Lesson 6-3

Tuesday, December 3, 2019 8:23 AM

Name MB 313

Lesson 6-3
Use Models to Divide by a 1-Digit Whole Number

Solve & Share

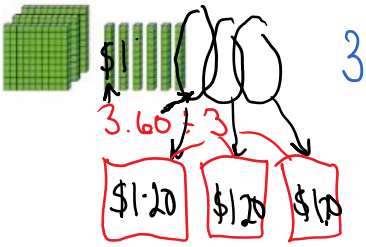
Chris paid $3.60 for 3 colored pens. Each pen costs the same amount. How much did each pen cost? *Solve this problem any way you choose.*

I can ...
use models to help find quotients in problems involving decimals.

Content Standard 5.NBT.B.7
Mathematical Practices MP.2, MP.3, MP.4, MP.5, MP.8

6 ÷ 3 = 2
3.60 ÷ 3 = C
3 ÷ 3

You can use appropriate tools such as place-value blocks to help you divide. *Show your work!*



$1.20

1.20
3 | 3.60
-3
06
-6
00
-0
0

1.20 2dp
x 3 +0dp
360 2dp

Look Back! MP.2 Reasoning Without dividing, how do you know that the answer to the problem above must be greater than 1?

The dividend 3.60 is greater than the divisor 3 so the quotient is greater than 1.

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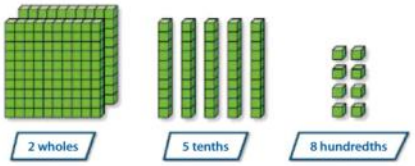
How Can You Use Models to Find a Decimal Quotient?

A

Three friends received $2.58 for aluminum cans they recycled. They decided to share the money equally. How much will each friend get?

You can divide because the money is being shared equally.

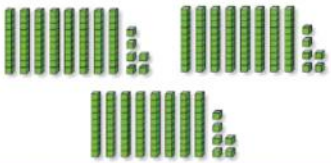


B What You Think

Find 2.58 ÷ 3. Estimate using compatible numbers.

3 ÷ 3 = 1, so 2.58 ÷ 3 < 1.

Divide the models into 24 tenths and 18 hundredths to share equally.



C What You Write

Use the estimate to start dividing in the tenths place.

```
  0.86
3)2.58
 -24
  18
 -18
   0
```

Place the decimal point in the quotient above the decimal point in the dividend. Divide as usual.

Each of the three friends will get $0.86.

2.7 ÷ 3 = 0.90
2.58 ÷ 3 = m
2.4 ÷ 3 = 0.80

Convince Me! MP.2 Reasoning The next week 4 friends got $8.24 for the cans they collected. How much money will each friend make? Estimate using compatible numbers and then calculate.

12 ÷ 4 = 3
8.24 ÷ 4 = m
8 ÷ 4 = 2

```
  2.06
4)8.24
 -8 ↓
  0 2
  -0 ↓
   24
  -24
    0
```

2.06 × 4 = 8.24
2dp + 0dp = 2dp

$2.06 each

Name

Guided Practice

Do You Understand?

1. MP.3 Construct Arguments Should you start dividing the ones first or the tenths first to find 9.36 ÷ 4? Explain.

One's place because 9 is greater than 4.

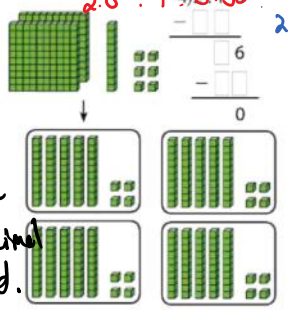
2. MP.8 Generalize How is dividing a decimal by a whole number similar to dividing a whole number by a whole number? Explain.

The steps are the same, but the decimal needs to be placed.

Do You Know How?

3. Use models to help you divide 2.16 ÷ 4. Complete the division calculation.

2.4 ÷ 4 = 0.60
2.16 ÷ 4 = x
2.0 ÷ 4 = 0.50



54
20 ↓
1
16

0.54 2dp × 4 = 2.16 2dp

Complete 5, 10, & 16

Independent Practice

Leveled Practice In **4–11**, divide. Use models to help.

4. $3\overline{)1.35}$

5. $6\overline{)2.76}$

6. $8\overline{)1.85}$

7. $4\overline{)5.72}$

3.0 ÷ 6 = 0.5
2.76 ÷ 6 = x
2.4 ÷ 6 = 0.4

46
24
3
36
0

8. 2.38 ÷ 7

9. 4.71 ÷ 3

10. 1.76 ÷ 8

11. 0.44 ÷ 2

2.4 ÷ 8 = 0.3
1.76 ÷ 8 = x
1.6 ÷ 8 = 0.2

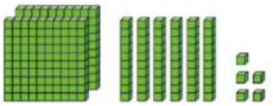
0.22
8 | 1.76
-0
17
-16
16
-16
0

0.22
x 8
176

*For another example, see Set C on page 358.

Math Practices and Problem Solving

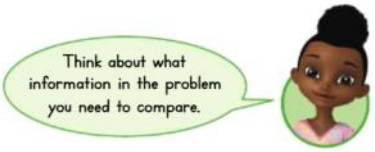
12. **MP.4 Model with Math** Alan is modeling 2.65 ÷ 5. How should he exchange the place-value blocks so he can make 5 equal shares?



13. **Algebra** Abby wants to know the value of n in the equation $7.913 \times n = 791.3$. What value for n makes the equation true?

14. **MP.3 Construct Arguments** To find 5.16 ÷ 6, should you divide the ones first or the tenths first? Why?

15. There are 264 children going on a field trip. Are 5 buses enough if each bus holds 52 children? Tell how you decided.



16. **Higher Order Thinking** Ginny earned $49.50 for 6 hours of gardening and $38.60 for 4 hours of babysitting. For which job did she earn more money per hour? How much more per hour did she earn? Explain how you found the answers.

x8.25
6 | 49.50
-48↓
15
-12↓
30
-30
0

x9.65
4 | 38.60
-36↓
26
-24↓
20
-20
0

9.65
- 8.25
1.40

Ginny earns $1.40 more per hour babysitting.

49.50÷6=8.25, 38.60÷4=9.65 9.65-8.25=1.40

Common Core Assessment

17. Tia drew the model below for 1.35 ÷ 3.

Part A

Explain the mistake Tia made.

Part B

Draw the correct model and find the quotient.