Area of Curriculum	Mathematical Stories:	
	Disciplinary	**Substantive**
Number and Place Value	• Read and write numbers up one thousand. • Be able to identify the value of any digit up to a thousand, including being able to label the columns of such a number. • Be able to partition numbers up to 1000 and apply partitioning related to place value using varied and increasingly complex problems, building on work in year 2 (for example, 146 = 100 + 40 + 6, 146 = 130 +16). • Order and compare numbers up to 1000, using > and < signs. • Count forwards or backwards by powers of 10 up to 1000 (10, 100). • Be able to plot numbers up to 1000 on number lines with different scales. • Identify, represent and estimate numbers using different representations. • Solve written, numerical, and practical problems involving the information and knowledge included in this unit. • Be able to count in multiples 2, 3, 4, 5, 8, 10, 50 and 100.	**Knowledge** • Know that each column increases by a power of 10. • Know that number have the following columns: Hundreds, Tens, Ones. **Vocabulary** • Powers of 10 • Columns • Greater than • Less than • Partition • Integer • Digit

Area of Curriculum	Mathematical Stories:	
	Disciplinary	**Substantive**

Four Operations	• Add and subtract numbers mentally (including two digits add two digit) using the follow methods:
	  ○ Partitioning the smaller number,
	  ○ Compensating,
	  ○ Bridging.
	NB: For assistance in these methods, please refer to the video: https://www.youtube.com/watch?v=-18qLbg1Gmk
	• Add and subtract numbers mentally, including:
	  ○ a three-digit number and 1s (e.g. 205 + 7)
	  ○ a three-digit number and 10s (e.g. 205 + 70)
	  ○ a three-digit number and 100s (e.g. 205 + 700)
	• Add integers (up to and including) three digits, using column addition.
	• Identify missing numbers in given column addition of the type mentioned above.
	• Subtract integers (up to and including) three digits, using column subtraction.
	• Identify missing numbers in given column subtraction of the type mentioned above.
	• Estimate the answer to a calculation and use inverse operations to check answers
	• Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.
	• Use the concepts of arrays to conceptually understand how to multiply numbers.
	• Recall and use multiplication and division facts for the 3, 4, 6, 8, and 11 multiplication tables.
	• Use the above facts to solve questions including multiples of ten, for example if 3 x 4 = 12, then 30 x 40 = 1200, or 1200 ÷ 3 = 400.
	• Be able to multiply 3 numbers.
	• Multiply numbers up to 1000 by a single digit, using a formal written method.
	• Be able to divide numbers up to 50 (or in the above-mentioned times tables) by a single digit (without remainder) using a variety of methods including sharing circles, numicon, and by recognising that division is the inverse of multiplication.
	• Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.
		Knowledge
		• Know that there are different words for addition and subtraction.
		• Know that subtraction and addition are inverses of one another.
		• Know that addition is commutative, but subtraction is not.
		• Know that addition is associative.
		• Know that anything multiplied by 0 = 0.
		• Know that anything multiplied or divided by 1 = itself.
		• Know that multiplication is communitive and associative.
		• Know the 2, 3, 4, 5, 6, 8, 10, 11 times tables.
		Vocabulary
		• Integer,
		• Difference,
		• Subtract,
		• Minus,
		• Total,
		• Sum,
		• In addition,
		• Communitive,
		• Associative,
		• Multiply,
		• Groups of/ Lots of,
		• Arrays,
		• Division.

Area of Curriculum	Mathematical Stories:	
	Disciplinary	**Substantive**
Fractions, decimals, and Percentages	• Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. • Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators. • Estimate where fractions belong on a number line between 0 and 1, accurately placing ¼, 1/2, ¾. • Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10. • Recognise that we can denote tenths in decimal form. • Add and subtract numbers up to 1000 with 1 decimal place. • Add and subtract fractions with the same denominator within one whole [for example, 5/7 + 1/7 = 6/7]. • Compare and order unit fractions. • Compare and order fractions with the same denominators. • Recognise and show, using diagrams, equivalent fractions with small denominators, such as ½ = 2/4 • Solve problems that involve all of the above.	**Knowledge** • Know that the top of a fraction is referred to as a numerator, and tells us how many parts of the whole the fraction refers to. • Know that the bottom of a fraction is referred to as a denominator, and tells us how many parts the whole the fraction has been divided into. • Know that different fractions can represent the same amount (equivalent fractions). • Know that fractions and decimals are different ways of representing the same amount. • Know that the larger the denominator of a unit fraction, the smaller the value. **Vocabulary** • Numerator, • Denominator, • Whole, • Decimal places, • Tenths

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<tr><th>Area of Curriculum</th><th colspan="2">Mathematical Stories:</th></tr>
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<tr><td>Measure</td><td>

Convert between different units of measure using the facts listed in the substantive knowledge section (not including decimals).
Compare different lengths, masses, and quantities, including where two numbers may have different units, requiring conversion.
Add and subtract different lengths, masses, and quantities.
Be able to measure length using an appropriate piece of equipment, such as a ruler or trundle wheel.
Be able to read scales when measuring mass or liquid quantity.
Use squares to measure the perimeter of rectangles.
Use measuring to find the perimeter of simple shapes.
Calculate the perimeter of simple shapes, when given the measurements of edges.
Be able to add and subtract amounts of money, with specific focus on giving change, using £ and p in practical contexts.
Be fluent in calculating amounts from coins and making amounts with coins.
Tell and write the time from an analogue clock, including where roman numerals are used.
Tell and write the time from a digital clock, using the 12-hour and 24-hour clock.
Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours.
Compare duration of tasks.

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Knowledge

Know that there are 1000 grams in a kilogram.
Know that there are 1000 ml in a litre.
Know that there are 10 mm in a cm.
Know that there are 100 cm in a m.
Know that there are 1000m in a km.
Know that there are 60 minutes in an hour.
Know that there are 60 seconds in a minute.
Know that there are 100p in a £.
Know that the perimeter of a shape is the sum of the length of the outside edges.
Know that there are 12 months in a year.
Know how many days each month contains.

Vocabulary

grams/ kilograms
millilitres/ litres
millimetre/ centimetre/ metre/ kilometre
conversion
ruler
perimeter
area
midnight
scale
weight/ mass
capacity
volume
minutes
hours
o’clock
am/pm
noon

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Area of Curriculum	Mathematical Stories:	
	Disciplinary	**Substantive**
Geometry	• Identify a range of polygons and be able to describe them using the language of vertices and edges. (Square, Oblong (noting that rectangle is often used to describe this shape), Circle (infinite edges and vertices), Triangle, Rhombus, Parallelogram, Trapezium, Pentagon, Hexagon, Heptagon, Octagon). • Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them. • Recognise angles as a property of shape or a description of a turn. • Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn. • Identify whether angles are greater than or less than a right angle, and describe these as either acute or obtuse. • Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.	**Knowledge** • Know that vertices are the corners of a shape. • Know that edges are the **straight** lines in a shape. • Know that right angle is exactly 90 degrees. • Know that an angle less than a right-angle is called acute. • Know that an angle greater than a right-angle and less than a straight line is called obtuse. • Know that parallel lines stay the same distance apart at all points, and never touch. • Know perpendicular lines meet at a right-angle. **Vocabulary** • Right-angle, • Vertex, • Edge, • Face, • Parallel, • Perpendicular, • Horizontal, • Vertical.

Area of Curriculum	Mathematical Stories:	
	Disciplinary	**Substantive**
Statistics	• Interpret from, and present data in, a table. • Interpret from, and present data in, a pictogram, using scales of 1, 2, 5, and 10. • Interpret from, and present data in, a bar chart, using scales of 1, 2, 5, and 10. • Solve one and two step questions using data, such as “how many more?” and “How much altogether?”.	**Knowledge** **Vocabulary** • Scale, • Bar chart, • Pictogram, • Table, • Unit.