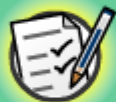# Dividing Fractions

Common core icons

This icon indicates a slide where the Standards for Mathematical Practice are being developed. Details of these are given in the Notes field.

Slides containing examples of mathematical modeling are marked with this stamp.

This icon indicates an opportunity for discussion or group work.

The **Standards for Mathematical Practice** outlined in the Common Core State Standards for Mathematics describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.

These are:

1) **Make sense of problems and persevere in solving them.**

2) **Reason abstractly and quantitatively.**

3) **Construct viable arguments and critique the reasoning of others.**

4) **Model with mathematics.**

5) **Use appropriate tools strategically.**

6) **Attend to precision.**

7) **Look for and make use of structure.**

8) **Look for and express regularity in repeated reasoning.**

This icon indicates that the slide contains activities created in Flash. These activities are not editable.
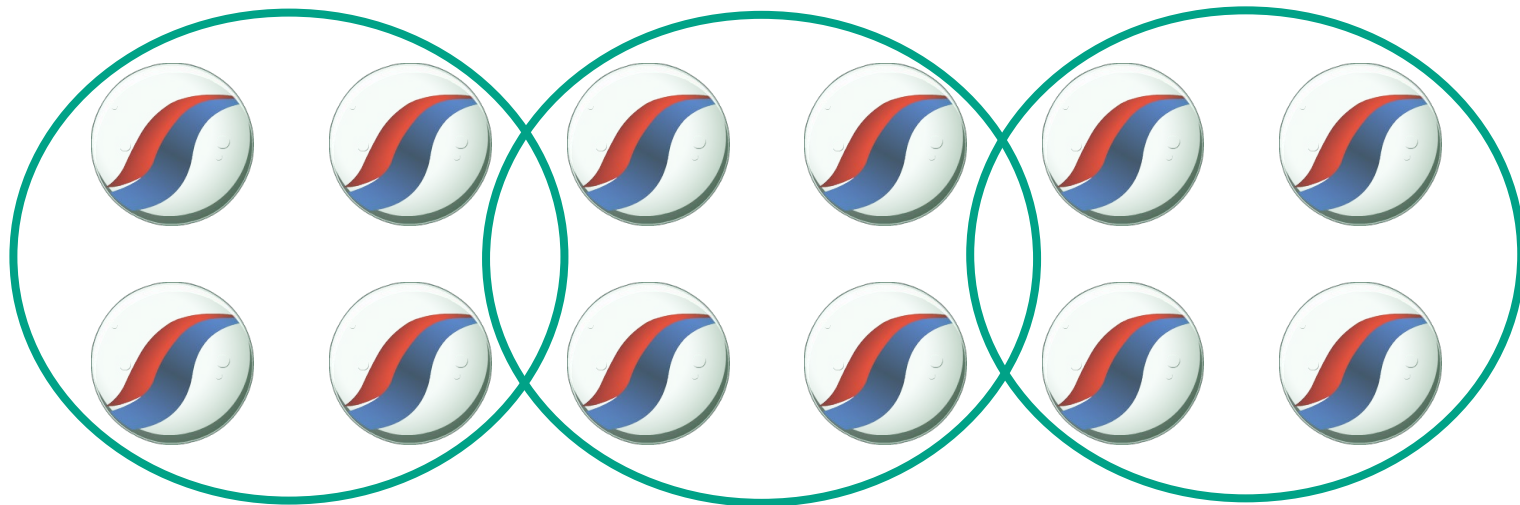
This icon indicates teacher's notes in the Notes field.

Division is separating something into equal parts.

If we divide 12 marbles into 3 equal groups…
we get 4 marbles in each group.

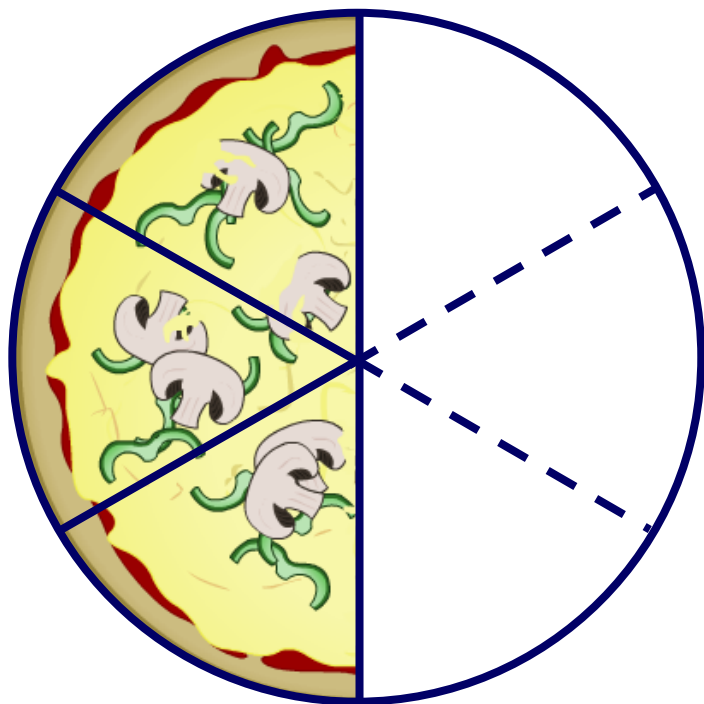How could we divide a fraction by a whole number?

Sharing pizza

Maria is sharing half a pizza with two friends. If she divides the pizza into three equal parts, how much pizza will each person get?

We can use a diagram to help us figure this out.

First, divide the half pizza into three equal parts.

If we extend the lines, we divide the whole pizza into sixths.

Each person will get $\dfrac{1}{6}$ of pizza.

Maria is sharing half a pizza with two friends. If she divides the pizza into three equal parts, how much pizza will each person get?

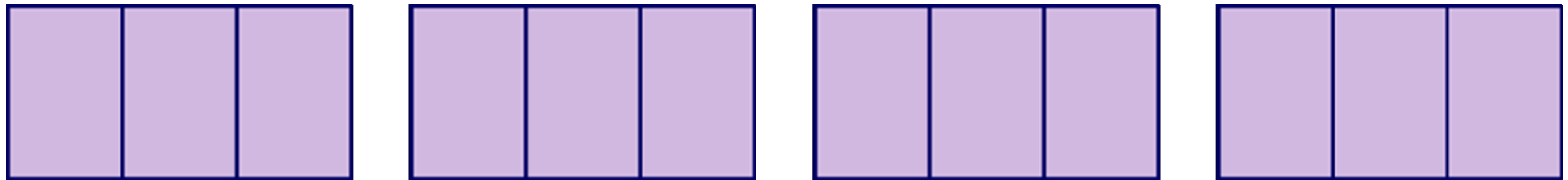How could we solve this problem mathematically?

Tom is cutting apple slices for his lunch. He has four apples. If he cuts each apple into thirds, how many apple slices will he have?

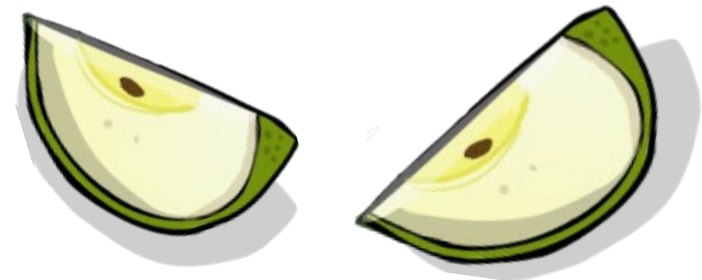We can use a diagram to help us figure this out.

Here are 4 rectangles:

Let's divide them into thirds.

Now count the thirds.

There are 12 thirds, so there will be 12 apple slices.

Tom has four apples. If he cuts each apple into thirds, how many apple slices will he have?

Press the buttons for help:

Analyze

Solve

Apply

Consider

How can we use inverse operations to check our answers when dividing with fractions?

Remember that you can use multiplication to check quotients.

For example, we know that 6 ÷ 3 = 2 is correct, because 2 × 3 = 6.

How could you check the following quotient?

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

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

Matching inverse operations

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

$$48 \times \frac{1}{8} = 6$$

$$7 \div \quad \qquad \frac{1}{3}$$

Match the inverse calculations.

Press **start** to begin.

start

$$\frac{1}{5} \div \qquad \qquad 7$$

$$6 \div \frac{1}{8} = 48$$

$$\frac{1}{15} \times 3 = \frac{1}{5}$$

MODELING

Test your knowledge of division in this team quiz! Get into two teams: A and B. Each team will be represented by a basketball player. If your team answers a question correctly, your basketball player will score a point.
The team with the highest score wins!
Press **start** to begin.

start