Year 4 Maths, 18/1/21

RECALL

How many biscuits can you see in each of these pictures?

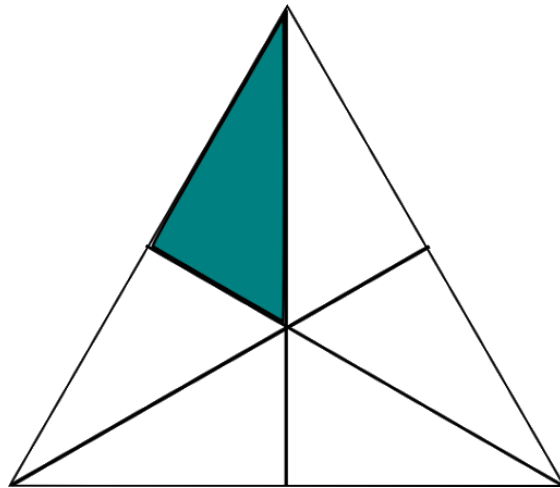

It's easy to count the biscuits in these pictures…

… but this is a bit trickier. There's less than one whole biscuit but more than zero biscuits. How can we write this as a number?
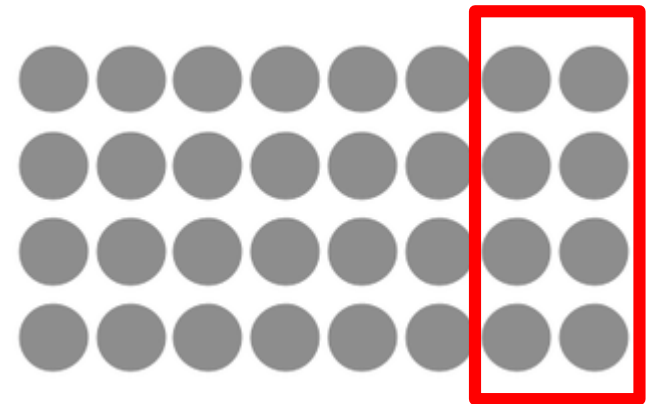
RECALL

One way is to write it as a **fraction**. A fraction is a **part of something**.
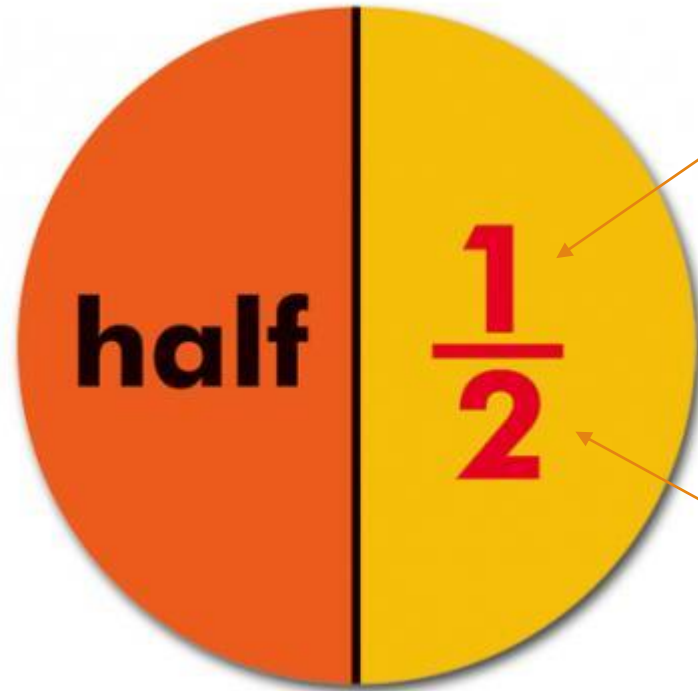

A fraction of a biscuit

A fraction of a triangle

A fraction of a number

Here's a fraction you will recognise: a half.

The top part of the fraction is called the numerator.

half $\frac{1}{2}$

The bottom part of the fraction is called the denominator.

one

out of

two

parts

When the numerator of a fraction is 1, it is called a **unit fraction**.

Learning objective:
to recognise and work out unit fractions

SOME WILL EVEN find a number when given a fraction of it

SOME will make connections between the fractions they find

MOST will find unit fractions of amounts

ALL will investigate simple fractions

GUIDED PRACTICE

What is a half?

Explain what a half is in as many different ways as you can think of.

You could draw pictures, write number sentences, take photos... whatever ways you can think of!

What about a quarter?

How many different ways can you explain what a quarter is?

half

One half of the circle is green

One half of the rectangle is red

$\frac{1}{2}$

One half of the stars are gold

One part out of two parts.

1 quarter
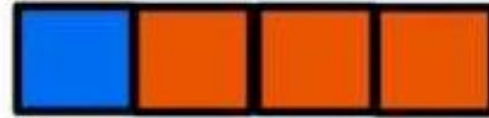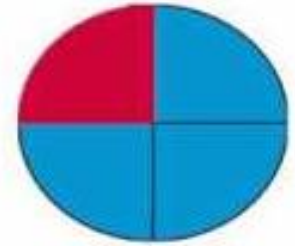
1 of 4 equal parts.

$\frac{1}{4}$

1 quarter

How to find a unit fraction of a number

½ of 20 means 20 split into 2 equal parts.

20	
10	10

½ of 20 is 10

¼ of 40 means 40 split into 4 equal parts.

40			
?	?	?	?

If you want to find a fraction of a number, divide it by the denominator.

Intelligent Practice

ONE CHILLI	TWO CHILLIES	THREE CHILLIES
What is: **½ of 40?** **½ of 20?** **How would you find half of 30?** **What do you notice?** **What is the connection between your answers? Can you explain it?**	**¼ of 40 = ?** **1/5 of 40 = ?** **1/8 of 40 = ?** **What do you notice about your answers?** **Is there a connection between them?**	 **What does the bar show?** **Can you write a number sentence to describe it?** **Does the bar show more than one number fact?**
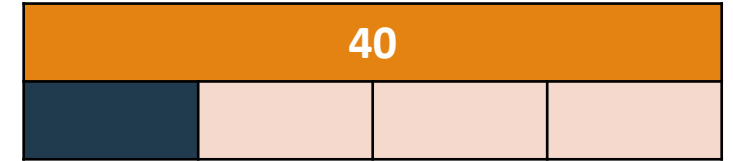
CAROLINA REAPER: Choose some of the following words to write a sentence that is true.

QUARTER   FIVE   HALF   ONE   DIVIDE   TWENTY   BECAUSE

Intelligent practice - answers

ONE CHILLI	TWO CHILLIES	THREE CHILLIES
What is: **½ of 40?** **20** **½ of 20?** **10** **How would you find half of 30? By splitting 30 into two equal parts. Each part would be 30, so half of 30 is 15.** **What do you notice?** **15 is half way between 10 and 20. This is because 30 is half way between 20 and 40.**	**¼ of 40 = 10** **1/5 of 40 = 8** **1/8 of 40 = 5** **What do you notice about your answers?** **As the denominator gets bigger, the answer gets smaller. This is because the more equal parts we split a number into, the less will be in each part.**	 **What does the bar show?** **¼ of 40 = 10** **40 divided by 4 is 10.** **10 x 4 = 40** **4 groups of 10 is 40.** **One quarter is one piece after a number has been split into four equal pieces.**
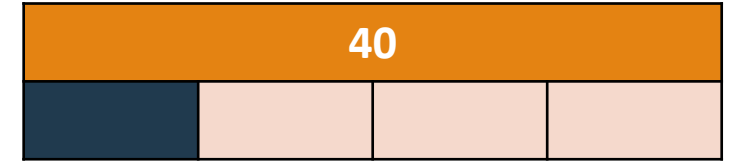
CAROLINA REAPER: Choose some of the following words to write a sentence that is true.

A quarter of twenty is five, because if you split twenty into four equal groups there will be five in each.

DIVE DEEPER

DD1	DD2	DD3
A quarter of a number is 6. What is the number? Prove it using a bar model.	A quarter of a number is 9. How many different ways can you show this?	Half of 12 is the same as quarter of 24. Do you agree? Can you explain using bar models?

CAROLINA REAPER:

What is a half of a quarter? Can you explain your answer using a bar model?

DIVE DEEPER- answers

DD1

A quarter of a number is 6. What is the number?

Prove it using a bar model.

24			
6	6	6	6

One quarter of the number is 6, so each of the other three quarters must be 6 too.
4 x 6 = 24
The number is 24.

DD2

A quarter of a number is 9. How many different ways can you show this?

Here's one way:

36			
9	9	9	9

DD3

Half of 12 is the same as quarter of 24.

Do you agree? Can you explain using bar models?

12	
6	6

24			
6	6	6	6

CAROLINA REAPER:

Half of a quarter is an eighth. The bar model shows that if you split the quarters in half there are eight equal pieces.

One whole							
quarter		quarter		quarter		quarter	
eighth	eighth	eighth	eighth	eighth	eighth	eighth	eighth

Self assessment – how did you do?

Learning objective:
to recognise and work out unit fractions

Do you know what a unit fraction is?
Can you work out a unit fraction of a number?

Did you get Dive Deeper 1 and 2 right?

SOME WILL EVEN find a number when given a fraction of it

Did you explain what you noticed about the Intelligent Practice answers?

SOME will make connections between the fractions they find

Did you get the chilli one and two questions right?

MOST will find unit fractions of amounts

Did you find some ways of showing a half and a quarter?

ALL will investigate simple fractions