

Name _____

Represent Division with 2-Digit Divisors

I Can use manipulatives and drawings to represent and divide multi-digit whole numbers.

Investigate

Materials ■ base-ten blocks

There are 156 students in the Carville Middle School chorus. The music director wants the students to stand with 12 students in each row for the next concert. How many rows will there be?

- A. Use base-ten blocks to model the dividend, 156.
- B. Place 2 tens below the hundred to form a rectangle. How many groups of 12 does the rectangle show? How much of the dividend is not shown in this rectangle?

- C. Combine the remaining tens and ones into as many groups of 12 as possible. How many groups of 12 are there?

- D. Place these groups of 12 on the right side of the rectangle to make a larger rectangle.
- E. The final rectangle shows _____ groups of 12.

So, there will be _____ rows of 12 students.

Florida's B.E.S.T.

- Number Sense & Operations 5.NSO.2.2
- Mathematical Thinking & Reasoning
MTR.2.1, MTR.4.1, MTR.5.1



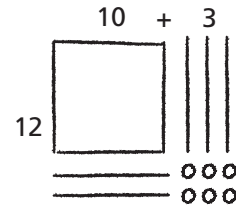
Draw Conclusions

1. **MTR** Explain why you still need to make groups of 12 after Step B.

2. **MTR** Describe how you can use base-ten blocks to model the quotient $176 \div 16$.

Make Connections

The two sets of groups of 12 that you found in the Investigate are partial quotients. First you found 10 groups of 12 and then you found 3 more groups of 12. Sometimes you may need to regroup before you can show a partial quotient.



You can use a quick picture to record the partial products.

Divide. $180 \div 15$

MODEL Use base-ten blocks.

STEP 1 Model the dividend, 180, as 1 hundred 8 tens.

Model the first partial quotient by making a rectangle with the hundred and 5 tens. In the Record section, cross out the hundred and tens you use.

The rectangle shows _____ groups of 15.

STEP 2 Additional groups of 15 cannot be made without regrouping.

Regroup 1 ten as 10 ones. In the Record section, cross out the regrouped ten.

There are now _____ tens and _____ ones.

STEP 3 Decide how many additional groups of 15 can be made with the remaining tens and ones. The number of groups is the second partial quotient.

Make your rectangle larger by including these groups of 15. In the Record section, cross out the tens and ones you use.

There are now _____ groups of 15.

So, $180 \div 15$ is _____.

RECORD Use quick pictures.



Draw the first partial quotient.

Draw the first and second partial quotients.

Math Talk

MTR 2.1 Demonstrate understanding in multiple ways.

Explain how your visual model shows the quotient.

Share and Show

Math Board

Use the quick picture to divide.

1. $143 \div 13$

