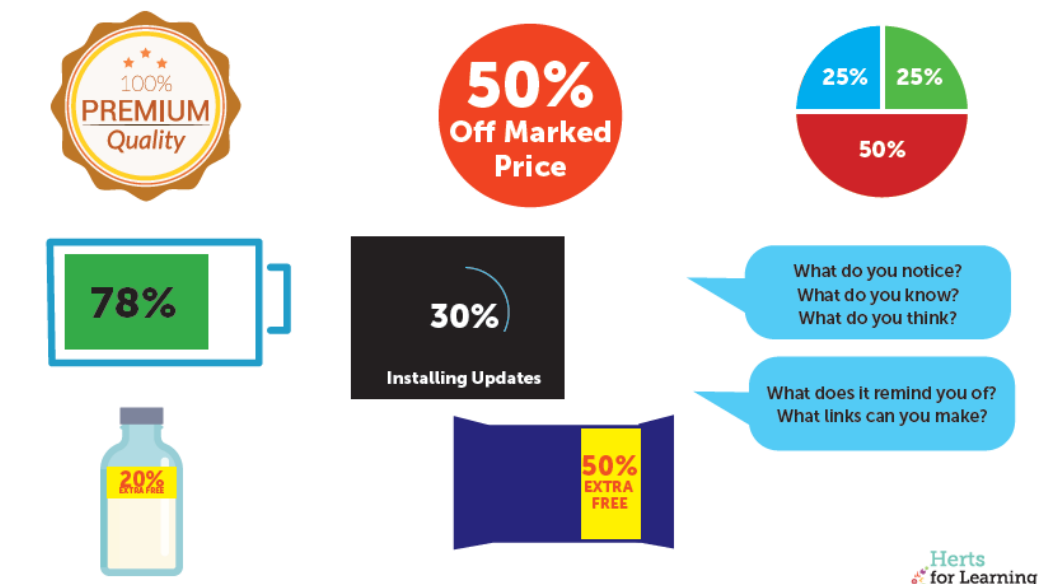


## Maths home learning tasks for two weeks

You are going to be focusing on: Percentages! ☺

### Monday 1<sup>st</sup> June - What are percentages?



Look at the images above - they are all real life examples of percentages.

Think and discuss what you notice about the images and think about the connections that you can make with similar images or ideas that you have seen before. Have you seen any similar in shops? Online? On the computer? In magazines? Spend some time (around 30 mins) researching and finding out about percentages. Record some other real life examples of where you have seen percentages in real life.

What do you notice about the images above and the percentages in real life that you have found? What do they mean and what are they showing?

Some examples of what you might notice:

- I notice that some of the images show a proportion of a whole.
- I notice that the numbers on the pie chart total 100.
- I notice all the images include %. Sometimes you see this on items that are on special offer.

% means per cent and is another way of expressing a proportion. Per cent relates to the number of parts per hundred and that 100% will therefore represent the whole.

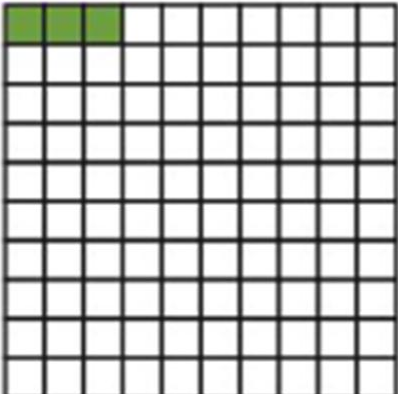
Watch: <https://www.bbc.co.uk/bitesize/topics/znjqtfr> - what is a percentage (if you can)

### Tuesday 2<sup>nd</sup> June - fractions of amounts

Today you are going to have a go at working out percentages of amounts! Please use the sheet called 'percentages of amounts' and then mark your work. 😊

### Wednesday 3<sup>rd</sup> June - Representing percentages visually

Look at the image of a square and answer the question...



What % is coloured?

Investigate!

The answer is... 3% and can be recorded as  $\frac{3}{100}$  because there are 100 squares and 3 out of 100 are coloured in.

Using squared paper (I have included the squared paper to print if you need to) I would like you to explore this and create your own examples of the above image using 100 as a total. You will then colour in different amounts to represent the percentage. For example 50 out of 100 would be  $\frac{50}{100}$  and therefore 50 %.

5%

15%

50%

62%

77%

83%

99%

Here are some examples that you could use....

You could create them and test a younger sibling at home or a family member over a face-to-face call!

Challenge: Can you think of any other ways that you could represent 3% either visually or using concrete examples?

### **Thursday 4<sup>th</sup> June**

Express parts per hundred as fractions, decimals and percentages.

Look at this image of a bead string:



What percentages can you see when looking at this bead string?

Examples could be:

- 73% of the bead string is on one side because there are 73 of the 100 equal parts.
- 27% of the bead string is on other side. That is 27 out of the 100 beads.
- I can see 100% of the bead string. That is the whole thing.

We are now going to continue to make some links with percentages, decimals and fractions.

- The whole bead string is divided into 100 equal parts so each bead is one hundredth.
- One hundredth is represented as  $\frac{1}{100}$  or 0.01.

1 part per 100 = 1% = one hundredth =  $\frac{1}{100}$  = 0.01.

Think about other percentages that you can see on the bead string making links to hundredths as fractions and decimals. Use the speaking frame here to help you.

### **Speaking Frame - Percentages**

There are  parts per hundred which is  %.

This can be represented as  hundredths.

$$\text{ hundredths} = \frac{\text{}}{100} = 0.\text{$$

Now have a go at working out how you would represent these percentages as fractions and decimals:

10%

75%

60%

12%

7%

100%

Further challenge: Have a go at some more 1 digit percentage examples such as 5%, 8%, 4%...

### **Friday 5<sup>th</sup> June - Use scaling to represent percentages.**

First of all, I would like you to have a go at answering this statement:

One pupil says that 40% is equal to 0.4.

Are they right? Explain how you know and draw a representation to prove it.

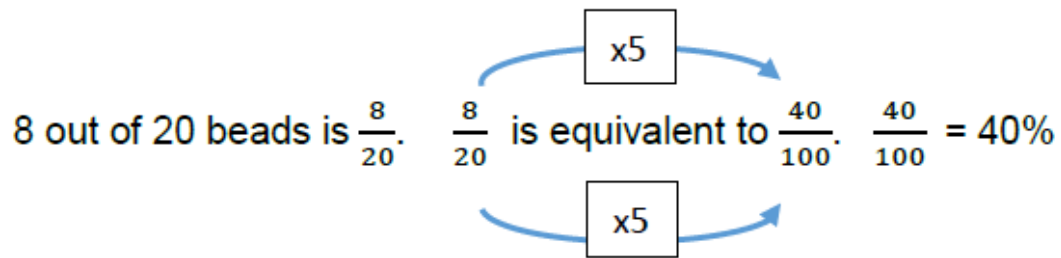
Now we are going to learn about percentages when the total is not out of 100...

The total can be out of anything and we use multiplication and division to help us work out the parts.

We can scale the proportion up or down to show it with 100 parts, linking to how equivalent fractions can be calculated to show fractions with a denominator of 100.

**This is an example** - 8 out of 20 beads are red... Now the total is out of 20... so we have to work out how we can multiply to convert the 20 to 100 - so we times it by 5 to get

100. Then we have to do the same to the 8.  $8 \times 5 = 40$ . Therefore  $40/100$  also is the same as 40%. See the visual example:



We can also scale down by dividing. If I had 12 children that didn't like packed lunches out of 200 I would need to scale down. Therefore, I would need to divide 200 by something to get 100... I would divide 200 by 2 to get 100. Then you have to do the same to the 12. 12 divided by 2 = 6. Therefore  $6/100 = 6\%$ .

Have a go at these two examples working out the percentages

1. 6 entries out of 50 win an art competition.

What is the fraction and percentage?

Remember that when the total number is smaller than 100 you have to multiply.

Use the example above to help you.

2. 25 cars out of 500 seen driving along a road are green. Remember that when the total amount is bigger than 100 you have to divide.

What is the fraction and percentage? Use the example above to help you but divide instead!

OPTIONAL: Can you create your own percentage word problems like mine and answer them!

Answers:

1.  $6/50 \times 2 = 12$  and  $50 \times 2 = 100$  so  $12/100$  therefore 12%
2. 500 divided by 5 = 100 therefore 25 divided by 5 = 5 so  $5/100 = 5\%$

### **Monday 8<sup>th</sup> June -**

**Remember that you can record fractions and percentages as decimals too...**

For example 75% is  $75/100$  and also 0.75

For example 50% is  $50/100$  and also 0.50 (you don't need the extra 0 so it is written as 0.5)

Now have a go at the 'converting fractions, decimals and percentages sheet' and mark your work.

### **Tuesday 9<sup>th</sup> June - fractions, decimals and percentages**

Today you are going to have a go at the matching fractions, decimals and percentages sheet and then mark your work.

### **Wednesday 10<sup>th</sup> June - visual representations of fractions, decimals and percentages**

Today you are going to have a go at the sheet called 'visual representations of fractions, decimals and percentages.' And then please mark your work.

### **Thursday 11<sup>th</sup> June -**

Answer the questions on the sheet called percentage equivalence today! The sheet has the questions and some squares for you to show and prove your answers.

Optional: You can then play the game on the sheet called 'higher or lower' - you will need to have a partner or you could play it as a family at the weekend perhaps.

### **Friday 12<sup>th</sup> June - worded problems about percentages**

Please complete the percentage word problems sheet - there are 3 stages - 1 step, 2 step and multi-step. I would advise you to work on 2 step or the multi - step problems. Then spend time marking your work.