Hampshire Services
HIAS SCHOOL IMPROVEMENT

HIAS MOODLE+ RESOURCE

HIAS Scheme of Learning for Mathematics

Medium Term Plans for Year Five

HIAS Maths Team
June 2023
Final version

Hampshire County Council

www.hants.gov.uk

Overview

This document contains…
Long-term curriculum map for Y5
Medium-term overview plans for Y5 designed to support single age classes

Points to consider when using this resource
This medium-term plan identifies the key objectives in each unit.
For more detail and a break-down of these objectives please refer to the relevant unit plan.
Unit plans identify a learning journey, required prior knowledge, misconceptions, key vocabulary, and suggested tasks.
Appropriate models, images, concrete resources, and visual representations are an implicit element in all units.

A suggested schedule for assessment is included as colour-coded bands, linked to the Hampshire Assessment Model if required.

Plans are based on a **39-week school year** and will need to be **adjusted** on a term-by-term basis

Long term curriculum map for Year 5

Year 5 – Yearly Overview

Hampshire Services

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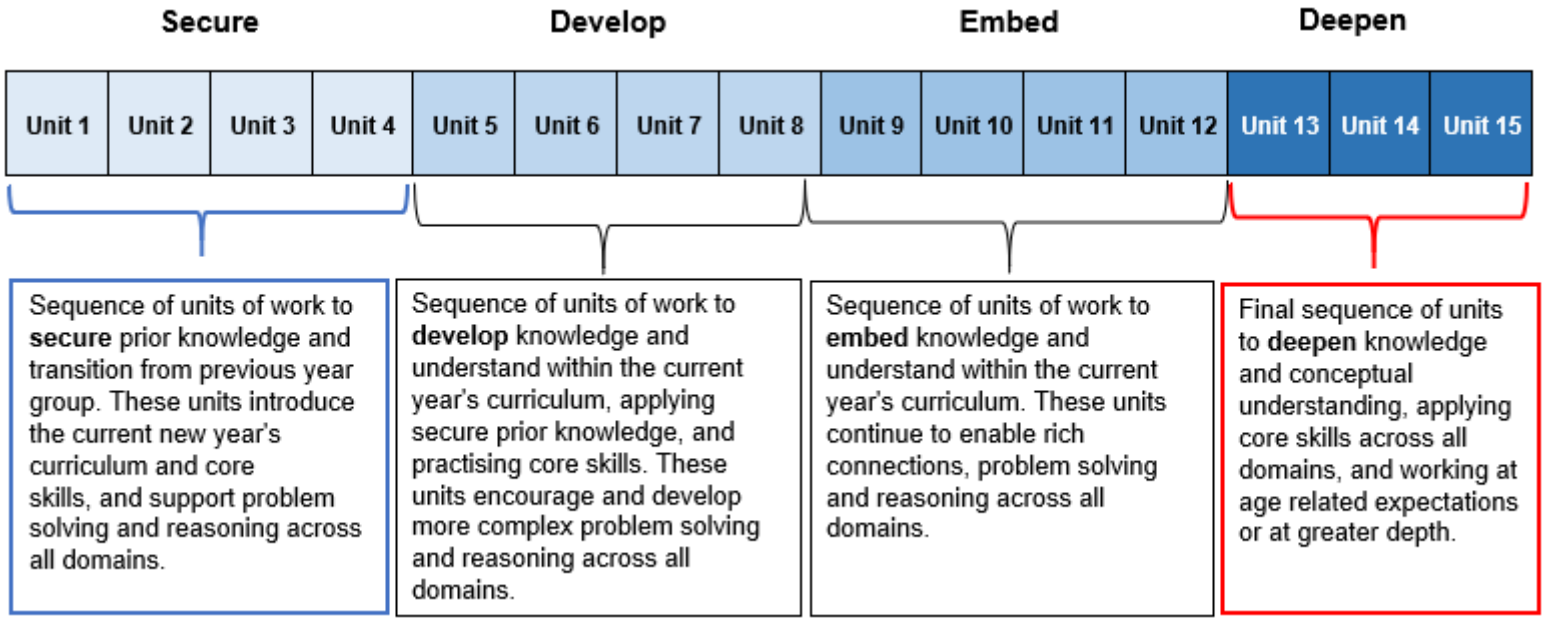
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14
Autumn	5.1 Number and Place Value Addition and Subtraction with measurement			5.2 Multiplication and Division with measurement			5.3 Fractions	5.4 Fractions	5.4 Time	5.4 Geometry and Measurement		5.5 Number and Place Value and Measurement with the Four Operations		
	Measurement: Utilise everyday opportunities to convert units using place value understanding and knowledge of tables facts													
Spring	5.6 Fractions		5.6 Geometry	5.7 Addition and Subtraction	5.7 Fractions	5.8 Statistics	5.9 Measurement and Geometry		5.9 Fractions	5.10 Addition and Subtraction	5.11 Multiplication and Division			
	Measurement: Utilise everyday opportunities to convert units using place value understanding and knowledge of tables facts. Practise mental strategies using facts, related derived facts and place value knowledge such as adding 99, adding 0.99, near doubles etc													
Summer	5.12 Multiplication and Division		5.13 Geometry	5.14 Four Operations	5.15 Addition and Subtraction with Statistics		5.16 Fractions		5.16 Geometry	5.17 Multiplication and Division		5.18 Four Operation and Measurement		

Overview of curriculum intent



Key for assessment bands

AM1	AM2	AM3	ARE
Assessment Milestone 1	Assessment Milestone 2	Assessment Milestone 3	Assessment ARE

YEAR 5 Autumn Term

Measurement: Find everyday opportunities to convert units using place value understanding and knowledge of tables facts Subsequent units should continue to revisit material from previous units to deepen learning, encourage automaticity and allow rich connections to be made across the year.

A.M	Unit	Hours	Domain	Y5 National Curriculum Objectives	Learning journey - 'I can…' statements
	5.1	5	Number Place Value; Addition and Subtraction (length)	• Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit. • Y4: Identify, represent and estimate numbers using different representations. • Y2: Recall and use addition and subtraction facts to 20 fluently and derive and use related facts up to 100. • Add and subtract numbers mentally with increasingly larger numbers. • Round any number up to 1,000,000 to the nearest 10,100,1000, 10,000 and 100,000	• I can recognise and represent the place value of digits in a four- and five-digit number. • I can position and compare numbers on a number line. • I can use related facts. I can round any number to the nearest 10, 100, 1000, 10,000 and 100,000.
		10		• Add and subtract numbers mentally with increasingly large numbers. • Add and subtract whole numbers with more than 4 digits, including formal written methods (columnar addition and subtraction). • Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. • Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. • Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres. • Use all four operations to solve problems involving measure (e.g. length, mass, volume, money), using decimal notation.	• I can use a range of mental strategies when adding and subtracting numbers. • I can add and subtract mentally with increasingly larger numbers. • I can solve addition and subtraction multi-step problems. • I can measure and calculate the perimeter of composite rectilinear shapes. • I can use all four operations to solve problems involving length.

A.M	Unit	Hours	Domain	Y5 National Curriculum Objectives	Learning journey - 'I can…' statements
	5.2	15	Multiplication and Division Measurement (area and arrays)	• Calculate and compare the area of rectangles, including squares, and including using standard units square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes. • Identify multiples and factors, including finding all factor pairs of a number and common factors of two numbers. • Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers. • Establish whether a number up to 100 is prime and recall prime numbers up to 19. • Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. • Multiply and divide numbers mentally drawing upon known facts.	• I can make links between arrays and area. • I can calculate, compare, and order the area of rectangles. • I can identify multiples and factors. • I can identify prime numbers. • I can multiply and divide by 10 and 100. • I can divide by sharing and grouping. • I can use known facts to estimate.
	5.3	5	Fractions	• Identify, name, and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths. • Compare and order fractions whose denominators are all multiples of the same number. • Add and subtract fractions with the same denominator and multiples of the same number. • Recognise mixed numbers and improper fractions, and convert from one form to another and write mathematical statements > 1 as a mixed number.	• I can represent families of common equivalent fractions. • I can compare, order, and find equivalent fractions. • I can add and subtract fractions with the same denominator. • I can add and subtract fractions with denominators of multiples of the same number.
	5.4	5	Fractions	• Recognise mixed numbers and improper fractions and convert from one form to another and write mathematical statements >1 as a mixed number. • Add and subtract fractions with the same denominator and multiples of the same number. • Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.	• I can convert between mixed and improper fractions. • I can find equivalent fractions.

A.M	Unit	Hours	Domain	Y5 National Curriculum Objectives	Learning journey - 'I can…' statements
		5	Time	• Complete, read and interpret information in tables, including timetables. • Solve problems involving converting between units of time	• I can recall and represent key facts of time. • I can solve problems involving time durations. • I can solve time problems using key facts. • I can read and interpret information in timetables.

		10	Geometry and Measurement	• Y4: Compare and classify geometric shapes, including quadrilaterals and triangles based on their properties and size.
				• Identify 3-D shapes, including cubes and other cuboids, from 2-D representations.
				• Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.
				• Identify:
				  ○ angles at a point and one whole turn (360^o)
				  ○ angles at a point on a straight line and half a turn (180^o)
				  ○ other multiples of 90^o
				• Identify, describe and represent the position of a shape following a reflection or a translation, using the appropriate language and know that the shape has not changed.
					• I can identify properties of geometric shapes.
					• I can compare and classify geometric shapes.
					• I can estimate and compare angles using key facts.
					• I can use reasoning to identify angles within shapes.
					• I can identify and represent the position of a shape following a reflection.
					• I can identify, describe and represent the position of a shape following a translation.

A.M	Unit	Hours	Domain	Y5 National Curriculum Objectives	Learning journey - 'I can…' statements
	5.5	10	Place Value with measurement (mass and capacity) and all four operations	• Round decimals with two decimal places to the nearest whole number and to one decimal place • Convert between different units of metric measure (e.g. grams/kilograms; millilitres/litres) • Understand and use equivalences between metric units and common imperial units such as inches, pounds and pints. • Use all four operations to solve problems involving measure (mass and capacity) using decimal notation including scaling.	• I can convert between different units of metric measure (mass). • I can read scales to measure in grams and kilograms. • I can round decimals with two decimals places to the nearest whole number. • I can solve problems in the context of mass. • I can convert between different units of metric measure (capacity). • I can read scales to measure in millilitres and litres. • I can round decimals with two decimals places to the nearest whole number. • I can solve problems in the context of capacity.
		5		• Solve addition and subtraction multi-step problems in context, deciding which operations and methods to use and why. • Know and use the vocabulary of prime numbers, common prime factors and composite (non-prime) numbers. • Solve problems involving addition, subtraction, multiplication and division, including using their knowledge of factors and multiples, squares and cubes. • Multiply numbers up to 4- digits by a one-or two-digit number using a formal written method, including long multiplication for two-digit numbers.	• I can solve addition and subtraction multi-step problems in context, deciding which operations and methods to use and why. • I can use the vocabulary of factor, multiple and prime. • I can solve problems using knowledge of factors and multiples. • I can use a formal written method to multiply numbers up to 4-digits. • I can solve problems in context, deciding which methods to use and why.
Christmas Holidays					

Spring Term

Measurement: Find every day opportunities convert units using place value understanding and knowledge of table facts. Practise mental strategies using facts, related derived facts, and place value knowledge such as adding 99, adding 0.99 , near doubles etc.

A.M	Unit	Hours	Domain	Y5 National Curriculum Objectives	Learning journey - 'I can…' statements
	5.6	10	Fractions	• Recognise the percent symbol (%) and understand that percent relates to the number of parts per hundred, write percentages as a fraction with the denominator hundred and as a decimal fraction. • Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those with the denominator of digit 10 or 25. • Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths. • Read and write decimal numbers as fractions (e.g. 0.71 = $\frac{71}{100}$). • Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. • Round decimals with two decimal places to the nearest whole number and to one decimal place.	• I can recognise and use tenths and hundredths. • I can recognise and use thousandths. • I can compare fractions. • I can recognise equivalent fractions. • I can round decimals with two decimal places to the nearest whole number and to one decimal place. • I can represent percentages. • I can solve problems which require knowing percentage and decimal equivalents.
		5	Geometry	• Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. • Draw given angles and measure them in degrees (^{0}). • Use the properties of rectangles to deduce related facts and find missing lengths and angles.	• I can recognise and estimate angles. • I can use a protractor to measure angles accurately. • I can use properties of rectangles to deduce missing lengths and angles.
A.M	**Unit**	**Hours**	**Domain**	**Y5 National Curriculum Objectives**	**Learning journey - 'I can…' statements**

		5.7	5	Addition and Subtraction	• Add and subtract whole numbers with more than 4 digits including using formal written methods (columnar addition and subtraction). • Add and subtract mentally with increasingly large numbers e.g. 12,462 – 2300 = 10,612. • Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. • Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	• I can add and subtract mentally. • I can choose efficient methods of calculating when adding and subtracting. • I can solve addition and subtraction problems in context.
			5	Fractions	• Add and subtract fractions with the same denominator beyond one and multiples of the same number. • Solve problems involving number up to three decimal places. • Use all four operations to solve problems involving measure.	• I can add and subtract fractions. • I can solve measure problems involving fractions and decimals.
		5.8	5	Statistics	• Interpret negative numbers in context, count forwards and backwards with positive and negative numbers through zero. • Solve comparison, sum and difference problems using information presented in a line graph. • Complete, read and interpret information in tables.	• I can count forwards and backwards with positive and negative numbers through zero. • I can interpret negative numbers in context. • I can read and interpret information in a line graph. • I can read and interpret information given within a table.

A.M	Unit	Hours	Domain	Y5 National Curriculum Objectives	Learning journey - 'I can…' statements
	5.9	10	Measurement and Geometry	• Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. • Estimate volume (e.g. using 1cm3 blocks to build cuboids (including cubes)) and capacity (e.g. using water). • Use all four operations to solve problems involving measure, using decimal notations, including scaling. • Identify 3-D shapes, including cubes and other cuboids, from 2-D representations. • Y4: Use place value and derived facts to multiply and divide mentally, including multiplying by 0 and 1; dividing by 1; multiplying together three numbers.	• I can understand and use approximate equivalences between metric units and common imperial units. • I can solve problems involving measure. • I can identify 3-D shapes from 2-D representations. • I can investigate volume of cubes and cuboids. • I can estimate the volume of cubes and cuboids.
		5	Fractions	• Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams. • Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}, \frac{1}{4}, \frac{1}{5}, \frac{2}{5}, \frac{4}{5}$ and those with a denominator of a multiple of 10 of 25. • Read, write, order and compare numbers with up to three decimal places. • Solve problems involving number up to three decimal places.	• I can multiply proper fractions by whole numbers. • I can compare and order fraction, decimal and percentage equivalents. • I can solve problems using knowledge of fraction and percentage equivalents. • I can solve problems involving numbers up to three decimal places.

A.M	Unit	Hours	Domain	Y5 National Curriculum Objectives	Learning journey - 'I can…' statements
	5.10	5	Addition and Subtraction	• Add and subtract mentally with increasingly large numbers. • Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) • Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. • Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. • Add and subtract fractions with the same denominator and denominators that are multiples of the same number. • Solve problems involving number up to three decimal places. • Use all four operations to solve problems involving measure using decimal notation, including scaling.	• I can add and subtract, deciding which operations and methods to use and why. • I can solve addition and subtraction problems in context, deciding which operations and methods to use and why. • I can add and subtract fractions.
	5.11	10	Multiplication and Division	• Multiply and divide numbers mentally drawing upon known facts. • Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers. • Divide numbers up to 4-digits by a one- digit number using the formal written method of short division and interpret remainders appropriately for the context. • Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. • Solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes. • Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.	• I can multiply and divide numbers by 10, 100 and 1000. • I can solve problems involving multiplication and division using knowledge of factors and multiples. • I can multiply and divide numbers mentally drawing upon known facts. • I can multiply and divide numbers using a formal written method. • I can solve problems involving multiplication and division. • I can solve problems involving multiplication and division, including scaling by simple fractions.
Easter Holidays					

Summer Term

Measurement: Find everyday opportunities to convert units using place value understanding and knowledge of table facts. Practise mental strategies using facts, related derived facts, and place value knowledge. Develop independence and fluency with identifying calculations that can be done mentally or informally. Strategies include 'nearly numbers' ', 'near-doubles', place-value rounding and adjusting, key facts and derived facts, part-whole reasoning etc. Ensure that pupils recognise complements to 1000, and link to 10, 100, 1 and 0.1.

A.M	Unit	Hours	Domain	Y5 National Curriculum Objectives	Learning journey - 'I can…' statements
	5.12	10	Multiplication and Division	• Identify multiples and factors, including all factor pairs of a number and common factors of two numbers. • Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers. • Recognise and use square numbers and cube numbers and the notation for (^{2}) and (^{3}). • Solve problems involving multiplication and division and a combination of these, including using their knowledge of factors and multiples, squares and cubes. • Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.	• I can identify prime numbers. • I can identify factors. • I can recognise and use square numbers and cube numbers. • I can solve problems using my knowledge of factors and multiples, squares and cubes.
	5.13	5	Geometry	• Distinguish between regular and irregular polygons based on reasoning about equal sides and angles. • Y4: Describe positions on a 2-D grid as coordinates in the first quadrant. • Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language and know that the shape has not changed.	• I can distinguish between regular and irregular polygons. • I can plot points on a coordinate grid in the first quadrant • I can identify, describe and represent the position of a shape following a reflection or translation.

A.M	Unit	Hours	Domain	Y5 National Curriculum Objectives	Learning journey - 'I can…' statements
	5.14	5	Four Operations	• Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. • Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign. • use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.	• I can decide which operation and method to use and why. • I can decide which operation and method to use within a context.
	5.15	10	Addition and Subtraction with Statistics	• Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtract). • Add and subtract mentally with increasingly large numbers. • Use rounding to check answers and determine, in the context of a problem, levels of accuracy. • Solve addition and subtraction multi-step problems in contexts deciding which operations to use and why.	• I can solve addition and subtraction problem using an efficient method. • I can solve missing number problems. • I can read and interpret information in tables. • I can solve comparison, sum and difference problems using information presented in a line graph.

A.M	Unit	Hours	Domain	Y5 National Curriculum Objectives	Learning journey - 'I can…' statements
	5.16	10	Fractions	• Compare and order whose denominators are all multiples of the same number. • Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths. • Recognise mixed numbers and improper fractions and convert from one form to the other. Write mathematical statements >1 as a mixed number. • Add and subtract fractions with the same denominator and multiples of the same number. • Recognise the per cent symbol (%) and understand that it relates to the 'number of parts per 100', and write percentages as a fraction with the denominator hundred, and as a decimal fraction. • Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams. • Solve problems which require knowing percentage and decimal equivalents.	• I can compare and order fractions. • I can compare and order mixed numbers on a number line. • I can add and subtract fractions. • I can find a percentage of a number. • I can find a percentage of a number efficiently. • I can recognise percentage and decimal equivalences. • I can solve problems which require knowing percentage and decimal equivalents. • I can multiply proper fractions by whole numbers. • I can multiply proper fractions using knowledge of fraction and decimal equivalents.

		5	Geometry	• Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.
				• Draw given angles and measure them in degrees (º).
				• Identify:
				  ○ angles at a point and one whole turn (360^0).
				  ○ angles at a point on a straight line and 1⁄2 a turn (180^0).
				  ○ Other multiples of 90^0 and link to fractions of a whole turn.
				• Use the properties of rectangles to deduce related facts and find missing lengths and angles.
					• I can estimate and compare acute, obtuse and reflex angles.
					• I can measure given angles accurately.
					• I can find missing angles using key facts.
					• I can properties of rectangles to deduce related facts and find missing lengths and angles.

A.M	Unit	Hours	Domain	Y5 National Curriculum Objectives	Learning journey - 'I can…' statements
	5.17	10	Multiplication and Division	• Multiply and divide numbers mentally drawing upon known facts. • Identify multiples and factors, including finding all factors pairs, prime factors and composite (non-prime) numbers. • Establish whether a number is prime up to 100 and recall prime numbers up to 19. • Multiply numbers up to 4-digits by a one-or two-digit number using a formal written method, including long multiplications for two-digits. • Divide numbers up to 4-digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context. • Multiply and divide whole numbers and those involving decimals by 10, 100, 1000. • Recognise and use square number and cube numbers, with the correct notation (^{2}) and (^{3}) • Solve problems involving addition, subtraction, multiplication and division including using their knowledge of factors and multiples, squares and cubes. • Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.	• I can multiply and divide numbers mentally drawing upon known facts. • I can use the short multiplication method. • I can use the long multiplication method. • I can use the short division method. • I can solve multiplication and division calculating efficiently. • I can solve multiplication and division problems efficiently. • I can identify multiples, factors and prime numbers. • I can recognise and use square number and cube numbers. • I can solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.

A.M	Unit	Hours	Domain	Y5 National Curriculum Objectives	Learning journey - 'I can…' statements
	5.18	10	Four Operations and Measurement	• Convert between different units of metric measure (e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre). • Understand and use equivalences between metric units and common imperial units such as inches, pounds, pints. • Solve problems involving converting between units of time. • Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres. • Use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling. • Read, write, order and compare numbers with up to three decimal places. • Read and write decimal numbers as fractions (e.g. $0.71 = \frac{71}{100}$). • Round decimals with two decimal places to one decimal place and to the nearest whole number. • Calculate and compare the area of rectangles (including square) and including standard units square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes. • Estimate volume (e.g. using $1cm^3$ blocks to build cubes and cuboids) and capacity (e.g. using water). • Complete, read and interpret information in tables, including timetables.	• I can estimate and convert units of measure. • I can relate fraction and decimals with measure. • I can solve problems involving measure including scaling. • I can solve problems in the context of measure. • I can calculate the area and perimeter of a range of rectangles. • I can estimate the volume. • I can read and interpret information in timetables.
Summer Holidays					

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