Lesson 67

Materials

48 small cubes or counters
4 tens rods
grid paper *(Optional)*

Books

Calvert Math
Practice

Student Assignments

❏ **MATHEMATICS** ☑
___Complete Warm-up activity
___Read and discuss p. 146, *Calvert Math*
___Complete **Try These**, p. 147, *Calvert Math*
___Complete **Exercises**, **Problem Solving**, and **Mixed Review**, p. 147, *Calvert Math*
___Complete **Practice 78**, *Practice*
___Complete Math Checkpoint

Notes

Objective: to divide two-digit numbers by one-digit numbers when regrouping is needed

Warm-up: Have the student complete **Mid-Chapter Review** on p. 145 in *Calvert Math*.

**Skill Development:** Today your student will study dividing that involves regrouping.

Your student is going to practice using an algorithm. Algorithms are useful, just as long as your student understands the concept behind what the algorithm is working through.

The algorithm is remembered by the acronym DMSCB, as shown on p. 146 (**D**oes **M**ark **S**ell **C**heese**b**urgers). Your student is taught to divide, multiply, subtract, compare, and bring down.

To be certain that your student comprehends the concept of regrouping in division, have him complete the following exercise.

Hand your student 48 small cubes or counters.

Say: Divide these cubes into three equal groups. (To facilitate this process, suggest that your student "deal out" the cubes to three locations.)
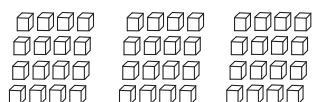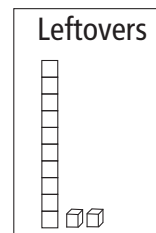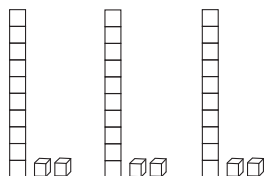

Say: You have just shown me that 48 divided into 3 equal groups produces 16 in each group.

Ask: How do I write this? (48 ÷ 3 = 16)
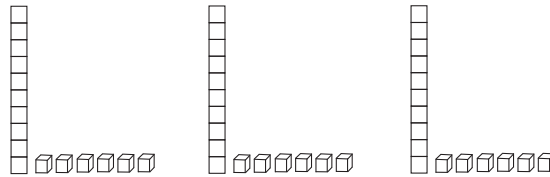
Now hand your student four tens rods and eight cubes.

Say: Divide these into 3 equal groups. If there are any left over, place them to the side.

Leftovers

Say: Let us trade the leftover tens rod for 10 unit cubes.

Leftovers

Say: Let us divide the leftovers among our three groups.

Say: You have just shown me that 4 tens rods and 8 unit cubes, which equal 48, divide into 3 equal groups. Each group has 1 ten-rod and 6 unit cubes, which equal 16.

Write the following:

$$48 \div 3 = 16$$

Read **Dividing with Regrouping** with your student on p. 146 in *Calvert Math*. Help him to make the connection between what he did with the place-value objects and what is shown in the chart on p. 146.

Together complete problems 1–6 in **Try These** at the top of p. 147. Assign problems 1–26 in **Exercises**, **Problem Solving**, and **Mixed Review** on p. 147.

When using the division algorithm, stress the importance of comparing after the subtraction step. If the difference is larger than the divisor, a larger number needs to be placed in the quotient.

If alignment is a problem with your student, use grid paper to keep the digits in line.

Practice: Have your student complete **Practice 78:** *Dividing with Regrouping* in *Practice*.

Enrichment: Assign **Problem Solving: Max's Travels** on p. 148 in *Calvert Math*.
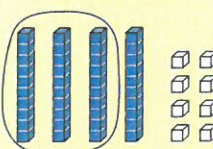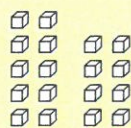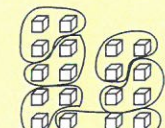
✅
Math Checkpoint

⭐
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6.7 Dividing with Regrouping

Objective: to divide two-digit numbers by one-digit numbers when regrouping is needed

Beth, Amy, and Mark picked 48 watermelons. They each picked the same number. How many watermelons did each person pick? To find the answer, divide 48 by 3.

	Step 1	Step 2	Step 3	
Question: How many groups of 3 can you make from the tens?	Divide the tens.	Rename 1 ten as 10 ones.	Divide the ones. No ones remain.	**Question:** How many groups of 3 can be made from 18 ones?
Answer: 1 with 1 ten left over	$\begin{array}{r} 1 \\ 3\overline{)48} \\ -3 \\ \hline 1 \end{array}$	$\begin{array}{r} 1 \\ 3\overline{)48} \\ -3\downarrow \\ \hline 18 \end{array}$ There are 18 ones.	$\begin{array}{r} 16 \\ 3\overline{)48} \\ -3\downarrow \\ \hline 18 \\ -18 \\ \hline 0 \end{array}$	**Answer:** 6 with 0 ones left over

Each person picked 16 watermelons.

The steps in division are Divide, Multiply, Subtract, Compare, and Bring Down. In order to help you remember the steps, try to come up with a fun sentence like the example on the right:

Does
Mark
Sell
Cheese
Burgers

More Examples

A.
$\begin{array}{r} 24\ R1 \\ 4\overline{)97} \\ -8 \\ \hline 17 \\ -16 \\ \hline 1 \end{array}$

Is the remainder less than the divisor?

Check:
$\begin{array}{r} 24 \\ \times\ \ 4 \\ \hline 96 \\ +\ \ 1 \\ \hline 97 \end{array}$

quotient
divisor

remainder
This equals the dividend. It checks.

B.
$\begin{array}{r} \$13 \\ 5\overline{)\$65} \\ -5 \\ \hline 15 \\ -15 \\ \hline 0 \end{array}$

Find the quotient. Remember to use the steps divide, multiply, subtract, compare, and bring down (regroup).

1. 4)92   2. 2)74   3. 3)$81   4. 2)52   5. 4)47   6. 5)63

Exercises

Divide.

1. 3)45   2. 6)78   3. 4)67   4. 7)85   5. 3)87   6. 5)96

7. 4)95   8. 2)35   9. 7)91   10. 6)90   11. 2)73   12. 3)77

13. 6)$84   14. 2)$51   15. 5)$60   16. 4)$95   17. 7)$79   18. 4)$72

PROBLEM SOLVING

19. Rachel is making plant hangers. She needs 4 beads for each hanger. She has 49 beads. How many hangers can she make? How many beads will be left?

★ 20. Miguel made 42 deliveries for Karl's Pizza Palace. Dudley made 7 deliveries for Karl's Pizza Palace. How many more deliveries did Miguel make?

21. Find the price of one orange.

6 for 96¢   Oranges

★ 22. Start with 168. Guess how many times you can subtract 7 to get to 0. Then try it. Can you think of a faster way to find out how many 7s are in 168?

$$\begin{array}{r} 168 \\ -\ \ 7 \\ \hline 161 \\ -\ \ 7 \\ \hline 154 \\ -\ \ 7 \\ \hline \end{array}$$

MIXED REVIEW

Find the product.

23. $19.99 × 23 =   24. 365 × 73 =   25. $48.73 × 41=   26. 416,432 × 92 =