:

- Place the following chart on a table or use overhead projector.
(See page 30 of this guide.)

(3 min.)



Place five counters in the . Place three counters in the .



Ask: How many counters are there in all? (8) Record the number sentence on the chalkboard: $5 + 3 = 8$.

Do several more examples:

$$6 + 7 = \square$$

$$3 + 2 = \square$$

$$4 + 5 = \square$$

- Distribute work sheet R-1 and a supply of counters (beans, buttons, bottle caps, etc) to each student.

(7 min.)

Have students work each of the following problems with counters, using the large square, triangle, and rectangle at the top of the page. Then have them record each answer in the appropriate small square, triangle, and rectangle.

- $6 + 3 =$ (Student puts 6 beans in square and 3 beans in triangle, then moves all beans to the rectangle and counts.)



(Student then records operation in space marked 1.)

EXTENSION UNIT - 3 days

GRADE 3 - UNIT 1
EXTENSION UNIT, LESSONS 1-3

Lessons 1-3: To extend and enrich concepts presented in Grade 3 - Unit 1.

| Text | | District Work sheets/Tests | Other Materials |
|------|------|-------------------------------|-----------------|
| T.E. | P.E. | E-1, E-2, E-3, E-4, E-5 | |
| | | | |

TEACHER INFORMATION

This unit is designed for independent use by students who attain mastery on Unit Test 1 (Form A). Students who do not reach mastery level should participate in the reteaching unit with direct instruction by the classroom teacher.

Lesson 1

- Assign work sheet E-1. This work sheet reinforces basic number combinations to 18.

| | | | |
|----|------------|------------|------------|
| | 9 | 8 | 7 |
| 11 | <u>+ 2</u> | <u>+ 3</u> | <u>+ 4</u> |

Lesson 2

- Assign work sheets E-2 and E-3. These pages provide additional practice in basic addition and subtraction facts.

Lesson 3

- Assign work sheets E-4, E-5. This lesson provides practice in addition with multiple addends and in subtraction. It self checks with a secret code.

| | | | | | | | | | |
|--|--|--|---|---|---|---|---|----|----|
| $\begin{array}{r} 2 \\ 3 \\ + 5 \\ \hline 10 \end{array}$ | $\begin{array}{r} 16 \\ - 8 \\ \hline 8 \end{array}$ | $\begin{array}{r} 4 \\ + 8 \\ \hline 12 \end{array}$ | <table border="1"> <tr> <td>A</td> <td>T</td> <td>C</td> </tr> <tr> <td>8</td> <td>12</td> <td>10</td> </tr> </table> | A | T | C | 8 | 12 | 10 |
| A | T | C | | | | | | | |
| 8 | 12 | 10 | | | | | | | |
| <div style="border: 1px solid black; padding: 5px; display: inline-block;">C</div> | <div style="border: 1px solid black; padding: 5px; display: inline-block;">A</div> | <div style="border: 1px solid black; padding: 5px; display: inline-block;">T</div> | | | | | | | |

Name _____

Date _____

GRADE 3, UNIT 1
EXTENSION WORK SHEET E-1
LESSON 1

Write all the addition combinations for the given sums. Record the number of combinations found.

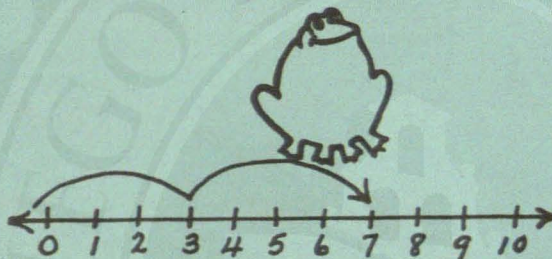
| Sum | Number of Combinations | List facts |
|-----|------------------------|--|
| 11 | 12 | $\begin{array}{cccccccccccccc} 11 & 10 & 9 & 8 & 7 & 6 & 5 & 4 & 3 & 2 & 1 & 0 \\ +0 & +1 & +2 & +3 & +4 & +5 & +6 & +7 & +8 & +9 & +10 & +11 \\ \hline 11 & 11 & 11 & 11 & 11 & 11 & 11 & 11 & 11 & 11 & 11 & 11 \end{array}$ |
| 12 | 13 | $\begin{array}{cccccccccccccc} 12 & 11 & 10 & 9 & 8 & 7 & 6 & 5 & 4 & 3 & 2 & 1 & 0 \\ +0 & +1 & +2 & +3 & +4 & +5 & +6 & +7 & +8 & +9 & +10 & +11 & +12 \\ \hline 12 & 12 & 12 & 12 & 12 & 12 & 12 & 12 & 12 & 12 & 12 & 12 & 12 \end{array}$ |
| 13 | 14 | $\begin{array}{cccccccccccccc} 13 & 12 & 11 & 10 & 9 & 8 & 7 & 6 & 5 & 4 & 3 & 2 & 1 & 0 \\ +0 & +1 & +2 & +3 & +4 & +5 & +6 & +7 & +8 & +9 & +10 & +11 & +12 & +13 \\ \hline 13 & 13 & 13 & 13 & 13 & 13 & 13 & 13 & 13 & 13 & 13 & 13 & 13 & 13 \end{array}$ |
| 14 | 15 | $\begin{array}{cccccccccccccc} 14 & 13 & 12 & 11 & 10 & 9 & 8 & 7 & 6 & 5 & 4 & 3 & 2 & 1 & 0 \\ +0 & +1 & +2 & +3 & +4 & +5 & +6 & +7 & +8 & +9 & +10 & +11 & +12 & +13 & +14 \\ \hline 14 & 14 & 14 & 14 & 14 & 14 & 14 & 14 & 14 & 14 & 14 & 14 & 14 & 14 & 14 \end{array}$ |
| 15 | 16 | $\begin{array}{cccccccccccccc} 15 & 14 & 13 & 12 & 11 & 10 & 9 & 8 & 7 & 6 & 5 & 4 & 3 & 2 & 1 & 0 \\ +0 & +1 & +2 & +3 & +4 & +5 & +6 & +7 & +8 & +9 & +10 & +11 & +12 & +13 & +14 & +15 \\ \hline 15 & 15 & 15 & 15 & 15 & 15 & 15 & 15 & 15 & 15 & 15 & 15 & 15 & 15 & 15 & 15 \end{array}$ |
| 16 | 17 | $\begin{array}{cccccccccccccc} 16 & 15 & 14 & 13 & 12 & 11 & 10 & 9 & 8 & 7 & 6 & 5 & 4 & 3 & 2 & 1 & 0 \\ +0 & +1 & +2 & +3 & +4 & +5 & +6 & +7 & +8 & +9 & +10 & +11 & +12 & +13 & +14 & +15 & +16 \\ \hline 16 & 16 & 16 & 16 & 16 & 16 & 16 & 16 & 16 & 16 & 16 & 16 & 16 & 16 & 16 & 16 & 16 \end{array}$ |
| 17 | 18 | $\begin{array}{cccccccccccccc} 17 & 16 & 15 & 14 & 13 & 12 & 11 & 10 & 9 & 8 & 7 & 6 & 5 & 4 & 3 & 2 & 1 & 0 \\ +0 & +1 & +2 & +3 & +4 & +5 & +6 & +7 & +8 & +9 & +10 & +11 & +12 & +13 & +14 & +15 & +16 & +17 \\ \hline 17 & 17 & 17 & 17 & 17 & 17 & 17 & 17 & 17 & 17 & 17 & 17 & 17 & 17 & 17 & 17 & 17 & 17 \end{array}$ |
| 18 | 19 | $\begin{array}{cccccccccccccc} 18 & 17 & 16 & 15 & 14 & 13 & 12 & 11 & 10 & 9 & 8 & 7 & 6 & 5 & 4 & 3 & 2 & 1 & 0 \\ +0 & +1 & +2 & +3 & +4 & +5 & +6 & +7 & +8 & +9 & +10 & +11 & +12 & +13 & +14 & +15 & +16 & +17 & +18 \\ \hline 18 & 18 & 18 & 18 & 18 & 18 & 18 & 18 & 18 & 18 & 18 & 18 & 18 & 18 & 18 & 18 & 18 & 18 & 18 \end{array}$ |

REINFORCEMENT SUGGESTIONS

These activities are designed to assist students who do not attain mastery level on Unit Test 1 (Form B).

1. Review methods for solving the specific addition and subtraction exercises on Test 1 (Form B).
2. Display number line on the chalkboard. Review number line concept, noting that students should count spaces rather than points.

Illustrate the moves on the number line by using the figure of a jumping animal.



Use several examples, such as $3 + 4$, $2 + 5$, $10 - 2$, $7 - 3$. Have the student come to the chalkboard and show the moves on the number line.

3. Play Cube Roll.

Give each student two cubes numbered 1-6. Roll the cubes. Record the two addends and write the sum. For subtraction, subtract the smaller from the larger number to find the difference. If children need practice using larger combinations, make the cubes 4-9. See recording sheet for this activity on page 50 of this guide.

4. Using 3" x 5" cards, make flash cards for families of facts. Use only families that the students found difficult.

| | | | |
|-------|-------|-------|-------|
| 9 | 8 | 17 | 17 |
| +8 | +9 | -9 | -8 |
| <hr/> | <hr/> | <hr/> | <hr/> |

Have students practice these facts both at home and school.