STUDY TIME

Teacher's Manual





ARITHMETIC



 $\frac{1}{10}$ of 90 = 9



800¹5 - 6897





To Use





1 tbsp. = $\underline{3}$ tsp.



8, R6 7 62 <u>56</u>





quarter till 2



Clock A shows half past 1, or 1:30, because the minute hand has moved 30 minutes past one o'clock.

On clock B the minute hand has moved 45 minutes past 1:00 so the time is 1:45. Notice that the hour hand is nearly to the 2.

We can also say the time on clock B is quarter till 2 because in another one fourth, or quarter hour, the time will be 2:00, as shown on clock C. ************************

1. Fill in the times for these clocks









five o'clock

quarter past 5

half

cuarter till 6

Match the time



quarter past 3 3:15 f. g. 2:15 h.

At 12:30 the train stopped at a station in a city. Show this time on clock H.

4, At 12:45 they started again. Show this on clock I.





At 1:45 they stopped again for 15 minutes. Which clock sh

the time the train started to go again?

E clock C

89 90

LESSON 10 Write the sums. Remember to carry if the sum of the ones' place is 10 or more.

107	439	449	516	628	28	93	35	1.
+464	+533	+237	+362	+109	+85	+57	+27	
571	972	686	878	937	113	150	62	
521	506	223	30	25	16	51	32	2.
7	43	52	14	42	40	53	52	
+ 54	+238	+24	+89	+ 3	+68	+24	+87	
582	787	299	133	70	124	128	171	

	171 14	0 127	. 0	200	101	VV2
	Write these s	ums and remsinde	ers quickly.			
3.	38 + 7 = 45	41-7=	34 18+2	- 20	46+3	49
4.	72+5= 77	56 + 5 =	61 24-6	<u>- 18</u>	87 - 5 =	82
5.	50 + 6 - <u>58</u>	41-3=	38 75+8	- 84	65 - 6 =	59
6.	31 = 37 - 6	72 -	63 + 9 33	= 40 - 7	90	89 + 1
7.	48 - 39 +	9 63 -	71 - 8 55	= 59 - 4	53	45 + 8

Write the inbetween numbers in each blank, counting by 3,

3 6 9	15 18 21	46 51 54	96 99 102
38	10 21	40	80 102

Finish the fact at the right. Then write another fact with addends changed around to make a pair of facts.

9 _ 16

10. Count by 10.

<u>47</u> <u>57</u> <u>67</u> <u>77</u> <u>87</u> <u>97</u> <u>107</u> <u>117</u> <u>127</u> <u>137</u>

11. Fill in the blanks: 285 means 2 hundreds and 8 tens and 5 ones.

0 0 0 6 tens 2 The 2 in 462 means 2 ones or .. Add the three numbers to make ..

13. Draw hands to show 11:00.

BRUSHING UP

- A. Of the 22 people watching the train, 5 went inside the station. How many people were still outside? (17 people)
- B. Of the 16 curtains on the train windows, only 4 were pulled. How many were not pulled? (12 curtains) Did you find: how many left? how many gone? the other part?
- C. Use the subtraction chart on manual page 47 for drilling subtraction endings.
- D. Use the addition chart on manual page 33 for drilling addition endings.
- E. How many inches in 1 foot? (12) Show with your hands about how long one foot is; 8 inches; 3 inches.
- F. In addition, do we do the ones' column or the tens' column first? (ones)
- G. What do we do when the sum of the ones' column is 10 (carry the tens' figure to the tens' column)

TODAY'S LESSON •

PREPARATION

Have an actual clock on hand.

CLASSTIME

page 89

Read and discuss the clocks and the information at the top of the page.

Call attention to the position of both hands at quarter till. Point out to students that 1:45 is quarter till 2, not quarter till 1. Some students easily confuse the 1 in 1:45 and want to read it as quarter till 1.

To give students practice in telling time, frequently throughout the day, ask them to give you the current time.

page 90

Review work.

Number of answers, p.	89:	18
p.	90:	62
Total Answers, Lesson	10:	80

Timed Drill 10

(1 min.)

LESSON 10							
30	13	47	46	36			
+ 5	+ 5	+ 2	+ 5	+ 3			
36	18	49	51	39			
38	68	79	57	40			
- 5	- 6	- 8	- 8	- 5			
33	62	71	49	35			
21	. 72	63	51	15			
- 6	- 8	- 8	- 5	- 3			
13	66	54	46	12			

eatwork:

Handy chart practice with subtraction endings.

-	25	49	57	36	74
2	23	47	55	34	72
7	18	42	50	29	67
4	21	45	53	32	70
9	16	40	48	27	65
6	19	43	51	30	68
0	25	49	57	36	74
5	20	44	52	31	69
8	17	41	49	28	66
1	24	48	56	35	73
3	22	46	54	33	71

NOTES:

		_		
	_		•	
			•	CE
	- 7			14 - II
		-	, , ,	
-		-		

mage 91

							PRACTICE
S	ubtract.						
1.	68	8 4	96	758	864	379	259
	-45	-30	-48	-532	-524	-102	-256
	23	54	50	226	340	277	3
2.	73 4		3 1	16 81		62	17 39
	69 40	7 - 9	- <u>5</u> 26	9 73	24	<u>- 4</u> 58	8 33
	09 40	93	20	9 /3	24	90	0 33
	Fill in the mis	sing adden	ds.				
3.	7+41	1 6	· 9 - 1	7 -	6 - 13	4-1	8 - 12
4.	16 = 9 +	7 13	5_+	3 11	- 8 +3	15	- 6 +9
	Fill in the mis	eing suhtra	hende				
5.		-		9.	13. 4	5.5	11. 6
s. 6.	_	_	4 = 8		. 8 . 6		7 -9
٥.				10		10	
	Fill in the mis						
7.	9-15-6	_	- <u>17</u> - 9	-	. <u>13</u> - 5	-	12 - 3
3.	14 -8 - 6	_	11 - 6 = 5	_1	6 - 7 = 9	_1	2 -8=4
	Add.						
9.	727	392	349		107	728	349
y.	+245	+405	+643		789	+266	+538
	972	797	992		96	994	887
10	27+4-31	53	+10 = 63	29	+9= 38	59	+5= 64
							+3 = 21
	76 + 9 = <u>85</u>		+6=_45		+ 10 = <u>58</u>	_	
12.	47 - 44 + 5	3 _5	= 58 + 5	<u> </u>	89+4	8	4 = 79 + 5
13.	55	6 4	730	3 :	209	23	116
	60	46	1 (3	324	604	5 4
	27	97	124		32	13	718
	±84 226	263	± 12 890		130 195	+ 32 672	+ 23 911
	220	200	USU	,	100	UIL	911

CARRYING TO HUNDREDS' PLACE

If the sum of the tens' place is 10 or more, we carry the left hand figure to the hundreds' place and add it to the other figures in the hundreds' column. Sometimes we carry a ten and a hundred. 6 1 6 8 2 7 *************************

Write the sums. Carry if you need to.

347	279	157	541	593
+262	+680	+525	+292	+141 734
609	959	682	833	734
853	350	278	269	658
+137	+469	+243	+450	+142
990	819	521	719	800
	+262 609 853 +137	+262 609 959 853 350 +137 +469	+262 +680 +525 609 959 682 853 350 278 +137 +469 +243	+262 +680 +525 +292 609 959 682 833 853 350 278 269 +137 +469 +243 +450

CHECK IT OUT! = Study the two examples below and their sums. + 3 6 10 4 00000000 N

is 7 tens and 14 ones (Sum A) the same as 8 tens and 4 ones (Sum B)? Yes Which example shows the proper way to write the sum?

84+2= 86 49+7= 56

49 + 8 = 57 23 + 5 = 28

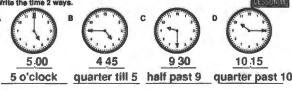
36 = 27 + 920 - 16+4 20 = 19 + 144 = 39 + 5

Dictation:

b. 14 c. 12 d. 73 a. 63 t. 56

93

Write the time 2 ways.



Write the sums. 57 59 408 127 87 143 239 66 402 66 5.6 56 +69 +276 +68 135 691 678 141 183

Using her handspan (from the tip of the thumb to the tip of the little finger) Martha decided the train seat must be about 20 inches wide, is that more or less than a foot? MOFE

40



91¢

36 . 92¢

5. While going through the countryside, Martha and Mary decided to count the barns. From one station to the next, Martha counted 17 barns from her window. On the other side, Mary counted 14 barns. How meny barns did the girls count?

17 + 14 31 barns

Fill in the blanks. Watch the signs!

7+9- 16 16 -8-8 9 = 18 - 9 15. 7 = 8 7_-13-6 8+ 8 -16 7+8- 15 5+ 9 - 14 17-8= 9 14 -8-6 16- 9 -7 9 - 15 - 8 8+9= 17 9 +7 = 16 9 + 8 = 17

10. Write the other part of...

a. 16, if one part is 7. 9

b. 16, if one part is 6. 8

LESSON 11

UNIT 2





- A. Review telling time: quarter past and quarter till.
- Review measurement flashcards.
- C. The Yoders passed one long train with 73 cars and a short train with 9 cars. How many cars were in the two trains? (82 cars)

Did you find: how many in all? how many left? how many gone?

- D. Of the 18 cookies Mother put in the box, only 3 were left. How many cookies were eaten? (15) Did you find: how many in all? how many gone? how many left?
- E. Count by 10 from 480 to 600; from 238 to 338.

• TODAY'S LESSON •

CLASSTIME

page 92

If students easily understood the concept of carrying a ten, they will also be able to see why we carry a hundred.

In the example at the top of the page, the sum of the tens' column was 11 tens. Ask the students, "How many are 11 tens?" (110)

If they remember the earlier lessons on place value, they will remember that 11 tens = 110. Thus they will be able to see that the left 1 means 1 hundred and so needs to be carried to the hundreds' column to be added to the other figures in that column.

Have the students work some of the following examples on the board.

265	169	643	799	376
+392	+ 5 4 8	+296	+129	+165
(657)	(717)	(8 3 9)	(9 2 8)	(541)

CHECK IT OUT:

Every once in a while throughout this book, you will find a "CHECK IT OUT" feature.

Usually there will not be any actual work for the students to write out in this feature, but we hope it will help students to look into the varied aspects of math and possibly get a better understanding of the concepts featured in each "CHECK IT OUT"!

A teacher should encourage students to study these displays and give them the opportunity to share what was discovered.

page 93

Review work.

Number of answers, p. 92:	26	
p. 93:	42	
Total Answers, Lesson 11:	68	



Dictation for page 92:

UNIT 2

a. 2+4+3

a. 2+4+3 c. 5+2+5 e. 54+9 b. 4+4+6 d. 68+5 f. 63-7

Timed Drill 11

(1 min.)

LESSO	N 11			
3	1	4	1	6
4	6	5	6	1
+6	+7	+3	+ 6	+5
±6 15	14	12	13	12
. 3	. 7 .	15 11 8 - 6	. 6	16 . 7
7	5	7 5	8	9
29 - 4 =	25		.es_1	
58 - 8 =	50	42	-7= 3	5

Seatwork:

Practice with endings. Work carefully!

	76 +	64 -	83 +	35 -	52
8	84	56	91	27	44
2	78	62	85	33	50
6	82	58	89	29	46
9	85	55	92	26	43
4	80	60	87	31	48
1	77	63	84	34	51
5	81	59	88	30	47
0	76	64	83	35	52
7	83	57	90	28	45
3	79	61	86	32	49

NOTES:

LESSON 12

CHECKING ADDITION

We can <u>check our addition sums by subtracting</u>.

To check a sum by subtracting, we <u>subtract one of the addends from the sum.</u>

That answer should be the same as the other addend. If it is not, we need to go back





When you're finished adding Just turn it upside down. Subtract to cheef your answer. It's right? No need to from

 Write the sums. Beside each addition example, check it by subtracting. Circle the remainder in the check and draw an arrow to the addend like the examples above. If an answer does not check out correctly, go back and find your mistake.

17 69 +52 -52 69 17





45 +23 68 45

 Martha counted 19 people on one side of the train and 20 people on the other side.
 Write your work and your check work to find how many people Martha counted.

19 + 20 39 people	39 - 20 19

Make the thermometer show 64 degrees.



Divide the shapes.
 triangle: ¹/₂



one third

the shapes write the correct fraction words.

one fourth

one helf



one fourth

one half



Draw hands to show these times.









2. How much money do these coins make?

 a. 1 quarter and 2 dimes
 45c

 b. 2 dimes and 5 pennies
 25c

 c. 2 quarters and 1 nickel
 55e

d. 5 nickets 25c
e. 3 quarters
f. 8 dimes 80¢

3. How much would be left if you had...

a quarter and spent 4¢?
 21¢

b. 28c and spent 5c? 23¢

Fill in the missing numbers. Watch the signs.

2+_9_=11 13 - 9 - 4 5=11-6 17 = 8 + 9 15- 7 -8 7+_9_= 16 9 = 16 - 7 13 = 4 + 9 Write the sums 234 142 37 545 264 276 58 178 46 170 159 96 234 429 1.5 87 108 62 38 202 35 679 384 257 370 258 83 892 767 933

Seeing a railroad crossing sign, Martha remembered a riddle she had heard. It took Jerry 35 minutes to figure out the answer. Was that more or less than one half hour?

■ more less

Here is the riddle Martha gave Jerry. Can you do it? (Ask your teacher if you need help)

Railway crossing, watch out for cars; Can you spell it without any r's?



LESSON 12

UNIT 2



COMING SOON

Symbols (lesson 13)

A. Identify symbols: greater than (>) & less than (<)

- 1 dime is greater than 1 nickel
 1 dime ≥ 1 nickel
- 12¢ is less than 15¢
 12¢ ≤ 15¢
- 3. 1 quarter equals 5 nickels 1 quarter = 5 nickels



BRUSHING UP

- A. Review counting money.
- B. Use the addition chart on manual page 33 and the subtraction chart on page 47 for extra drill on endings.
- C. 324 has (3) hundreds, (2) tens, and (4) ones.
- D. How many total tens in 482? (48); How many total ones in 169? (169)
- E. What is the freezing point of water? (32°)

TODAY'S LESSON •

CLASSTIME

page 94

Read and discuss the information, examples, and poem at the top of the page.

Help the students understand why it works to check addition by subtraction. Demonstrate this with real objects, starting with 2 small groups of pencils.

Explain: We know that to add means to put two groups together to make one large group. 4 pencils + 3 pencils = 7 pencils. (Combine the two groups of pencils)

Now if we take one small group away from the large group, we will have the other small group left. 7 pencils - 3 pencils = 4 pencils. (Take 3 pencils away.)

Emphasize: When checking addition by subtracting, we need to compare the answer of the subtraction problem with the top addend. If they do not match, we know we made a mistake somewhere, either in adding or in subtracting. We must then go back and find our mistake. If this is negelected, the benefits of checking will not be realized at all.

page 95

Review work.

Riddle answer: "Can you spell it without any r's?" (yes)

Number of answers, p. 94: 15

p. 95: 29

Total Answers, Lesson 12: 44

Note:

When grading exercises where students are asked to check their work, 2 points will be credited per problem, 1 the original and 1 for the check. So when grading work, special attention to see that the check answer is also correct.

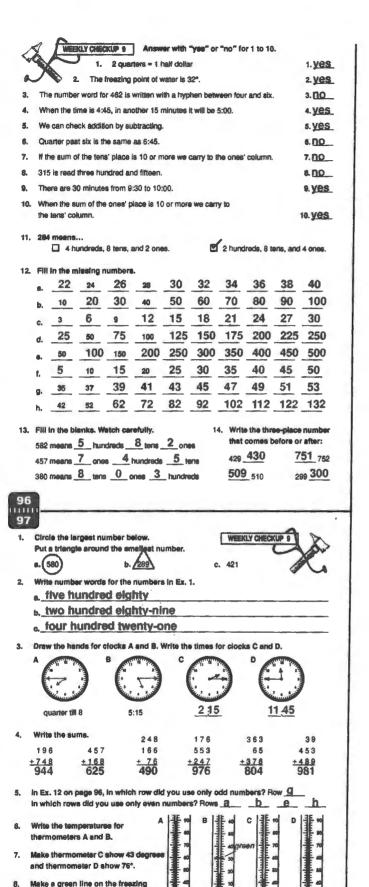
In exercises where students are asked to check addition subtraction, we suggest that if the original answer is incorrect, both answers (the original and the check) are automatically counted wrong. (It is impossible for the check to come out right if the original answer is wrong.)

This is to prevent students from simply slapping down answer to the check which they know should be there the top addend) without taking time to actually work the check.

It is possible, however, for students to have the original answer correct, but the check wrong if they failed to properly compare the check answer with the top addend.

Be sure your pupils understand the procedure for gradsuch exercises.

NOTES:



89°

d. day da.

e. hour hr.

t. minute min.

18°

10. Work and ch

40R

+231

639

(43

639

408

- 231

(76°)

654

+305

959

959

654

- 305

point on thermometer B.

b. inches_in.

c. dozen doz.

WEEKLY CHECKUP 9

UNIT 2

pages 96 and 97

Number of answers, p. 96: 88 p. 97: 35 Total Answers, W/C 9: 123

Have you used the Drill Page this week?

TEACHER CHECKLIST

- How well are your students doing with their "yes" and "no's"?
- Are they having any trouble telling time?
 - Is counting numbers a problem?

Timed Drill 13

LESSÓN 13	
14-7= 7	17-8= 9
12-4=8	56-4= 52
15-7= 8	43-6= 37
136_=7	37 - 9 = 28
5-6-9	45 - 6 = 39
15-9= 6	36-5= 31
6-7= 9	27-9= 18