Introducing Multiplication and Division

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Information

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.

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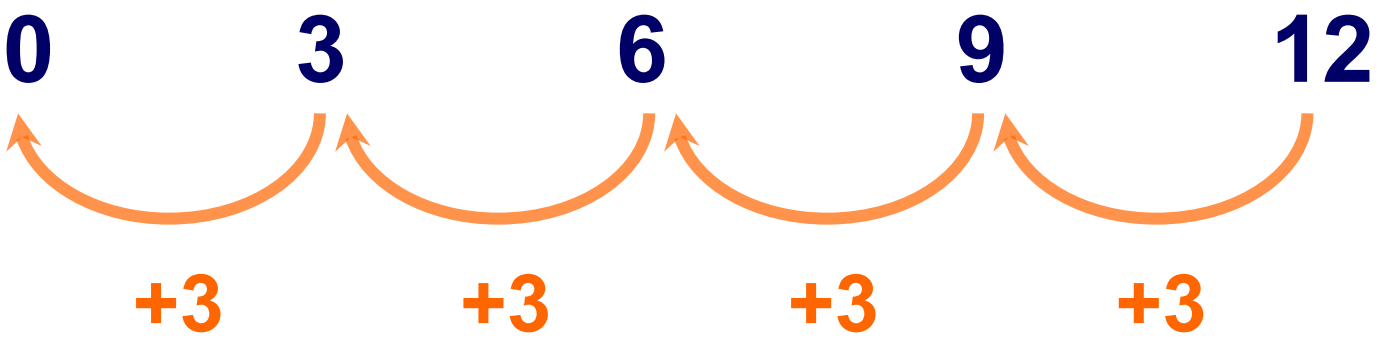
Repeated addition

We can think of **multiplication** as repeated **addition**!



So 4 groups of 3 make 12. We can write this in **two** different ways:

$$3 + 3 + 3 + 3 = 12$$

$$3 \times 4 = 12$$

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The multiplication symbol

$$3 \times 4$$

When we write a multiplication problem, we use a **multiplication symbol**.

The multiplication symbol means "**groups of**."

When we write 3 × 4, we mean "**4 groups of 3**."

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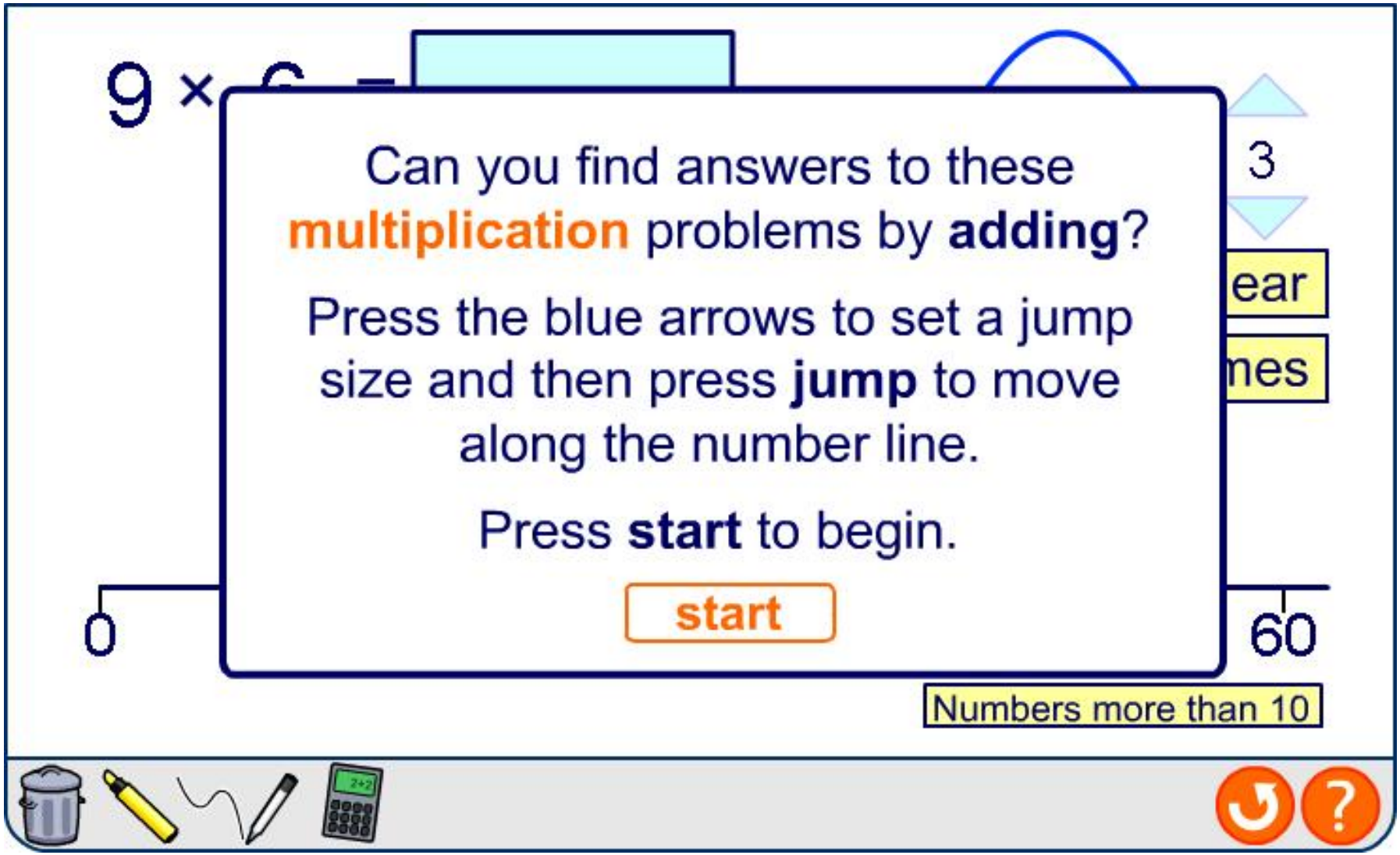
Repeated addition activity



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How many marbles?

Nicole has 4 groups of 5 marbles.
How many marbles does Nicole have altogether?

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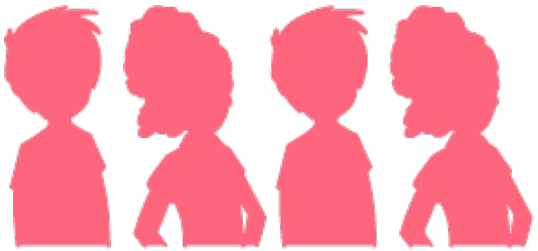
Introducing division

There are 12 children in Alex's class. If the class needs to work in teams of 4, how many teams will there be?

1



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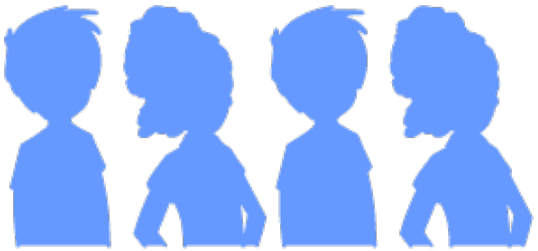

3

We can make **3** groups of 4.

We can write this as a number sentence:

$$12 \div 4 = 3$$

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The division symbol

$$12 \div 4 = 3$$

This symbol is called a **division symbol**. We use it when we want to show **division**.

Division means breaking numbers into groups of equal sizes.

When we write **12 ÷ 4** , we mean "**breaking 12 into groups of 4.**"

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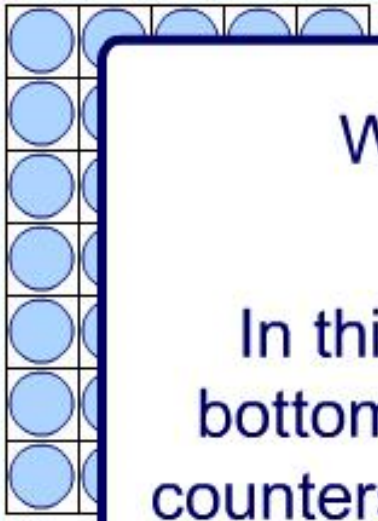
Modeling division



We can use pictures to show what happens when we divide.

In this activity, the division problem at the bottom of the screen is modeled by the blue counters in the grid. Press the yellow arrows to change the numbers in the division problem.

Press **start** to begin.

start

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How many bees?

How many bees are there?

Choose the number sentence that shows the total number of bees.

Press **start** to begin.

start

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Multiplication and division strategies

1 2 3 4 5

Let's learn some strategies for **multiplication** and **division**!

Press on each of the tabs to find out about five strategies for multiplication and division.

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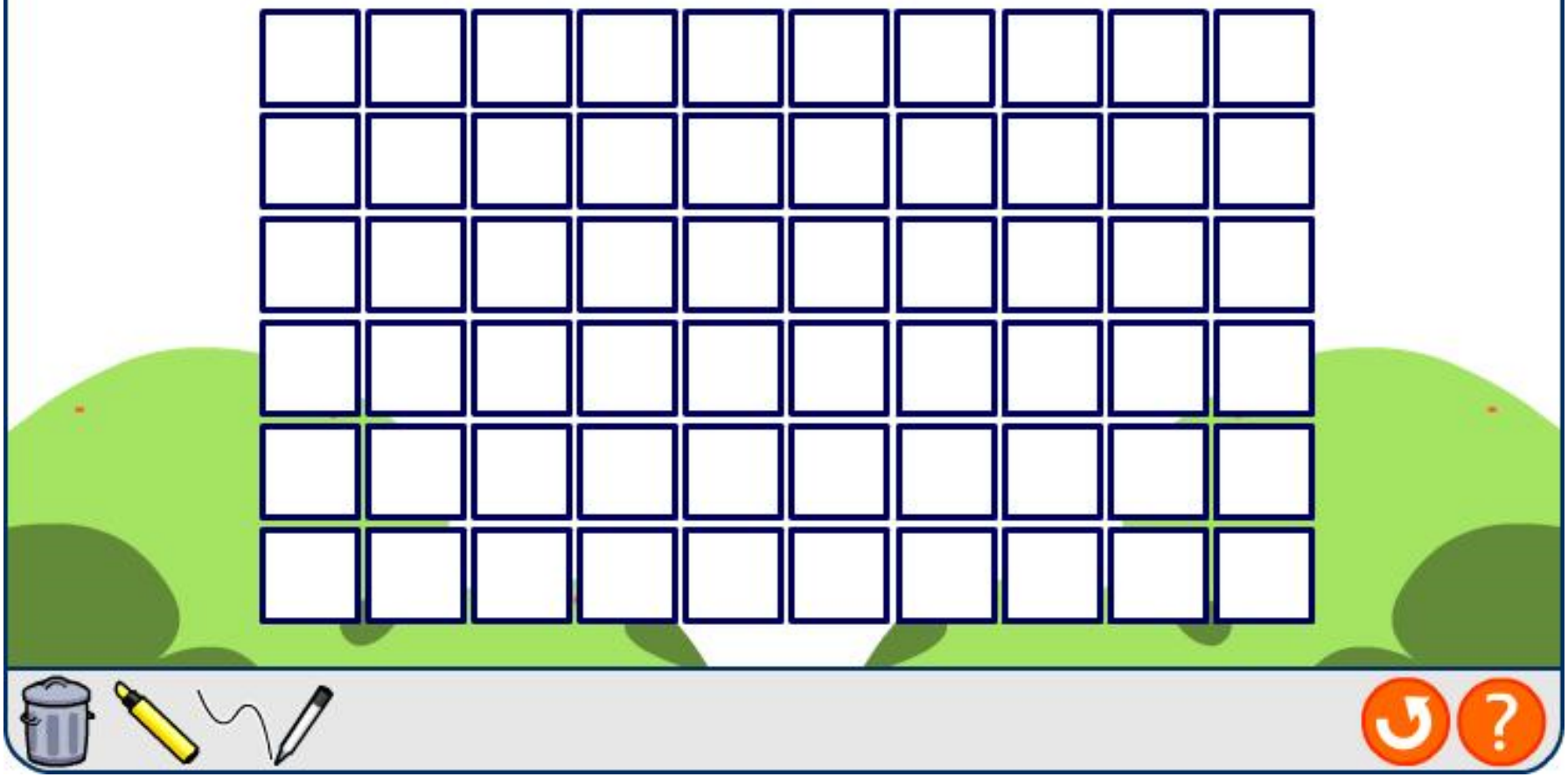
Exploring strategies

Use the grid to answer these multiplication problems.

1) 3 × 5 2) 5 × 3 3) 2 × 3 × 4 4) 6 × 7



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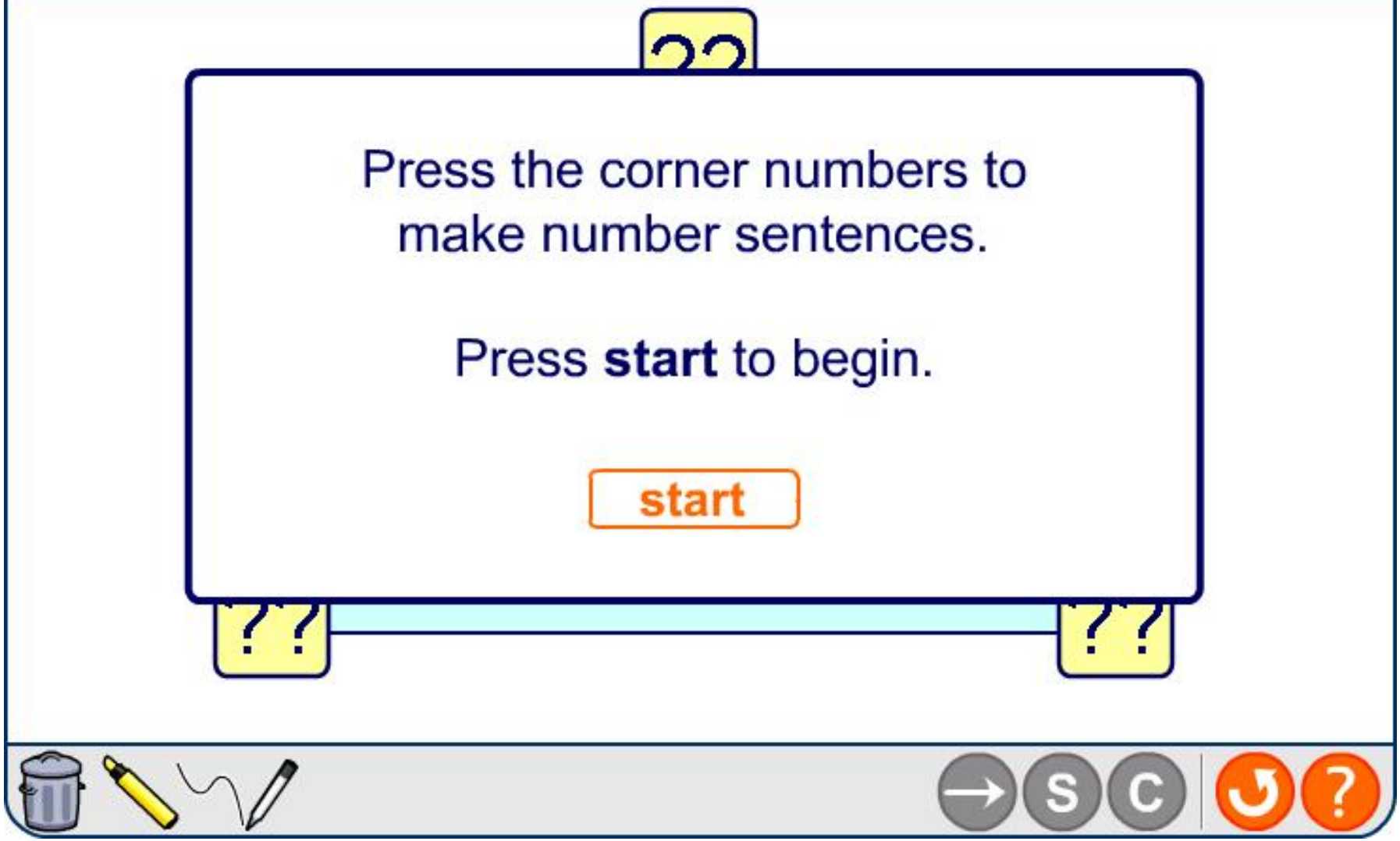
Fact families



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