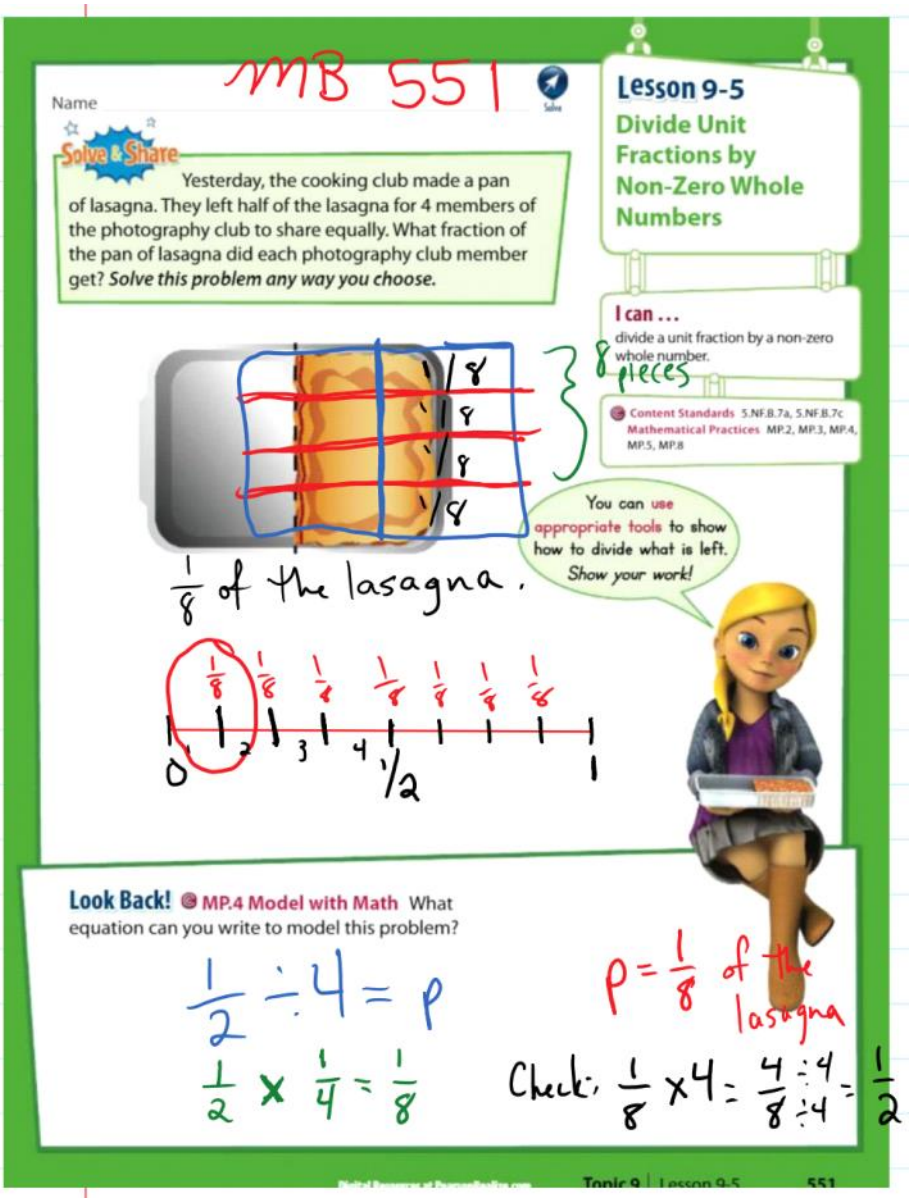
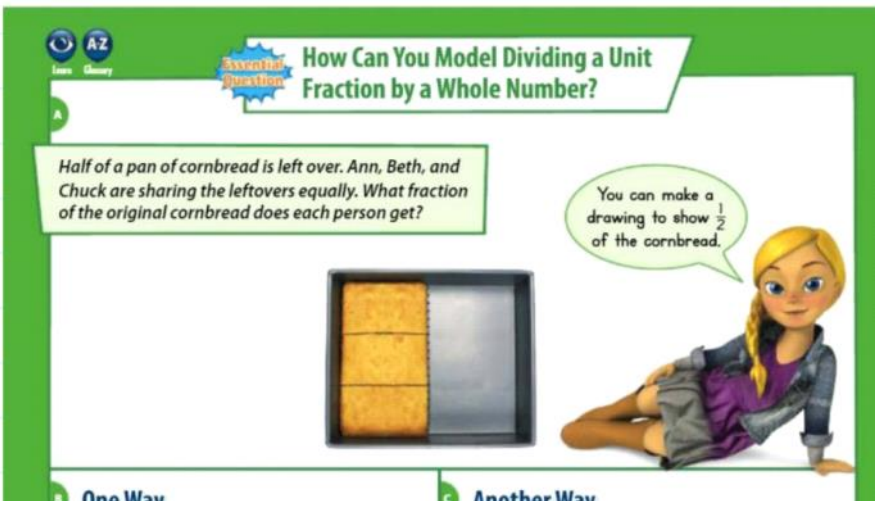
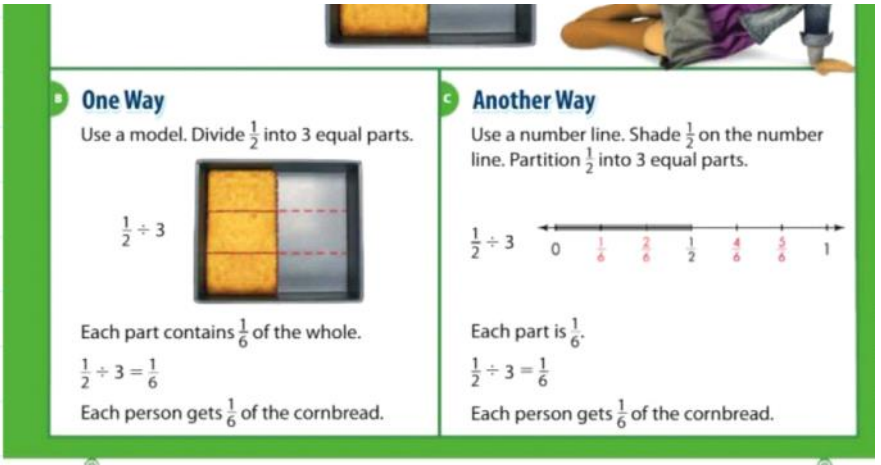
Lesson 9-5 (Goldman Absent)

Tuesday, March 22, 2022 9:14 AM







B One Way

Use a model. Divide $\frac{1}{2}$ into 3 equal parts.

$\frac{1}{2} \div 3$

Each part contains $\frac{1}{6}$ of the whole.

$\frac{1}{2} \div 3 = \frac{1}{6}$

Each person gets $\frac{1}{6}$ of the cornbread.

C Another Way

Use a number line. Shade $\frac{1}{2}$ on the number line. Partition $\frac{1}{2}$ into 3 equal parts.

$\frac{1}{2} \div 3$ 0 $\frac{1}{6}$ $\frac{2}{6}$ $\frac{1}{2}$ $\frac{4}{6}$ $\frac{5}{6}$ 1

Each part is $\frac{1}{6}$.

$\frac{1}{2} \div 3 = \frac{1}{6}$

Each person gets $\frac{1}{6}$ of the cornbread.

Convince Me! MP.2 Reasoning In the example above, how is dividing by 3 the same as multiplying by $\frac{1}{3}$?

Dividing by 3 or multiplying by $\frac{1}{3}$ both separate a number into 3 equal parts.

Name

Guided Practice

Do You Understand?

1. In the example at the top of page 552, suppose that 4 people were sharing half of the cornbread equally. What fraction of the original cornbread would each person get? Draw a picture or use objects to help.

$\frac{1}{8}$ of the cornbread

2. MP.8 Generalize When you divide a unit fraction by a non-zero whole number greater than 1, will the quotient be greater than or less than the unit fraction?

Less than.

Do You Know How?

In **3–6**, find each quotient. Use the picture or objects to help.

3. $\frac{1}{4} \div 2$

$= \frac{1}{8}$ $\frac{1}{8} \times 2 = \frac{2}{8} = \frac{1}{4}$

4. $\frac{1}{4} \div 4$

$= \frac{1}{16}$ $\frac{1}{16} \times 4 = \frac{4}{16} = \frac{1}{4}$

5. $\frac{1}{2} \div 2$

$= \frac{1}{4}$ $\frac{1}{4} \times 2 = \frac{2}{4} = \frac{1}{2}$

6. $\frac{1}{2} \div 4$

$= \frac{1}{8}$ $\frac{1}{8} \times 4 = \frac{4}{8} = \frac{1}{2}$

Complete 7, 13, 19, 20

Independent Practice

Leveled Practice In **7** and **8**, find each quotient. Use a picture or objects to help.

7. $\frac{1}{2} \div 5$

$= \frac{1}{10}$ $\frac{1}{10} \times 5 = \frac{5}{10} = \frac{1}{2}$

8. $\frac{1}{5} \div 2$

0 $\frac{1}{5}$ $\frac{2}{5}$ $\frac{3}{5}$ $\frac{4}{5}$ 1

Partitioning pictures or objects can help when dividing fractions by a whole number.

In **9–14**, find each quotient.

9. $\frac{1}{2} \div 7$

10. $\frac{1}{4} \div 3$

11. $\frac{1}{6} \div 2$

In **9–14**, find each quotient.

by a whole number.

9. $\frac{1}{2} \div 7$

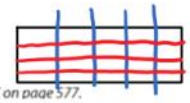
10. $\frac{1}{4} \div 3$

11. $\frac{1}{6} \div 2$

12. $\frac{1}{3} \div 4$

13. $\frac{1}{4} \div 5$ $= \frac{1}{20}$

14. $\frac{1}{5} \div 3$



$\frac{1}{20} \times 5 = \frac{5}{20} \div 5 = \frac{1}{4}$

*For another example, see Set C on page 577.

Math Practices and Problem Solving

15. Vin, Corrie, Alexa, and Joe equally shared one fourth of a submarine sandwich. What fraction of the original sandwich did each friend get? Use the number line to help you find the answer.

16. Sue has $\frac{1}{2}$ gallon of milk to share evenly among four people. How much milk, in gallons, should she give each person?

17. **MP.3 Construct Arguments** Taryn says that $\frac{1}{4}$ of a cereal bar is larger than $\frac{1}{3}$ of the cereal bar. Is she correct? Explain.

18. **Algebra** On Saturday, Amir ran $1\frac{3}{4}$ miles, and Janie ran $2\frac{1}{2}$ miles. Who ran farther? How much farther? Write an equation to find *d*, the difference of the two distances.

19. **Higher Order Thinking** Five friends equally shared half of one large pizza and $\frac{1}{4}$ of another large pizza. What fraction of each pizza did each friend get? How do the two amounts compare to each other?

$\frac{1}{2} \div 5 = \frac{1}{10}$ of a pizza

$\frac{1}{4} \div 5 = \frac{1}{20}$ of a pizza

$\frac{1}{20}$ is half of $\frac{1}{10}$ just like $\frac{1}{4}$ is half of $\frac{1}{2}$.

Common Core Assessment

20. Jamie cut a rope into thirds. He used two of the pieces to make a swing. He used equal lengths of the leftover rope on four picture frames. What fraction of the original rope did he use for each picture frame?

$\frac{3}{3} - \frac{2}{3} = \frac{1}{3}$

$\frac{1}{3} \div 4 = \frac{1}{12}$ (B)

$\frac{1}{12} \times 4 = \frac{4}{12} \div 4 = \frac{1}{3}$

Ⓐ $\frac{1}{4}$

Ⓑ $\frac{1}{12}$

Ⓒ $\frac{1}{16}$

Ⓓ $\frac{3}{4}$

21. One half of an apple pie is left for 5 family members to share equally. What fraction of the original pie will each member get?

Ⓐ $\frac{1}{10}$

Ⓑ $\frac{1}{7}$

Ⓒ $\frac{1}{3}$

Ⓓ $\frac{2}{5}$