

Period 3

period materials *Math Advantage 2*, pages 169-236
Teaching Resources R2, R6, R7, R10, R11
Chapters 10-13 Tests

overview In this period the student will add and subtract two-digit numbers with and without regrouping. These are the two major skills in second-grade math, so do not rush through these assignments.

Hopefully, the student has mastered the basic addition (sums to 18) and subtraction facts. If not, drill the student on them daily. Without having mastered them, the student will find this period to be difficult. Use flash cards or computer software.

Lesson 1

objective Regroup ones as tens.

materials Workbook pages 169, 171, and 172
Teaching Resource R2—Workmat 3
Teaching Resource R10—Base-Ten Materials or Legos or
Teaching Resource R11—Bean Sticks and Beans

vocabulary *regroup, join*

warm-up Say the following, omitting the answers. Have the student give the answers without using counters.

$$\begin{array}{rclclcl} 8 + 8 = & & (16) & 6 + 3 = & & (9) \\ 5 + 8 = & & (13) & 7 + 5 = & & (12) \end{array}$$

Diane has 6 toy cars. Jose has 5 toy cars. How many toy cars do Diane and Jose have in all? (11)

teaching Read together workbook page 169. Explain that in Chapter 10 the student will learn how to add two-digit numbers. This skill is needed when buying items in a

store or keeping score for a game. Ask: **How many animals are in the pet show?** (33)

Review place value by modeling 52 and 25 using groups of ten (toothpicks, Legos, or Teaching Resources R10 or R11) and loose items for the ones. Explain that the value of a digit depends on the place of the digit in the number. In 52, the 2 has the value of 2 ones or 2. In 25, the 2 has the value of 2 tens or 20. Say two more two-digit numbers and have the student use his/her groups of tens and ones to find the value of the digits.

Using Workmat 3 (Teaching Resources R2) and groups of tens and ones or Teaching Resources R10 or R11, have the student model 5 ones and 8 ones. Then remind him/her to **regroup** ten ones as 1 ten. Now there is 1 ten and 3 ones. Repeat with other numbers if needed until the child shows a good understanding of the concept of regrouping 10 ones into 1 ten.

Study together the example at the top of workbook page 171. Remind the student that when studying money, he/she exchanged 2 nickels for 1 dime. In this example 10 ones are exchanged for 1 strip of ten. Do together numbers 2-5.

- answers** Workbook page 171
- | | |
|-------------------------------|------------------------------|
| 2. 12 ones, Yes, 1 ten 2 ones | 4. 9 ones, No, 0 tens 9 ones |
| 3. 14 ones, Yes, 1 ten 4 ones | 5. 11 ones, Yes, 1 ten 1 one |

teaching Emphasize looking carefully at the ones. If there are more than 10 ones, remove 10 ones and exchange them for 1 ten. Often, students will forget to remove the 10 ones and will end up with an incorrect answer.

assignment Workbook page 172

- answers** Workbook page 172
- | | |
|-------------------------------|----------|
| 2. 18 ones, Yes, 1 ten 8 ones | 5. 10:15 |
| 3. 9 ones, No, 0 tens 9 ones | 6. 2:35 |
| 4. 14 ones, Yes, 1 ten 4 ones | 7. 6:45 |

Lesson 2

objective Add one-digit and two-digit numbers.

materials Workbook pages 173 and 174
Teaching Resource R2—Workmat 3

vocabulary *in all*

warm-up Say the following problems, omitting the answers. Have the student give each answer without using counters.

$$\begin{array}{rclcl} 15 - 8 = & (7) & 14 - 6 = & (8) \\ 18 - 9 = & (9) & 11 - 7 = & (4) \end{array}$$

Ben has 6 black cats and 9 white cats. What is the difference between the number of black cats and the number of white cats that Ben has? (3)

teaching Using place value items (Legos, toothpicks, or Teaching Resources R10 or R11) have the student model the following, regrouping when needed.

$$\begin{array}{l} 6 + 4 = 10 \quad (\text{regrouping, 1 ten 0 ones}) \\ 3 + 5 = 8 \quad (\text{no regrouping}) \\ 2 + 7 = 9 \quad (\text{no regrouping}) \\ 9 + 8 = 17 \quad (\text{regrouping, 1 ten 7 ones}) \end{array}$$

Study together the example at the top of workbook page 173. Notice that 6 ones were added to the 5 ones. Now there are 11 ones. Remove 10 of them and exchange it for 1 group of ten. Now there are 2 tens and 1 one, which is 21. Repeat using $12 + 9$. In this example, you start with 1 ten and 2 ones. Then add 9 ones. There are 11 ones. Regroup 10 ones for 1 ten. Now there are 2 tens and 1 one, which is also 21. Be sure that the student removes 10 ones before showing the 1 ten. Do the rest of the workbook page together.

answers Workbook page 173

- | | |
|------------|------------|
| 1. No, 19 | 3. Yes, 24 |
| 2. Yes, 21 | 4. No, 18 |

teaching In number 1, you started with 8 ones and then added 1 ten and 1 one. There is no regrouping because 9 ones is not enough to regroup.

Emphasize that not all problems have regrouping. Only regroup when there are 10 or more ones.

assignment Workbook page 174, 1-7

answers Workbook page 174

- | | |
|------------|------------|
| 2. Yes, 24 | 5. Yes, 21 |
| 3. No, 19 | 6. Yes, 23 |
| 4. Yes, 20 | 7. No, 19 |

Lesson 3

objective Add 2 two-digit numbers.

materials Workbook pages 175 and 176
Teaching Resource R2—Workmat 3
Teaching Resource R10—Base-Ten Materials or
Teaching Resource R11—Bean Sticks and Beans

warm-up Say the following problems, omitting the answers. Have the student give the correct answers without using counters.

$8 + 4 =$	(12)	$9 - 3 =$	(6)
$12 - 7 =$	(5)	$7 + 7 =$	(14)

Carol has 5 oranges. Ted has 9 oranges. How many oranges do Carol and Ted have in all? (14)

teaching To review the previous lesson, write the following, omitting the answers. Have the student look closely at the ones to tell whether regrouping is needed. Add the ones. If the ones total 10 or more, regrouping is needed. If the ones total less than 10, no regrouping is needed.

$14 + 7$	(regroup)	$11 + 9$	(regroup)
$12 + 6$	(no regrouping)	$18 + 4$	(regroup)
$9 + 13$	(regroup)	$12 + 4$	(no regrouping)
$9 + 17$	(regroup)	$18 + 5$	(regroup)

Work together through the exercise at the top of workbook page 175. If your student has trouble grasping the concept, use manipulatives (Teaching Resources R10 or R11). Once again emphasize that 10 ones can be regrouped to 1 ten. Then do the rest of the workbook page.

- answers** Workbook page 175
- | | |
|------------|------------|
| 1. No, 23 | 3. No, 29 |
| 2. Yes, 35 | 4. Yes, 31 |

teaching Have the student model and explain how to show $14 + 18$. (Add the ones to get 12; then regroup 10 ones to 1 ten. Now add the tens. You have 3 tens and 2 ones, which is 32.)

assignment Workbook page 176

- answers** Workbook page 176
- | | |
|------------|------------|
| 2. No, 27 | 5. No, 28 |
| 3. Yes, 30 | 6. 33 fish |
| 4. Yes, 33 | |

Lesson 4

objective Find the sum of 2 two-digit numbers.

material Workbook pages 177 and 178

warm-up Say the following, omitting the answers. Have the student write the correct answer. Make sure that he/she includes the ¢ sign.

$8¢ + 6¢ =$	$(14¢)$	$9¢ + 3¢ =$	$(12¢)$
$9¢ + 5¢ =$	$(14¢)$	$5¢ + 5¢ =$	$(10¢)$

James bought a red ball for 9¢ and a blue ball for 8¢. How much did he spend in all? (17¢)

teaching Review the previous lesson by reminding the student that all addition problems do not have regrouping. To tell if regrouping is needed, add the ones in the two numbers. If the ones total 10 or more, then regroup. Write the following

problems, omitting the answers in parentheses. Have the student add the ones to tell if regrouping is needed and then give the sum.

$13 + 17$	(regroup, 30)	$19 + 15$	(regroup, 34)
$12 + 17$	(no regrouping, 29)	$16 + 18$	(regroup, 34)
$15 + 19$	(regroup, 34)	$18 + 13$	(regroup, 31)
$11 + 14$	(no regrouping, 25)	$16 + 17$	(regroup, 33)
$11 + 13$	(no regrouping, 24)		

Work together through the exercise at the top of workbook page 177. Because there are a total of 11 ones, regroup 10 of them to 1 ten. Now there are 4 tens and 1 one, which is 41. Do numbers 1 and 2 at the bottom of the page together.

answers Workbook page 177

- 29
- 42

teaching Today's lesson has the student using manipulatives for adding 2 two-digit numbers. The writing of the tens being carried to the tens column will be introduced in Chapter 11.

assignment Workbook pages 177, 3 and 4, and page 178

answers Workbook page 177 Workbook page 178

- | | |
|-------|-------------------|
| 3. 39 | 2. 60 |
| 4. 54 | 3. 37 |
| | 4. 63 |
| | 5. 28 soccer fans |

Lesson 5

objective Make a model to solve problems.

materials Workbook pages 179 and 180
Teaching Resource R2—Workmat 3
Teaching Resources R10—Base-Ten Materials or
Teaching Resource R11—Bean Sticks and Beans

warm-up Write the following problems, omitting the answers. Have the student give the correct answers, which should include the \emptyset sign.

$$\begin{array}{l} 18¢ - 9¢ = \quad (9¢) \quad 13¢ - 5¢ = \quad (8¢) \\ 13¢ - 5¢ = \quad (8¢) \quad 15¢ - 7¢ = \quad (8¢) \end{array}$$

James bought a green ball for 9¢ and a blue ball for 3¢. What is the difference in the price of the balls? (6¢)

teaching Write the following problems, omitting the answers. Have the student identify the problems that require regrouping and then solve each.

43	14	36	22
<u>+ 37</u>	<u>+ 23</u>	<u>+ 28</u>	<u>+ 52</u>
80	37	64	74
(yes)	(no)	(yes)	(no)

Read and study together number 1 on both workbook pages 179 and 180.

assignment Workbook pages 179 and 180, 2-4

answers Workbook page 179	Workbook page 180
2. 26 books	2. 31 goals
3. 33 children	3. 30 pizzas
4. 32 children	4. 36 balloons