

# Year 1

## Small Steps Breakdown

Block 2 - Fractions

**White Rose Maths**

# Year 1 – Yearly Overview

|        | Week 1   | Week 2 | Week 3 | Week 4               | Week 5   | Week 6                                 | Week 7                                 | Week 8                               | Week 9                 | Week 10                              | Week 11 | Week 12       |
|--------|--|--------|--------|----------------------|--|--|--|--------------------------------------|------------------------|--------------------------------------|---------|---------------|
| Autumn | Number: Place Value<br>(within 10)   |        |        |                      | Number: Addition and Subtraction<br>(within 10)                                    |  |  |                                      | Geometry:<br>Shape     | Number: Place Value<br>(within 20)   |         | Consolidation |
| Spring | Number: Addition and Subtraction<br>(within 20)  |        |        |                      | Number: Place Value<br>(within 50)<br>(Multiples of 2, 5 and 10<br>to be included) |  |  | Measurement:<br>Length and<br>Height |                        | Measurement:<br>Weight and<br>Volume |         | Consolidation |
| Summer | Number: Multiplication<br>and Division<br>(Reinforce multiples of 2,<br>5 and 10 to be included) |        |        | Number:<br>Fractions |  | Geometry:<br>position and<br>direction | Number: Place<br>Value<br>(within 100) |                                      | Measurement<br>: money | Time                                 |         | Consolidation |

# Overview

## Small Steps

- ▶ Halving shapes or objects
- ▶ Halving a quantity
- ▶ Find a quarter of a shape or object
- ▶ Find a quarter of a quantity

## NC Objectives

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.

**Compare, describe and solve practical problems for: lengths and heights (for example, long/short, longer/shorter, tall/short, double/half)**

**Compare, describe and solve practical problems for: mass/weight [for example, heavy/light, heavier than, lighter than]; capacity and volume [for example, full/empty, more than, less than, **half, half full, quarter**]**

## Find a Half (1)

### Notes and Guidance

Children explore finding a half for the first time using shapes and sets of objects. They will use the vocabulary 'half' and 'whole'.

Children will not at this stage use the fractional notation of  $\frac{1}{2}$

It is important that they know that a half means 'one of two equal parts' and are able to count them.

### Mathematical Talk

How many parts have I split my object into?

How can you show a half of something?

How do you know if a shape is split into halves?

How many halves make a whole?

Can we count them?

How do you know if an object or shape has not been split in half?

Is there more than one way to show a half on a shape?

Is this the same for all shapes?

### Varied Fluency

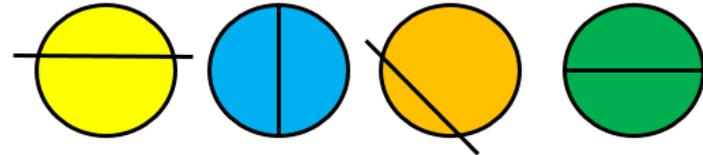
- 1 Show the children real life objects and how they can be cut in half.

How can we cut these objects in half?  
Draw a line to cut the objects in half.



Can any of the objects be cut in half in more than one way?

- 2 Which circles have been split into equal halves?



- 3 Match the half shapes below to make 5 complete shapes.

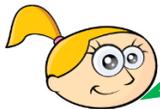


# Find a Half (1)

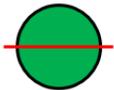
## Reasoning and Problem Solving

Jules and Freddy are both attempting to split a circle in half.

Jules

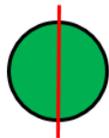


My way is the only way to show a half.



Freddy

My way is the only way to show a half.

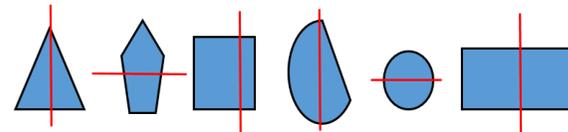


Who has correctly split the shape in half? Explain your answer.

Possible answer: They are both correct. There are lots of ways a circle can be split in half.

Sort the shapes into the table.

| Shapes that are split in half | Shapes that are not split in half |
|-------------------------------|-----------------------------------|
|                               |                                   |



Can you add one more shape to each box in the table?

Possible answer:

| Shapes that show half | Shapes that do not show half |
|-----------------------|------------------------------|
|                       |                              |

There are a number of different answers for other shapes children could add to the table.

## Find a Half (2)

### Notes and Guidance

Children use their understanding of finding half of an object or shape and apply this to finding half of a small quantity.

It is important that children find the total amount and can then show how this number can be shared equally into two.

### Mathematical Talk

How can we find half of a number?

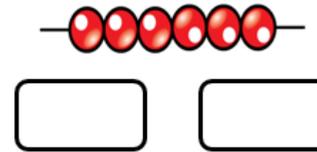
How many groups do we need to share our beads between?

How can you check that you have found half?

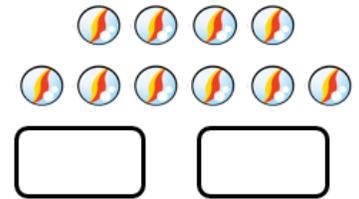
How many equal parts should you have when you have split the objects in half?

### Varied Fluency

1 Find half of the amounts.



There are \_\_\_ beads.  
Half of \_\_\_ is \_\_\_



There are \_\_\_ marbles.  
Half of \_\_\_ is \_\_\_

2 What is half of the amounts shown?



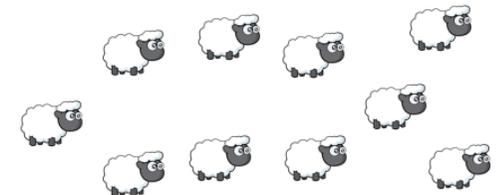
The total is \_\_\_ p  
Half of \_\_\_ p is \_\_\_ p



The total is \_\_\_ p  
Half of \_\_\_ p is \_\_\_ p

3 Find half of the sheep.

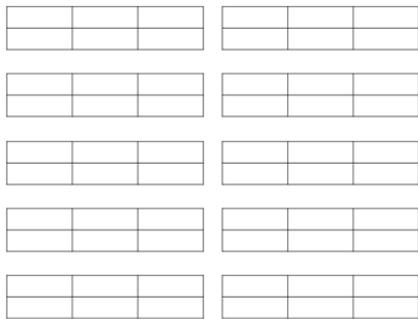
There are \_\_\_ sheep altogether.  
Half of \_\_\_ is \_\_\_



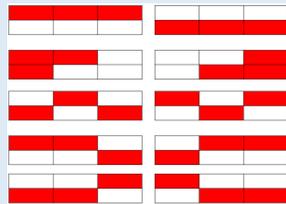
# Find a Half (2)

## Reasoning and Problem Solving

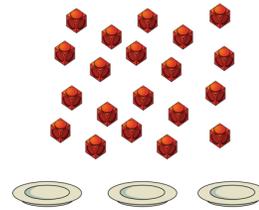
How many different ways can you shade one half of the shapes?



Possible answer:



Sam is halving the number 20  
He gets 20 cubes and 3 plates  
Has he done this correctly? Explain why.



He has done this wrong because when we find a half we split into two groups not 3  
He only needs 2 plates

Matthew is finding halves. He says, “It is hard to find half of an odd numbers.”  
Do you agree?  
Dan you explain using concrete apparatus to help?

Possible answer: I agree with Matthew because an odd number cannot be easily shared between 2  
It would not give a whole number answer.

## Find a Quarter (1)

### Notes and Guidance

Children explore quarters for the first time. They will develop their understanding of equal parts and non-equal parts and relate this to a shape of object being split up into four equal parts.

Children will use the word quarters and parts at this stage, but will not use the fractional notation of  $\frac{1}{4}$

### Mathematical Talk

How many parts does my whole have?  
 Are my parts equal or not equal?  
 How many equal parts can we see/count?

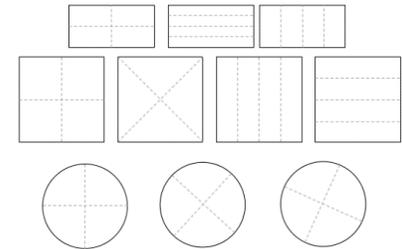
Can we make a quarter in a different way?

Which shapes show equal parts?  
 Which shapes show four equal parts?  
 Which shapes show quarters?

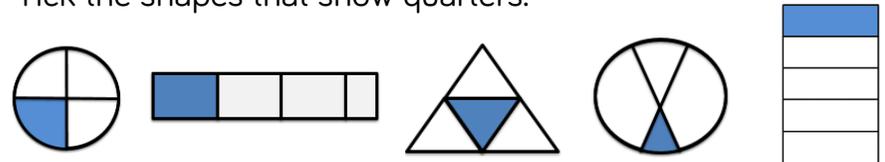
### Varied Fluency

- Take two square pieces of paper, two circular pieces of paper and two rectangular pieces of paper. Model folding one of each into four equal parts and the other into four non-equal parts. Which shapes show equal parts? Which do not? How many equal parts can we see? Can we fold any of the shapes in a different way and still get equal parts? Count the equal parts and then model counting them in quarters.

- Colour a quarter of each shape. Can you colour it in different ways?

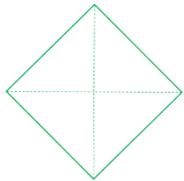


- Tick the shapes that show quarters.



# Find a Quarter (1)

## Reasoning and Problem Solving

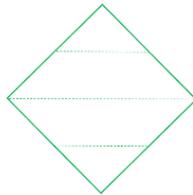


My shape shows quarters because it has four equal parts.



Harriet

My shape shows quarters because it has four parts.



Henry

Who is correct?  
Can you explain why?

Harriett is correct because quarters must be four equal parts.

Henry has split his square into four unequal parts so they are not quarters.

Use the squares to show:

- Less than a quarter shaded.
- Exactly a quarter shaded.
- More than a quarter shaded.



There are lots of possible ways to show each one.

## Find a Quarter (2)

### Notes and Guidance

Children look at finding a quarter of a small quantity using equal sharing. It is important they can show the groups clearly by drawing around quantities or by physically sharing into something.

They also begin to describe capacity using the terminology 'a quarter full'.

### Mathematical Talk

How many sweets do I have? How can I share them equally into four groups? What is one quarter worth?

Are my containers the same or different?  
Can you show me a quarter full in each container.

How can I quarter this amount?  
If I have 2, and it is a quarter, what will the whole look like?  
What will the whole be worth?

### Varied Fluency

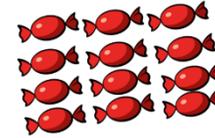
- 1 Share each quantity into four equal groups.



There are \_\_\_ cakes.

There is \_\_\_ cake in each quarter.

A quarter of \_\_\_ is \_\_\_



There are \_\_\_ sweets.

There are \_\_\_ sweets in each quarter.

A quarter of \_\_\_ is \_\_\_



There are \_\_\_ peaches.

There are \_\_\_ peaches in each quarter.

A quarter of \_\_\_ is \_\_\_

- 2 Use a range of containers and rice/water.  
Can you show me a quarter full in each container?  
Do they look the same or different?

- 3 Use counters to complete the sentences.

A quarter of 4 is

A quarter of 8 is

1 is one quarter of

3 is one quarter of

## Find a Quarter (2)

## Reasoning and Problem Solving



I have 16 apples. If I give 4 to Dan he will have a quarter.

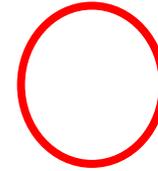
Do you agree? Explain why.

Would this always be true for different amounts?

Yes. When you split 16 into four equal parts there are four in each part.

No because when you split something into quarters there are four equal groups not just four things.

Mr. White has asked his class to put one quarter of the balls into the hoop.



I'm going to put one ball in the hoop.

Ben

I'm going to put three balls in the hoop.



Libby



I'm going to put four balls into the hoop.

Harry

Who is correct? Can you explain any mistakes made?

Libby is correct because one quarter of 12 is 3

Ben has misinterpreted **one** quarter to just mean one.

Harry knows that quarters are linked to fours but hasn't split the balls into four equal groups.