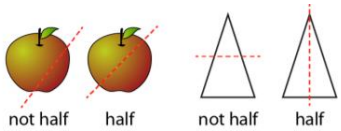
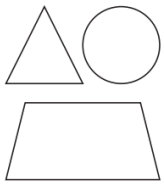
Planning Overview
Year 1 Fractions

Recognise, find and name a half as one of two equal parts of an object, shape or quantity
Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity

	Teaching and Learning
Introduction	Investigate halving using a balance. Can you show me half of: a block of playdough a cup of sand a pile of 10 compare bears a tower of 12 cubes an 8 numicon plate a 10p coin How do you know you have made halves? Do the children know any halves facts off by heart? Do they make the link back to the balance?
Recognise, find and name a half as one of two equal parts of an object or shape	Look at food items and different 2D shapes. Children need practical experience of cutting and folding objects and shapes in half. How many parts are there? Label each part with the word half. (NB: fraction notation ½ is not part of year 1 curriculum). Ensure understanding that halves must be equal not just two pieces. In Year 1 it is acceptable to say they need to be the same shape and size. Children need to express the relationship to the whole. If the cake is the whole, this piece is half the cake.   Move onto looking at pictures that show objects that are split into 2 pieces. Sort into halves and not halves.  Image taken from NCETM – professional development materials

Mastery

Colour half of each whole shape:

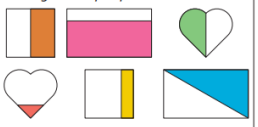


Check that pupils do not think that just dividing a shape into any two pieces is halving but understand that they need to be equal pieces.

Which of these show half of each whole shape?

Explain your reasoning.

Children should talk about the two parts needing to be equal parts of the whole.



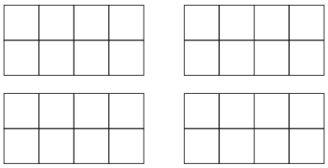
Introduce compound shapes e.g. a rectangle made from lots of flat pattern blocks and identify that you can still split the overall shape into 2 equal parts even though you could also split it into lots of parts as well.

Mastery

Shade to show half of the whole shape.

Mastery with Greater Depth

Shade each whole shape to show half in four different ways.

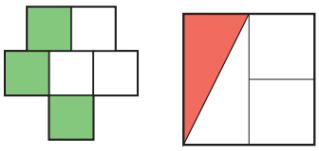


Do children notice that if the compound shape is made of equal-sized smaller shapes like those above then you can count how many of the small squares are in each half to help you.

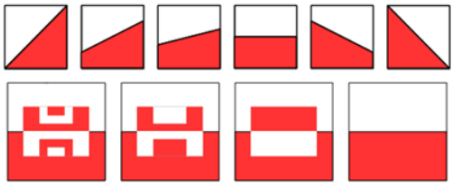
Mastery with Greater Depth

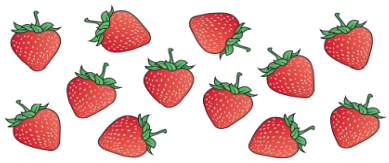
What fraction of the whole shape is shaded?

Explain your reasoning.



NRICH – halving



Recognise, find and name a half as one of two equal parts of a quantity	Recognise that one 'whole' could be one whole group of items e.g. a group of 12 teddy bears could be one whole group. Explore how to halve sets of objects by sharing equally into two parts. Children should make links back to composition of numbers on part whole models in addition and subtraction, doubles/halves and division. What can they tell you about the size of the groups? How many groups are there when we halve? NRICH – Fair feast Here is a picnic that Petros and Michael are going to share equally.  Can you tell us what each of them will have? This simple problem combines halving whole objects and quantities **Mastery** Circle half of this group of strawberries.  There are 12 children in a class. Sammy says half of the class is 7. Do you agree? Explain your reasoning. Sam and Tom share the fruit equally. There are 4 apples, 4 oranges, 2 pears and 2 bananas. How many of each fruit do they receive? Complete the table below.  | | Apples | Oranges | Bananas | Pears | | Sam | | | | | | Tom | | | | |

Mastery with Greater Depth

What is half of this amount?

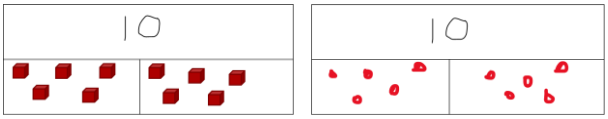
Half the children at a party are girls.
How many children could be at the party?
Give four different answers.

Explain your reasoning.

Sam and Tom share the fruit equally. There are 4 apples, 3 oranges, 1 pear and 1 banana.
How many of each fruit do they receive?
Complete the table below.

	Apples	Oranges	Bananas	Pears
Sam				
Tom				

Introduce a bar model as a way to split the set of objects into parts by folding a long rectangle of paper into half then sharing cubes or counters into the 2 halves. Then show children how you could record this with a traditional bar model with 1 bar above with the number on and a bar split into 2 halves below. Children should also work practically and then pictorially.



Apply known facts where possible.

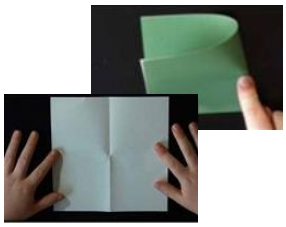
Explain that this special bar model where both parts are equal can also be the top of a halving wall.

Mastery

Complete this halving wall.

20	
10	

Choose any number and create your own halving wall.

Recognise, find and name a quarter as one of four equal parts of an object or shape	Look at food items and different 2D shapes in a similar way to when you introduced halves. Again children need practical experience of cutting and folding objects and shapes into quarters. How many parts are there? Label each part with the word quarter. (NB: fraction notation ¼ is not part of Year 1 curriculum). Ensure understanding that quarters must be equal not just four pieces. At year 1 it is acceptable to say they need to be the same shape and size. Children need to express the relationship to the whole. The whole pizza is divided into quarters and you have one of them. You have one quarter of the whole pizza.   Image taken from Mathsticks – Origami Jeep Notice that when we make quarters we fold or cut each half into halves again. How many quarters are in a half? Play spinner game where spinner indicates number of children to share between. Children cut playdough cookies into halves or quarters or leave as a whole. Play spinner game where spinner shows halves, quarters and wholes of a pizza. Children collect matching pieces onto circle outlines. First to make 5 whole pizzas wins. **Mastery** Four children share a pizza equally. Draw a diagram to show how much pizza each child gets. What fraction of the pizza does each child eat? **Mastery with Greater Depth** Four children share 2 pizzas equally. Draw a diagram to show how much pizza each child gets. What fraction of the pizzas does each child eat? Mathsticks – Origami Jeep Work with a group and ask suggested questions from Mathsticks website about shapes and fractions as you go

<table>
<tr><td></td><td>Origami Jeep
 
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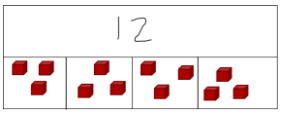
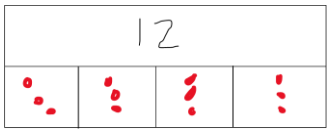
<tr><td>Recognise, find and name a quarter as one of four equal parts of a quantity</td><td>Revisit folding a large, long rectangle into halves but this time fold each half into quarters to make a long bar split into 4 smaller rectangles which you can equally share a set of objects onto. What fraction is in each part? How many cubes are in each part? What is one quarter of 12? How do we work out the answer?

How would we draw that as a bar model?
 

Move onto recording using dots and make links to dividing by 4 if division has been taught already
 

Remind children of the halving wall. Draw the halving wall for 12 then explain that we now halve each half in the row below. If the top bar is the whole, what fraction do the numbers in the third row represent of the whole?

Mastery
Four children share a bag of 12 marbles equally. Draw a diagram to show how many marbles each child gets.
What fraction of the bag of marbles does each child get?

Mastery with Greater Depth
Four children share two bags of 8 marbles equally. Draw a diagram to show how many marbles each child gets.
What fraction of one bag of marbles does each child get?

Complete this halving wall.
What is the relationship between the top row and one part of your final row?
Explain your reasoning.

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Choose any number and create your own halving wall.</td></tr>
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