

HIAS MOODLE+ RESOURCE

Year 2 Unit Plan 2.3

Multiplication and Division

Fractions and Geometry

Autumn term

HIAS Maths Team
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Final version

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Overview

This document contains...

Year 2 Unit Plans linked to the Hampshire Medium Term Overview

Points to consider when using this resource:

These unit plans provide an example of how medium-term planning could be developed into units of work. These unit plans will need to be adapted to meet the needs of pupils. The unit plan provides an outline of a possible learning journey with suggestions of types of tasks that could be used. They also identify required prior learning, some common misconceptions and an indication of key skills pupils need to secure competency. It is assumed that teachers will make use of appropriate mathematical representations (manipulatives, visuals and symbolic) to support conceptual understanding for pupils alongside procedural fluency.

National Curriculum Links:

Multiplication and Division

Pupils should be taught to:

- Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers
- Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div) and equals (=) signs
- Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot
- Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.

Fractions

Pupils should be taught to:

- Recognise, find, name and write fractions: $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity.
- Write simple fractions, for example $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$.

Geometry (properties of shape)

Pupils should be taught to:

- Identify and describe the properties of 2-D shapes, including the number of sides, and line symmetry in a vertical line
- Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces
- Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]
- Compare and sort common 2-D and 3-D shapes and everyday objects

Geometry (position and direction)

Pupils should be taught to:

- Order and arrange combinations of mathematical objects in patterns and sequences
- Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise)

<p>This unit builds on pupils' Year 1 experiences of counting in 2s, 5s and 10s, sharing and grouping by developing more structured and efficient ways to multiply and divide. Pupils consolidate their understanding of odd and even numbers and explore repeated addition to represent it as multiplication using concrete objects and arrays. They apply these ideas to solve one-step problems involving equal groups, grouping, and sharing. It also develops pupils' understanding of fractions as equal parts of wholes (shapes, quantities, and lengths). Pupils will also recognise and name common 2-D and 3-D shapes, and use fractions to describe turns and movement, linking geometry to fractions.</p>	<p>Notional Time: 15 sessions</p>	
<p>Check and Refresh - skills and knowledge that pupils need to know</p>	<p>Verbal coding- precise mathematical language to model during worked examples</p>	<p>Mastering Key Facts in Key Stage 1 – developing fluency and automaticity</p>
<p>Count in multiples of 2, 5 and 10 to find how many groups of 2, 5 or 10 there are in a particular quantity, set in everyday contexts.</p>	<p>We can represent repeated addition using multiplication. There are ___ rows. There are ___ in a row. There are ___ in total. There are ___ columns. There are ___ in a column. There are ___ altogether. If I share ___ equally between ___ groups, there will be ___ in each group. If ___ is divided into groups of ____. There are ___ groups. One half is one part out of two equal parts. One quarter is one part out of four equal parts.</p>	<ul style="list-style-type: none"> Recall number bonds for 10 (addition and subtraction) Recall number bonds within 10 (addition and subtraction) Focusing on 2, 3, 4, 5 Make reference to doubles and near doubles
<p>Mathematical Concepts- important pieces of information learners should take away from the unit</p>	<p>Watch out for</p>	<p>DfE Ready -to- progress criteria</p>
<p>Understanding number patterns and structures Pupils develop fluency in counting in 2s, 5s and 10s, recognise odd and even numbers, and recognise equal groups.</p> <p>Making sense of multiplication, division and fractions through equal parts Repeated addition can be represented as multiplication; pupils solve simple problems by grouping and sharing. Fractions are understood as equal parts connecting division and fractions.</p> <p>Mathematics is interconnected - with number, geometry and fractions working together in meaningful contexts.</p>	<p>Pupils who cannot make and represent equal groups.</p> <p>Pupils think arrays can be random arrangements rather than structured rows and columns.</p> <p>Pupils think grouping means “counting out any number” rather than making equal groups.</p> <p>Pupils share objects unevenly or stop when they run out, even if groups aren't equal.</p> <p>Pupils focus on <i>number of parts</i> rather than <i>equal size or value</i> within fractions.</p>	<p>2MD-1</p> <p>2MD-2</p> <p>Formative assessment questions - key questions to support pupil reasoning and teacher assessment</p> <ul style="list-style-type: none"> What is the same and what is different? What if I change...? Can you give me an example of... and another...and another? Which is harder and which is easier...? If I know this, then what else do I know?

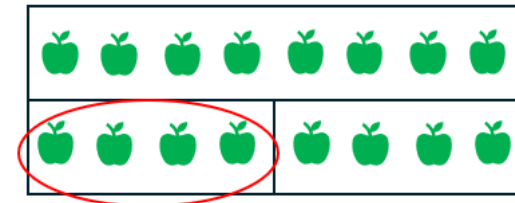
Visual coding: key representations



$$5 + 5 + 5$$

$$3 \times 5$$

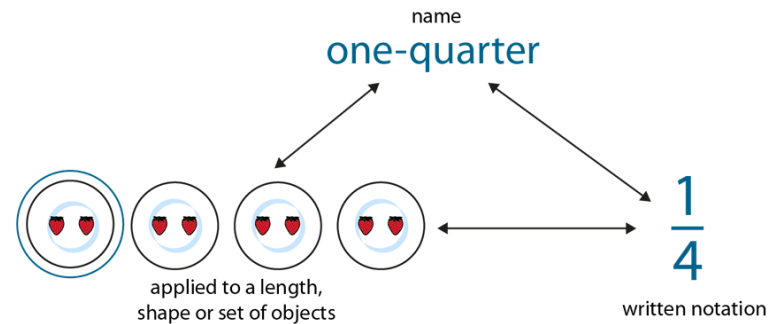
$$5 + 5 + 5 = 3 \times 5$$



$$5 + 5 + 5 + 5 = 20$$

$$4 \times 5 = 20$$

$$5 + 5 + 5 + 5 = 4 \times 5$$



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Learning Journey – Multiplication and Division

Autumn unit 2.3 (1.5 weeks)	Spring unit 2.6 (2 weeks)	Summer unit 2.10 (2 weeks)
<p>I can count in 10s.</p> <p>I can count in 2s.</p> <p>I can count in 5s.</p> <p>I can represent repeated addition as multiplication using concrete objects.</p> <p>I can solve one-step problems by adding equal groups.</p> <p>I can represent repeated addition as multiplication using arrays.</p> <p>I can solve one-step problems by grouping.</p> <p>I can solve one-step problems by sharing.</p> <p>I can recognise odd and even numbers.</p>	<p>I can recall and use multiplication and division facts for the 10 times table.</p> <p>I can recall and use multiplication and division facts for the 2 times table.</p> <p>I can represent repeated addition as multiplication using arrays.</p> <p>I can solve one-step problems by grouping.</p> <p>I can solve one-step problems by sharing.</p> <p>I can show that multiplication of two numbers can be done in any order (commutative).</p> <p>I can show that division of two numbers cannot be done in any order.</p> <p>I can find fact families for the 10 times table.</p> <p>I can find fact families for the 2 times tables.</p>	<p>I can recall and use multiplication and division facts for the 5 times table.</p> <p>I can find fact families for the 5 times tables.</p> <p>I can use known multiplication facts to work out missing division facts.</p> <p>I can solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.</p>

Learning Journey – Fractions		
Autumn unit 2.3 (1.5 weeks)	Spring unit 2.6 (1 week)	Summer unit 2.11 (2 weeks)
I can count in fractional steps.		
<p>I can recognise, find, name and write fractions $\frac{1}{2}$ of a shape.</p> <p>I can recognise, find, name and write fractions $\frac{1}{2}$ of a set of objects or quantity.</p> <p>I can recognise, find, name and write fractions $\frac{1}{2}$ of a length.</p> <p>I can recognise, find, name and write fractions $\frac{1}{4}$ of a shape.</p> <p>I can recognise, find, name and write fractions $\frac{1}{4}$ of a set of objects or quantity.</p>	<p>I can recognise, find, name and write fractions $\frac{1}{4}$ of a length.</p> <p>I can recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$.</p> <p>I can recognise, find, name and write fractions $\frac{2}{4}$ of a shape.</p> <p>I can recognise, find, name and write fractions $\frac{2}{4}$ of a set of objects or quantity.</p> <p>I can recognise, find, name and write fractions $\frac{2}{4}$ of a length.</p>	<p>I can recognise, find, name and write fractions $\frac{1}{2}$ of a shape, set of objects or quantity, length.</p> <p>I can recognise, find, name and write fractions $\frac{2}{4}$ of a shape, set of objects or quantity, length.</p> <p>I can recognise, find, name and write fractions $\frac{1}{3}$ of a shape.</p> <p>I can recognise, find, name and write fractions $\frac{1}{3}$ of a set of objects or quantity.</p> <p>I can recognise, find, name and write fractions $\frac{1}{3}$ of a length.</p> <p>I can recognise, find, name and write fractions $\frac{3}{4}$ of a shape.</p> <p>I can recognise, find, name and write fractions $\frac{3}{4}$ of a set of objects or quantity.</p> <p>I can recognise, find, name and write fractions $\frac{3}{4}$ of a length.</p>

Learning Journey – Geometry		
Autumn unit 2.3 (1.5 weeks)	Spring unit 2.6 (2 weeks)	Summer unit 2.10 (2 weeks)
<p>I can recognise and name common 3-D shapes [for example, cuboids (including cubes), pyramids and spheres].</p> <p>I can recognise and name common 2-D shapes [for example, rectangles (including squares), circles and triangles]</p>	<p>I can identify and describe properties of 3-D shapes.</p> <p>I can identify 2-D shapes on the surface of 3-D shape</p> <p>I can identify and describe properties of 2-D shapes</p> <p>I can identify line symmetry in a vertical line.</p>	<p>I can compare and sort common 2-D and 3-D shapes and everyday objects.</p>
<p>I can describe position, direction and movement, including whole, half, quarter and three-quarter turns.</p>	<p>I can order and arrange combinations of mathematical objects in patterns and sequences.</p>	<p>I can use mathematical vocabulary to describe position, direction and movement.</p>

Proposed lesson sequence to support development of mathematical concepts

Developing fluency and automaticity – ongoing daily practice

<p>Mastering Key Facts in Key Stage 1</p>	<p>Autumn Ongoing Mental Fluency Practice</p> <ul style="list-style-type: none"> Recall number bonds for 10 (addition and subtraction) Recall number bonds within 10 (addition and subtraction) Focusing on 2, 3, 4, 5 Make reference to doubles and near doubles
<p>Counting Fluency</p>	<ul style="list-style-type: none"> I can count in 10s, 2s, 5s. I can count in fractional steps ($\frac{1}{2}$ s and $\frac{1}{4}$ s).
<p>I can...</p>	<p>Mathematical Concepts, Key Skills and Suggested Tasks</p>

7 sessions – Multiplication and Division

I can represent repeated addition as multiplication using concrete objects.

In this step, pupils build a secure conceptual understanding of what multiplication really means. By using concrete objects, pupils can physically see and make equal groups. This allows them to understand that multiplication is a more efficient way of repeated addition (e.g. $5 + 5 + 5$ is the same as 3 groups of 5).


Key Concept:
Encourage pupils to make equal groups of 5 using concrete resources.
Write the number sentence as repeated addition e.g. $5 + 5 + 5 = 15$

- How could we represent the equal groups using a multiplication equation?
 - What does the 3 mean? What does the 5 mean?
 - Read the final equation. Do you agree that 5 plus 5 plus 5 is equal to 3 times 5? Why?
 - We can represent repeated addition using multiplication.**
- The 3 represents the number of groups.*
- The 5 represents the number of eggs in each group.*
- The 15 represents the total number of eggs.*


$$5 + 5 + 5$$

$$3 \times 5$$

$$5 + 5 + 5 = 3 \times 5$$



[Mathematics guidance: key stages 1 and 2 \(covers years 1 to 6\) – 2MD-1](#)
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	<p>Repeat with other 'what if?' questions:</p> <ul style="list-style-type: none"> • What if there were 4 equal groups of 5. How many will there be altogether? What is the repeated addition equation? How could we represent the equal groups using a multiplication equation? • What if there were 5 equal groups of 5? What would the repeated addition and multiplication equations be? • What if there were 3 equal groups of 10s? What would the repeated addition and multiplication equations be? <p>This step may take several lessons, each with a focus on the 5, 10 and 2 times tables.</p>
<p>I can solve one-step problems by adding equal groups.</p>	<p>This step strengthens pupils' understanding of equal groups, which is the core idea behind multiplication. It also supports the progression from simply counting objects to reasoning about how groups are structured which is essential for problem-solving.</p> <p>Key Question:</p> <ul style="list-style-type: none"> • Introduce as a real-world maths problem: 'There are 4 picnic bags. Each bag has 5 apples. How many apples are there altogether?' • Encourage pupils to make equal groups using concrete resources or a pictorial representation. <div style="display: flex; align-items: center; justify-content: center;">  <div style="border: 1px solid black; padding: 10px; text-align: center;"> $5 + 5 + 5 + 5 = 20$ $4 \times 5 = 20$ $5 + 5 + 5 + 5 = 4 \times 5$ </div> </div> <ul style="list-style-type: none"> • There are 4 equal groups of 5 counters in each group. • Add the equal groups together: $5 + 5 + 5 + 5 = 20$ • How could we represent the equal groups using a multiplication equation? ($4 \times 5 = 20$) • What does the 4 represent? What does the 5 represent? What does the 20 represent? • <i>The 4 represents the number of groups (bags).</i> • <i>The 5 represents the number of apples in each group (bag).</i> • <i>The 20 represents the total number of apples altogether.</i> • <i>There are 20 apples altogether.</i> <p>Repeat for different numbers of picnic bags and vary the number of apples in each bag. Link to the 2, 5 and 10 times tables.</p>

I can represent repeated addition as multiplication using arrays.

When pupils use arrays, they can see repeated addition organised systematically into rows and columns (for example, 3 rows of 5). This helps them recognise that multiplication is about equal groups arranged in a clear structure, rather than a random collection of objects. Arrays make the link between 'groups of' and multiplication sentences explicit (e.g. 3×5).

Key Question:

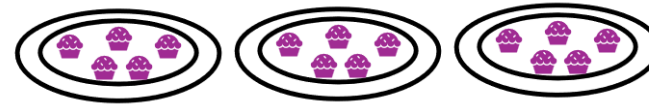
“There are 3 plates. Each plate has 5 cakes.

How many cakes are there altogether?’

- Build the array together.
- Model arranging the counters into **3 rows of 5** (straight, equal rows).
- Emphasise **rows and columns**, not random grouping.
- Link to repeated addition $5 + 5 + 5 = 15$
- Draw the array.
- Write the matching multiplication equation: $3 \times 5 = 15$
- This array shows 3 lots of 5.
- **There are 15 cakes altogether.**

Repeat for different numbers of plates and vary the number of cakes on each plate. Link to the 2, 5 and 10 times tables.

For each task, encourage pupils to make the array, draw the array, write the repeated addition number sentence and linked multiplication equation to show how many cakes there are altogether.






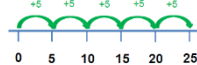


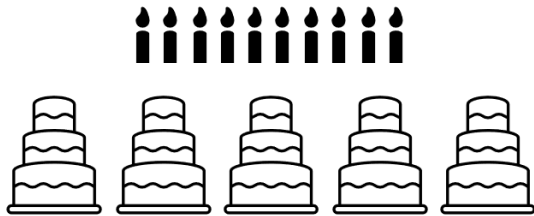
I can solve one-step problems by grouping.

In this step, when pupils solve problems by grouping, they are finding out how many equal groups can be made from a given total (e.g. “How many groups of 5 can I make from 15?”). This helps them see division as a thinking and reasoning process, not just a calculation. At this stage, pupils may use concrete resources or pictorial representations to physically make groups, which supports conceptual understanding.

Paired example – 2.3


- **Key question:** ‘Sid has 25 marbles. He wants to put them in boxes of 5. How many boxes will he need?’
- Model grouping into 5s, using an array and number line
 - How did I use the array to help me?
 - Why did I group the 25 marbles into 5s?
 - Why did I count on in 5s on the number line?
 - Why did I stop at 25 on the number line?




Model	Calculations
 1 box = 5 marbles	5 $5 \times 1 = 5$
 2 boxes = 10 marbles	$5+5 = 10$ $5 \times 2 = 10$
 3 boxes = 15 marbles	$5+5+5 = 15$ $5 \times 3 = 15$
 4 boxes = 20 marbles	$5+5+5+5 = 20$ $5 \times 4 = 20$
 5 boxes = 25 marbles	$5+5+5+5+5 = 25$ $5 \times 5 = 25$
	Sid will need 5 boxes.


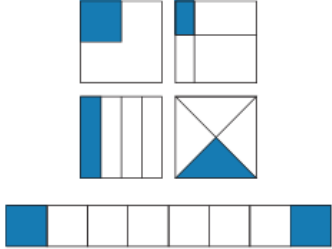
<p>I can solve one-step problems by sharing.</p>	<p>When pupils solve problems by sharing, they are finding out how many items each person or group receives when a total is split equally (for example, “12 sweets shared between pupils”). This links closely to pupils’ real-life experiences and helps them develop a clear understanding of equal sharing, helping pupils recognise when groups must be the same size.</p> <p>Key Question:</p> <ul style="list-style-type: none"> • ‘Sam has 10 candles. He shares them equally between 5 cakes. How many candles will be on each cake?’ • Encourage pupils to use concrete resources if needed to practically share the candles between 5 cakes. • If I share 10 equally between 5 groups, there will be 2 in each group. • 10 divided into 5 groups. 10 divided by 5. • I could use the multiplication fact $2 \times 5 = 10$. • $10 \div 5 = 2$ • There will be 2 candles on each cake.  <p>Repeat with other ‘what if?’ questions:</p>
<p>I can recognise odd and even numbers.</p>	<p>In this step, pupils are applying their knowledge and understanding of whether a number can be split into two equal groups. This directly links to the ideas of pairing, grouping, and sharing that run throughout this unit. For example, noticing that an even number can be shared equally, helps pupils predict outcomes before physically sharing objects, strengthening their reasoning skills. It also supports understanding of equal groups, which underpins multiplication and division.</p> <p>Suggested tasks:</p> <ul style="list-style-type: none"> • Encourage pupils to make a 1 – 10 number line with Numicon pieces. • Which show odd / even numbers? How do you know? • What do you notice about odd/even numbers? • Why is the 2 times-table important for odd and even numbers? • If your number is even/odd, will the next number you count be odd or even? Why? • What digit is in the ones column? Why is this important? • Can you halve even/odd numbers? How do you know? • Provide pupils with the following numbers: 6, 15, 9, 11, 24, 20, 3, 27, 2, 10. Can they identify which are odd / even? How do they know? What patterns can they spot? • Reasoning task: Amy thinks that 29 is an even number because it has 2 tens. Do you agree? How do you know?

	<p>Repeat for similar tasks and encourage use of stem sentences:</p> <ul style="list-style-type: none"> • Even numbers have ___ in the ones column. • Odd numbers have ___ in the ones column. • Even numbers can be divided by ___ to give a whole number answer. • The next whole number after an ___ number is an ___ number.
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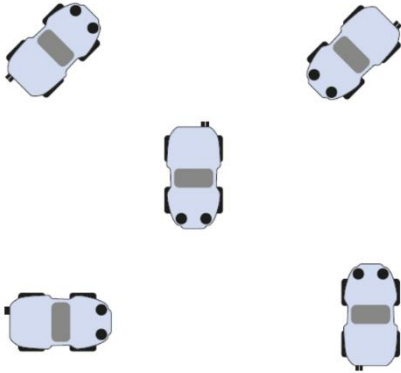
8 lessons – Fractions and Geometry

<p>I can recognise, find, name and write fractions $\frac{1}{2}$ of a shape.</p>	<p>This step means that pupils understand what one half of a shape is and can identify it, describe it correctly, and record it using the fraction symbol $\frac{1}{2}$. Compared to Year 1, this step involves greater precision and formality, but it is still rooted in visual understanding.</p> <p>Checking for understanding questions:</p> <ul style="list-style-type: none"> • Which of these images show half of each whole shape? • Explain your reasoning. • <i>Pupils should talk about the two parts needing to be equal parts of the whole.</i> <p>As well as providing pupils with examples of halves of shapes to recognise, it is also important to provide them with non-examples of halves e.g. shapes that are divided into two parts, but the parts are not equal, so that pupils can reason and explain their thinking.</p>	<p>Jayne says that the shaded part of the whole square below does not show a half because there are three pieces, not two. Do you agree? Explain your reasoning.</p>  <p style="text-align: right;"><i>Taken from NCETM 'Teaching for Mastery – Y2'</i></p>
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<p>I can recognise, find, name and write fractions $\frac{1}{2}$ of a set of objects or quantity.</p>	<p>This step means that pupils understand what half of a group or number of objects is, can identify it, describe it correctly, and record it using the fraction symbol $\frac{1}{2}$. A <i>set of objects</i> or <i>quantity</i> refers to a countable group, such as:</p> <ul style="list-style-type: none"> • 8 counters • 10 cubes • 12 apples • 20 pencils 	<table border="1" style="width: 100%;"> <thead> <tr> <th style="width: 20%;">Model</th> <th style="width: 30%;">Say</th> <th style="width: 30%;">Write</th> <th style="width: 20%;">Notation</th> </tr> </thead> <tbody> <tr> <td rowspan="3" style="text-align: center;">  one-half </td> <td><i>'The apple has been divided...'</i></td> <td>Write the division bar.</td> <td rowspan="3" style="text-align: center; vertical-align: middle;">$\frac{1}{2}$</td> </tr> <tr> <td><i>'...into 2 equal parts...'</i></td> <td>Write '2' as the denominator.</td> </tr> <tr> <td><i>'...and we have 1 of the parts.'</i></td> <td>Write '1' as the numerator.</td> </tr> </tbody> </table>	Model	Say	Write	Notation	 one-half	<i>'The apple has been divided...'</i>	Write the division bar.	$\frac{1}{2}$	<i>'...into 2 equal parts...'</i>	Write '2' as the denominator.	<i>'...and we have 1 of the parts.'</i>	Write '1' as the numerator.
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	<i>'...and we have 1 of the parts.'</i>	Write '1' as the numerator.												

	<p>This is a progression from Year 1, moving from informal sharing to more precise mathematical thinking and recording.</p> <p>'Contains material developed by NCETM and licensed under Open Government Licence v3.0' http://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/</p> 
<p>I can recognise, find, name and write fractions $\frac{1}{2}$ of a length.</p>	<p>This step means that pupils understand what half of a length is, can identify it, find it, describe it correctly, and record it using the fraction symbol $\frac{1}{2}$. A <i>length</i> refers to something that can be measured in one dimension, such as:</p> <ul style="list-style-type: none"> • A line • A strip of paper • A ribbon • A piece of string • The length of an object (e.g. a pencil) <p>This is different from halves of shapes or sets, because the focus is on distance from one end to the other.</p> <p>Provide pupils with a range of different lengths (using concrete resources) for them to explore recognising, finding, naming and writing $\frac{1}{2}$ of a length. Use the 'model, say, write, notation' image from the previous step to support conceptual understanding.</p>
<p>I can recognise, find, name and write fractions $\frac{1}{4}$ of a shape.</p>	<p>This step means that pupils understand what one quarter of a shape is, can identify it, describe it correctly using mathematical language, and record it using the fraction symbol $\frac{1}{4}$. It builds directly on their understanding of halves, but requires pupils to think about four equal parts instead of two.</p> <p>Checking for understanding questions:</p> <ul style="list-style-type: none"> • Provide pupils with a range of shapes that are divided into four parts. Some will be divided into four equal parts, others will be divided into four unequal parts. Which of these images show a quarter of each whole shape? • Explain your reasoning. • <i>Pupils should talk about the four parts needing to be equal parts of the whole.</i> <p>Which of these diagrams have $\frac{1}{4}$ of the whole shaded?</p>  <p>Explain your reasoning.</p> <p><i>Taken from NCETM 'Teaching for Mastery – Y2'</i></p>

	<p>As well as providing pupils with examples of quarters of shapes to recognise, it is also important to provide them with non-examples of quarters e.g. shapes that are divided into four parts, but the parts are not equal, so that pupils can reason and explain their thinking.</p>
<p>I can recognise, find, name and write fractions $\frac{1}{4}$ of a set of objects or quantity.</p>	<p>This step means that pupils understand what one quarter of a group (quantity) is, can identify it, describe it using correct fraction language, and record it using the fraction symbol $\frac{1}{4}$. A <i>set of objects</i> or <i>quantity</i> refers to a countable group, such as:</p> <ul style="list-style-type: none"> • 12 counters • 8 cubes • 16 apples • A group of children <p>This builds on earlier work with halves and moves pupils towards thinking about four equal groups, not just sharing into two.</p> <p>Key concept:</p> <ul style="list-style-type: none"> • Pupils identify $\frac{1}{4}$ as ‘one part out of four equal parts.’ • They name it...for example: ‘one quarter.’ • Then describe it, for example: ‘we know this is one quarter because the apple has been divided into four equal parts and we have one of them.’ • Then show how to link this to the written notation e.g. $\frac{1}{4}$. <div data-bbox="1339 655 1977 927" data-label="Diagram"> </div> <p>‘Contains material developed by NCETM and licensed under Open Government Licence v3.0’ http://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/</p>
<p>I can recognise and name common 2-D shapes [for example, rectangles (including squares), circles and triangles].</p>	<p>This step means that pupils can look at familiar flat (2-D) shapes and correctly identify and say their names, even when those shapes appear in different sizes or orientations. The focus is on recognition and accurate naming, not on describing properties at this stage, as it builds on prior learning in Year 1.</p> <p>Suggested task:</p> <ul style="list-style-type: none"> • Have a range of shapes in a ‘feely bag’. Can you feel for the triangle, the square, the rectangle? Explain how you know. • Provide pupils with a range of 2-D shapes for them to recognise, name and sort.

<p>I can recognise and name common 3-D shapes [for example, cuboids (including cubes), pyramids and spheres].</p>	<p>This step means that pupils can identify familiar 3-D (solid) shapes and correctly say their mathematical names, even when those shapes appear in different sizes, colours, or as real-life objects. 3-D shapes are solid shapes that have height, width and depth and can be picked up and handled. Like with the previous step, the emphasis is on recognition and accurate naming, rather than describing detailed properties at this stage, as it builds on prior learning in Year 1.</p> <p>Key questions:</p> <ul style="list-style-type: none"> Provide pupils with a range of common 3-D shapes (for example, cuboids, including cubes, pyramids and spheres for them to recognise, name and sort into groups. <p>Sort a range of 3-D objects into groups:</p>  <p>Explain how you have sorted them using mathematical names for the shapes.</p> <p><i>Taken from NCETM 'Teaching for Mastery – Y1'</i></p>
<p>I can describe position, direction and movement, including whole, half, quarter and three-quarter turns.</p>	<p>This step means that pupils can talk about where something is, how it moves, and which way it turns, using simple mathematical language. It develops pupils' spatial awareness and their ability to describe movement, rather than calculate or measure. The emphasis is on describing and recognising, not on formal coordinates, angles, or degrees.</p> <p>Design tasks that require pupils to describe the position, direction and movement of each of the following turns:</p> <ul style="list-style-type: none"> Whole turn Half turn Quarter turn Three-quarter turn <p>Link to previous fraction knowledge.</p> <p>Look at this toy car.</p>  <p>Lee turns the car one quarter turn.</p> <p>Tick (✓) the picture which shows how the car looks after the turn.</p>  <p>Contains material developed by the Standards and Testing Agency for 2007 national curriculum assessments and licensed under Open Government Licence v3.0' http://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/</p>

HIAS Resources to support:

- Reasoning and Intelligent Practice Tasks: [Reasoning and Intelligent Practice Tasks](#)
- Faded Scaffolds and Intelligent Practice: [Faded Scaffolds and Intelligent Practice](#)
- Paired Examples: [Paired Examples](#)
- Entry and Exit tickets: [Entry and Exit Tickets](#)
- Interleaving, Recall and Retrieval: [Interleaving, Recall and Retrieval \(hants.gov.uk\)](#)
- Connect4Maths: [Connect4Maths - Primary](#)
- Moderation Documents: [Moderation Documents](#)
- KS1 Key Facts: [Key Stage 1 Key Facts Document](#)
- Mastering Times Tables: [Mastering Times Tables](#)

NCETM Resources to support:

- Exemplification of ready -to -progress criteria (RTPS): [Exemplification of ready-to-progress criteria | NCETM](#)
- NCETM Professional Development materials spine 1: [Number, Addition and Subtraction | NCETM](#) ;
- The NCETM Mastery Task booklets can be used as a source of tasks to support end of year teacher assessment for both EXS and GDS
[Teaching for Mastery Booklets Yr1-6](#)

HIAS Maths Team

Jo Lees – Lead Inspector
Email: jo.lees@hants.gov.uk

Kate Spencer – Lead Inspector
Email: kathryn.spencer@hants.gov.uk

Rebecca Vickers – Teaching & Learning Adviser
Email: rebecca.vickers@hants.gov.uk

Nikki Barber – Teaching & Learning Advisor
Email – nicola.barber@hants.gov.uk

Olivia Goodburn – Teaching & Learning Advisor
Email – olivia.goodburn@hants.gov.uk

For further details on the full range of services available please contact us using the following email:

hias.publications@hants.gov.uk

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