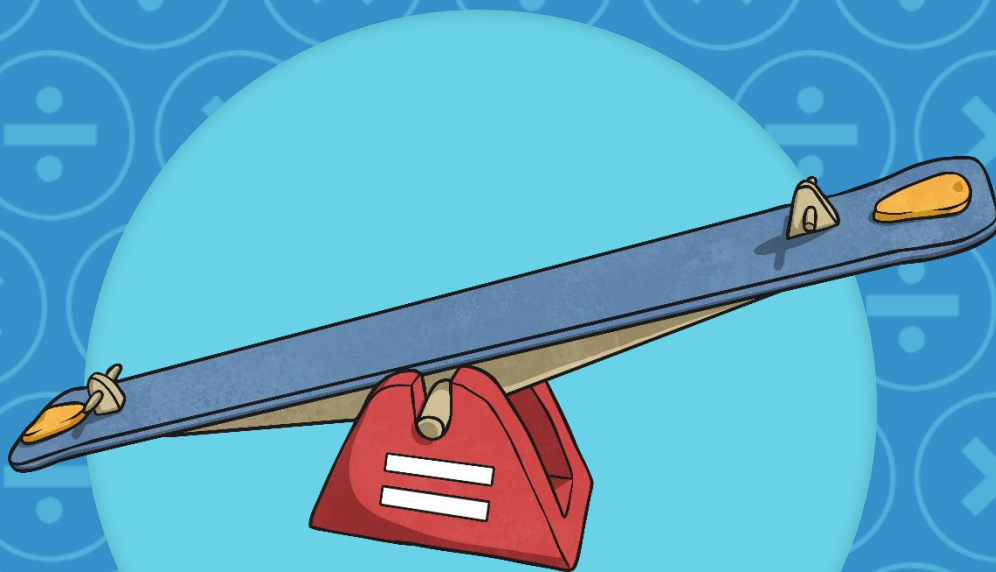


# See-Saw



# Aim

- I can find missing numbers in number sentences.

# Success Criteria

- I can use multiplication and division as inverse operations.
- I can use facts that I know to calculate missing numbers.
- I can explain what 'equals' means.

# Invisible Digits



$$\boxed{\phantom{00}} \boxed{\phantom{00}} \times \boxed{\phantom{00}} = \boxed{\phantom{00}} \boxed{\phantom{00}}$$

Which digits could these blank cards represent?

How many possibilities can you find?

# Inverses



$$4 \times 5 = 20$$

$$5 \times 4 = 20$$

$$20 \div 4 = 5$$

$$20 \div 5 = 4$$

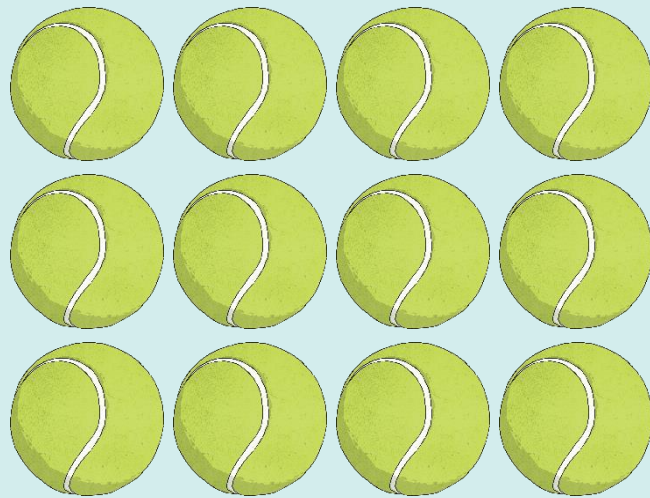
Multiplication and division facts are linked.

They are **inverses**. That means they are the opposite of each other.

If we know one number fact we can work out all of the others.

# Inverses

How can we find out the other number facts for this array?



$$3 \times 4 = 12$$

?

?

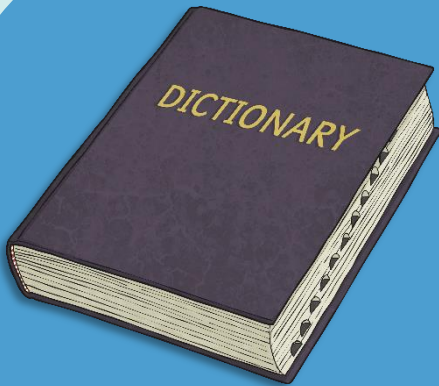
?

# The Equals Sign



What does this sign mean?

=



Makes

Same as

Balances

Equivalent

Total

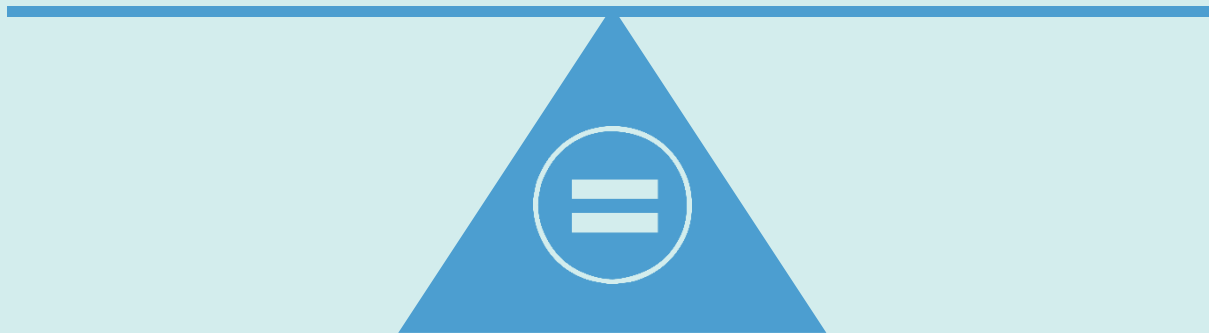
# The Equals Sign

The equals sign means that the number or calculation on either side of the sign must have the same value. They have to balance.

Whatever is  
on this side

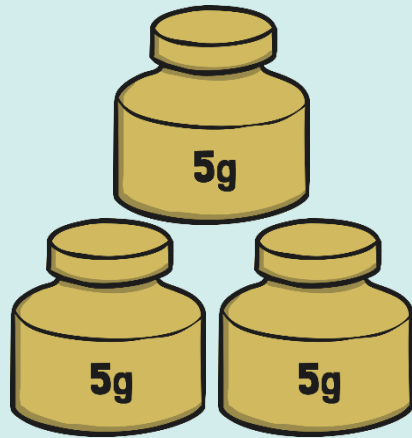
Whatever is  
on this side

must have the same value as



# The Equals Sign

The two sides won't always look the same, but they must have the same value.



has the  
same value as

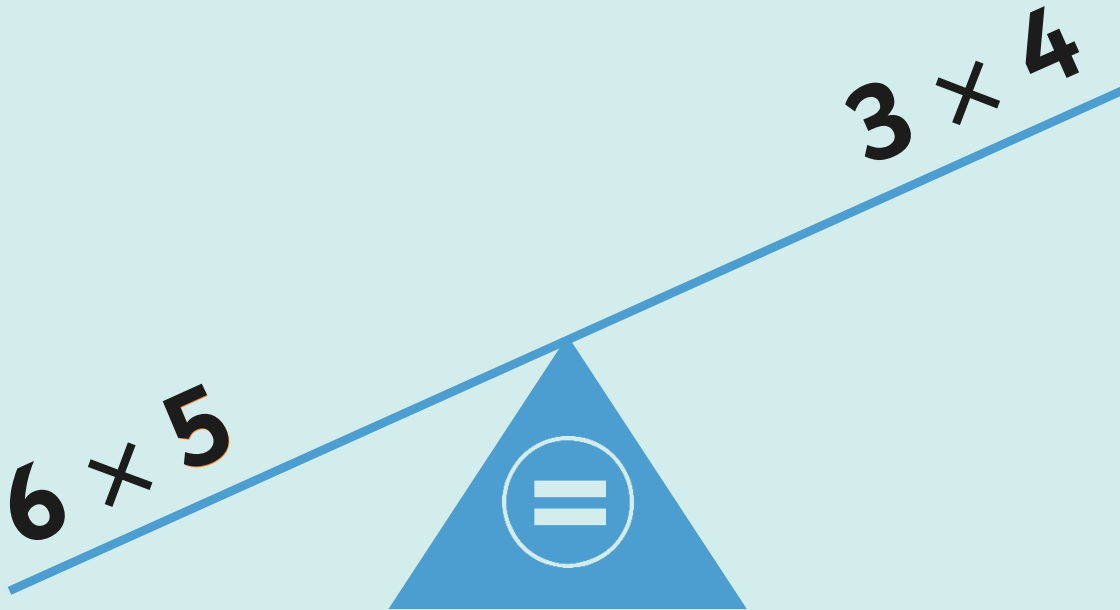




# The Equals Sign



Why doesn't the see-saw balance?



The orange digit is wrong. The two sides don't have the same value.  
How can we change it to make the see saw balance?

# The Equals Sign

Why doesn't the see-saw balance?

$6 \times 2$

12

$3 \times 4$

12

=

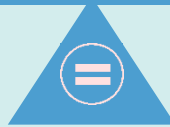
The orange digit is wrong. The two sides don't have the same value.  
How can we change it to make the see saw balance?

# Splat!

Oh dear! One of my numbers went splat!

$$3 \times \text{splat}$$

12

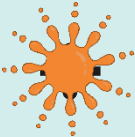


- 1 Read the problem out loud. What is the number sentence asking you to work out? What information do you have already?
- 2 Use your known facts to calculate the number that has gone splat! You know that the two sides must have the same value.
- 3 Now write the full number sentence and check that it is correct.

# Splat!

Oh dear! Something has gone splat again!

Which sign went splat on this see-saw?

16  8

2



# Splat!



★	★★	★★★
$\text{★} \times 4 = 16$ $10 \times 3 = 6 \times \text{★}$	$88 \div 8 = \text{★}$ $6 \times 4 = \text{★} \times 8$	$6 \times 8 = 12 \times \text{★}$ $8 \times \text{★} = 4 \times \text{★}$

# See-Saw Puzzles Activity



**See-Saw Puzzles**

I can find missing numbers in number sentences.

1. Which number went splat in each of these calculations? Make the see-saws balance. The first one is completed as an example.

a.	$8 \times \text{splat} = 4 \times 8$ 	Answer = 4
b.	$12 \div 3 = \text{splat}$ 	Answer =
c.	$16 \div \text{splat} = 8$ 	Answer =
d.	$\text{splat} \times 8 = 80$ 	Answer =

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**See-Saw Puzzles**

$\text{splat} \times 5 = 40$ 	Answer =
$\text{splat} \times 3 = \text{splat}$ 	Answer =
$\text{splat} \div 4 = 4$ 	Answer =
$\text{splat} \times 12 = 36$ 	Answer =

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**See-Saw Puzzles**

Complete each calculation by putting in each of these calculations? Write the missing number below each calculation.

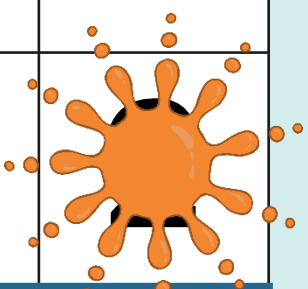
b.	c.	d.
$\begin{array}{r} \times 3 \\ 27 \end{array}$	$\begin{array}{r} 8 \\ \times 8 \\ \hline \text{splat} 4 \end{array}$	$\begin{array}{r} 1 \text{ splat} \\ \times 4 \\ \hline 48 \end{array}$
<input type="text"/>	<input type="text"/>	<input type="text"/>

How many ways can you fill in these splats to make correct multiplication sentences? Write the missing digit.

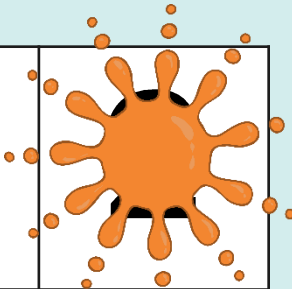
$\text{splat} \times \text{splat} = \text{splat} \text{ splat}$

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# Short Multiplication Splat!

	1	2
×		
	2	4

# Short Multiplication Splat!

	1	
×		3
	3	6



# Aim



- I can find missing numbers in number sentences.

# Success Criteria

- I can use multiplication and division as inverse operations.
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- I can explain what 'equals' means.

