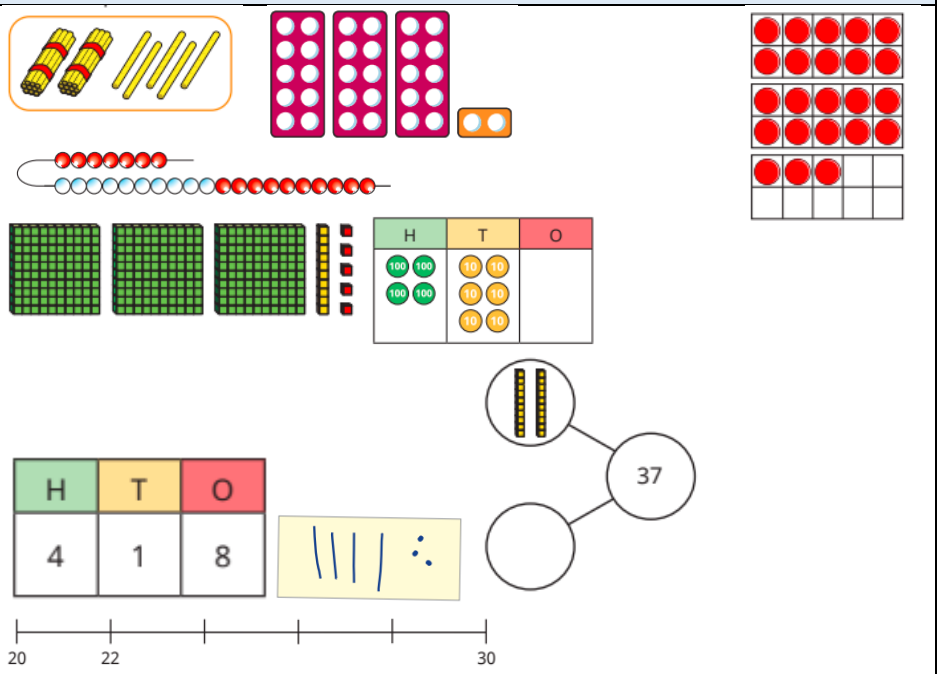
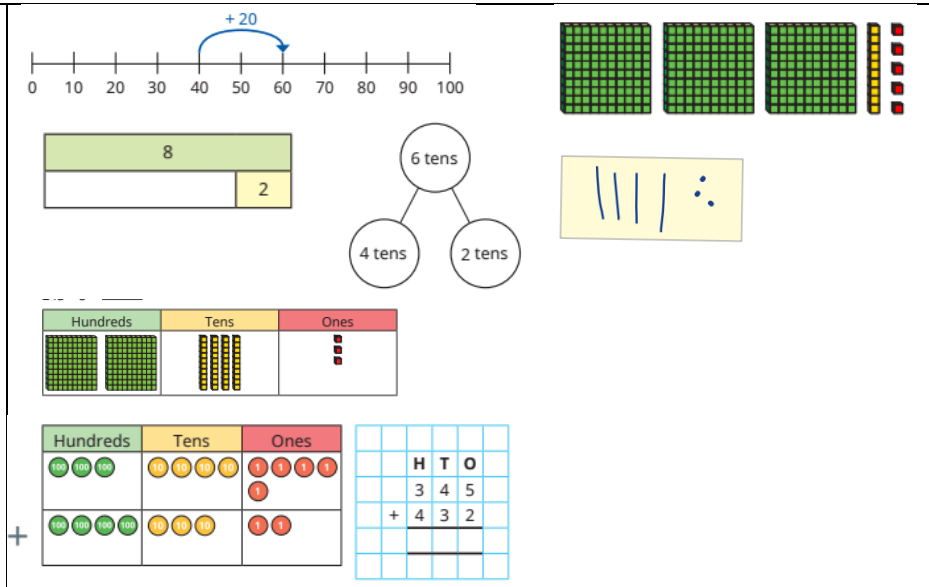
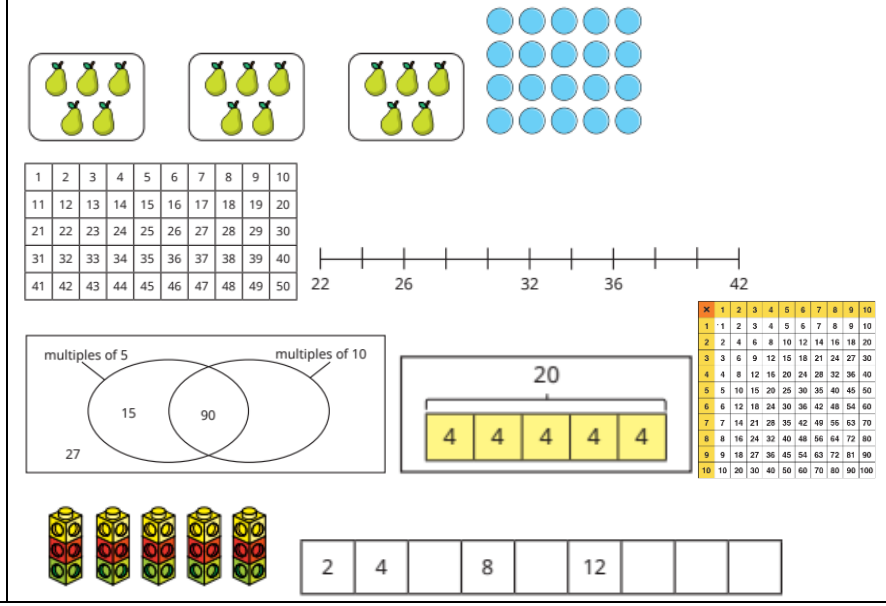
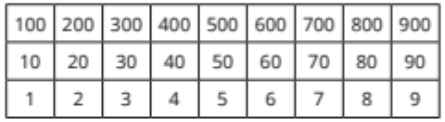
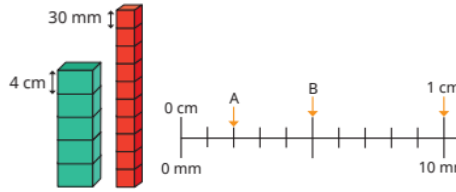
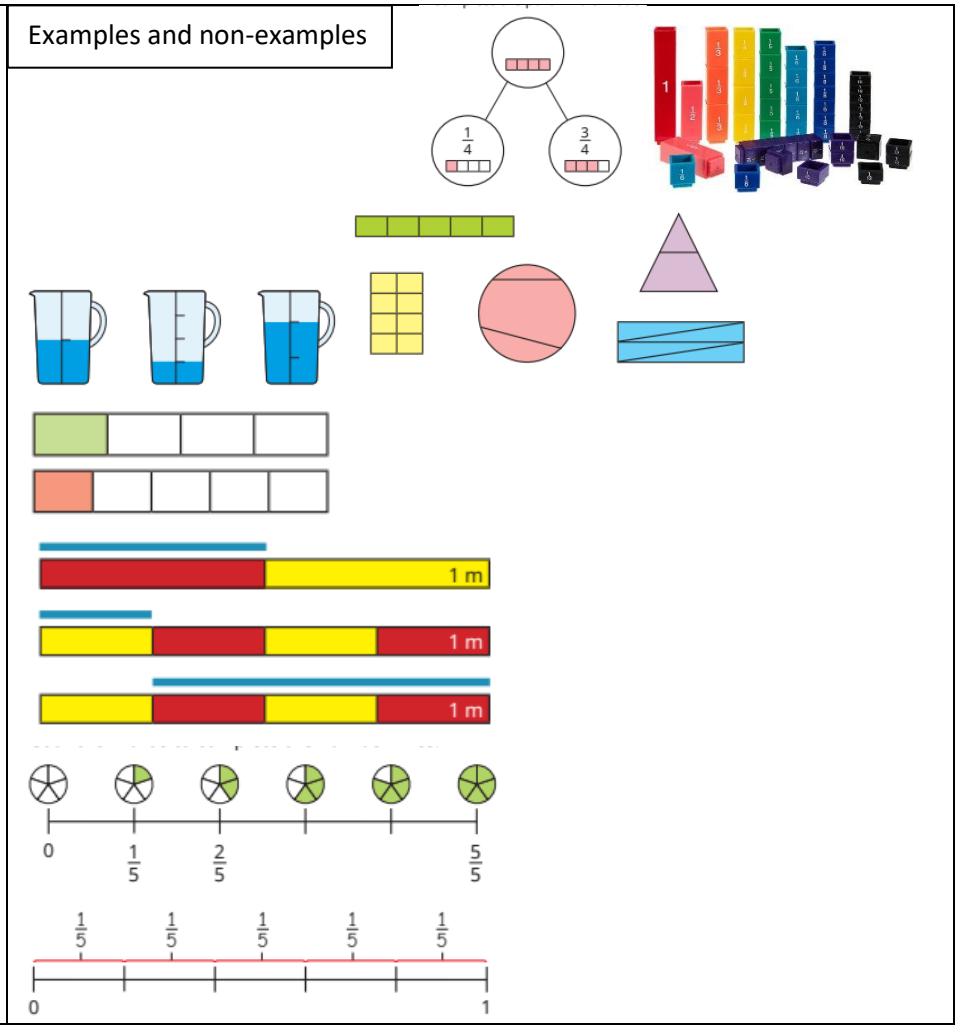
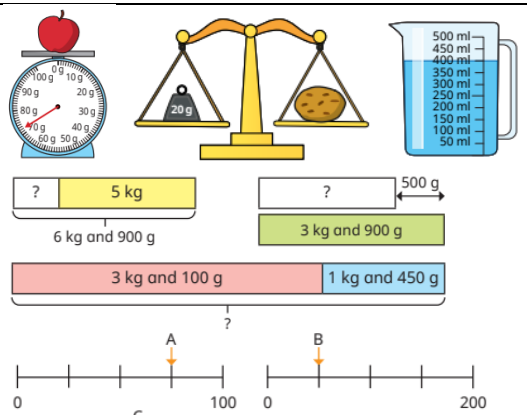
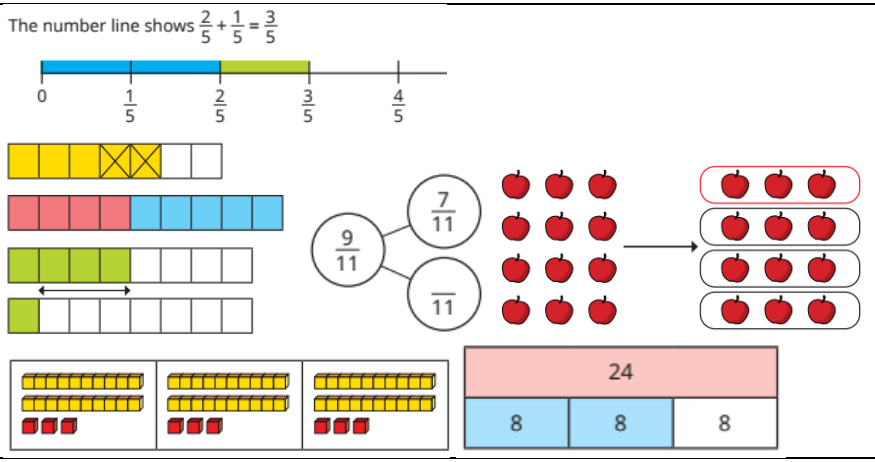
BJS Maths Curriculum

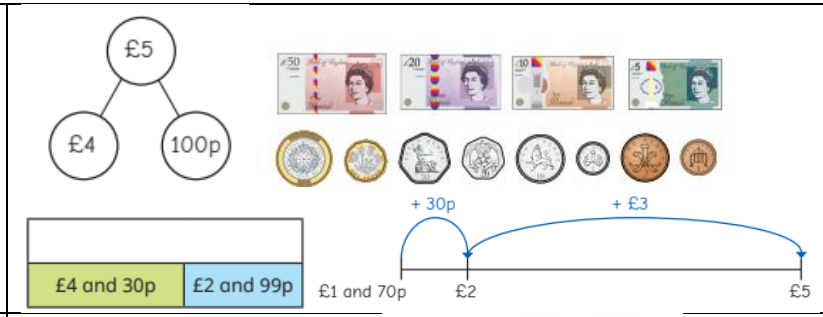
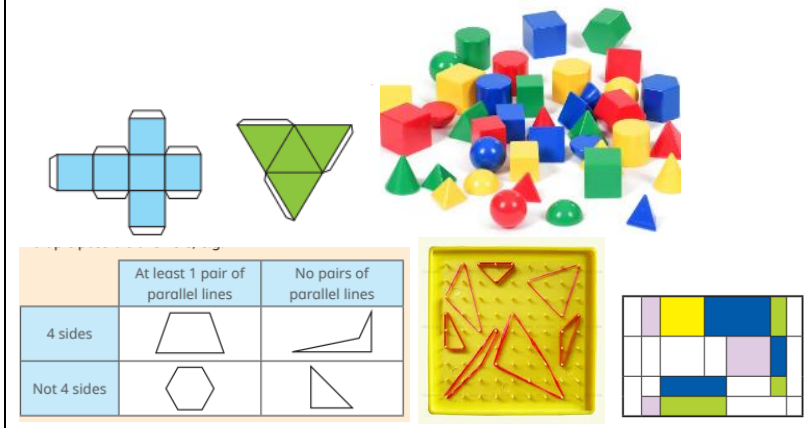
Term & Topic	Topics	Vocabulary	Skills/knowledge	Manipulatives/ representations
Year 3				
Autumn	Place value	- place value - place holder - ones - tens - hundreds - thousands - estimate - partition - whole - part - number line - intervals - exchange - value - digit - equal to - more than/greater than - less than - smallest - greatest	• To be able to develop a secure understanding of numbers to 1,000. • To be able to count in 50s • To understand number lines to 1,000	

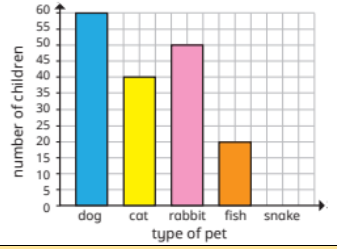
	Addition and subtraction	(see key vocab for 'place value autumn') - column - addition - subtraction - plus - minus - sum - minuend - subtrahend - addend - difference - inverse - multiple	• To be able to add and subtract 2 to digit from 3 digit numbers involving exchange. • To understand inverse • To be able to estimate answers	
	Multiplication and division	- multiplicator - multiplicand - product - equal groups - multiply - repeated addition - times - multiple - lots of - triple - double - divide - dividend - quotient - divisor - share - array	• To know 2,5,10s times tables (recapped from year 2) • To be able to multiply and divide by 3 • To be able to multiply and dividing by 4 • To be able to multiply and divide by 8 • To know multiplication facts for 3,4,6 and 8 times tables.	

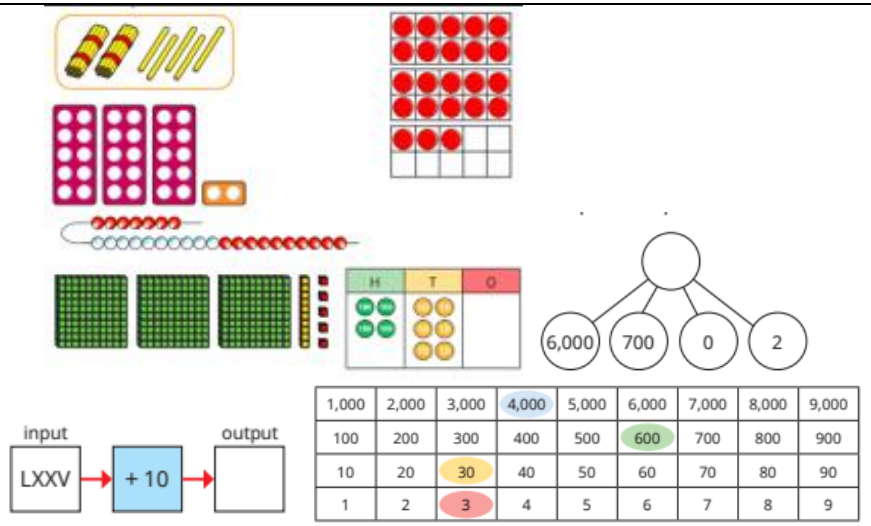
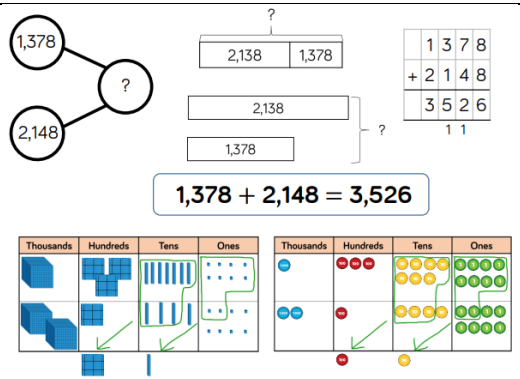
Spring	Multiplication and division	(See key vocab for 'autumn – multiplication and division') - Scaling - Gattegno chart - remainder - combinations - possibilities	• To be able to multiply by 10 • To be able to multiply a 2- digit and 1-digit number with exchange • To be able to divide a 2-digit number by a 1-digit number with remainders • To understand Scaling • To understand combinations – How many ways?	(See key representations for 'autumn – multiplication and division')   
	Length and perimeter	- equivalent - measure - centimetre - millimetre - meter - perimeter - sides - length - meter stick - trundle wheel - ruler - distance - intervals - unit of measurement	• To be able to measure in mm, cm and m. • To be able to convert between cm and mm. • To be able to add and subtract lengths. • To be able to measure and calculate perimeter.	   

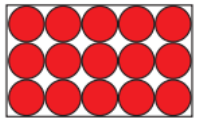
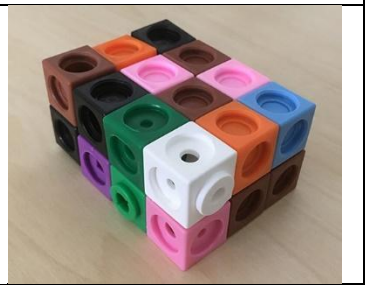
	Fractions	- fraction - denominator - numerator - equal parts - whole - half - quarter - third - fifth - unit fraction - non- unit fraction - divide - scale - intervals - equivalent	• To understand numerators and denominators • To understand unit and non-unit fractions • To be able to compare and order fractions • To understand fractions and scales • To understand fractions on a number line • To understand equivalent fractions	Examples and non-examples 

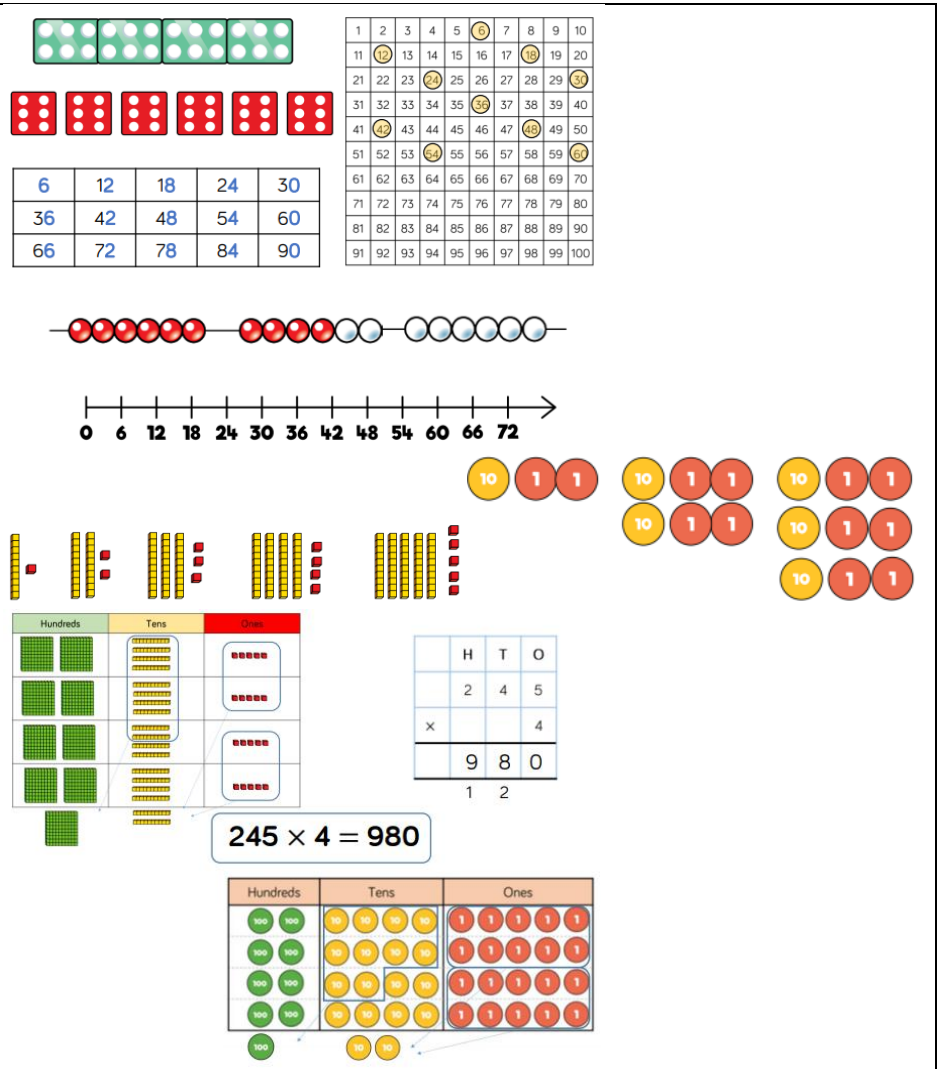
	Mass and capacity	- mass - capacity - volume - scales - litres - millilitre - kilogram - gram - intervals - equivalent	• to understand scales split into 2/4/5/10. • To be able to measure mass • To be able to compare mass • To be able to add and subtract mass • To be able to measure capacity and volume • To be able to compare capacity and volume. • To be able to add and subtract capacity and volume.	
Summer	Fractions	(See key vocab for 'Spring -fractions)	• To be able to add and subtract fractions. • To understand unit and non-unit fractions of amounts.	

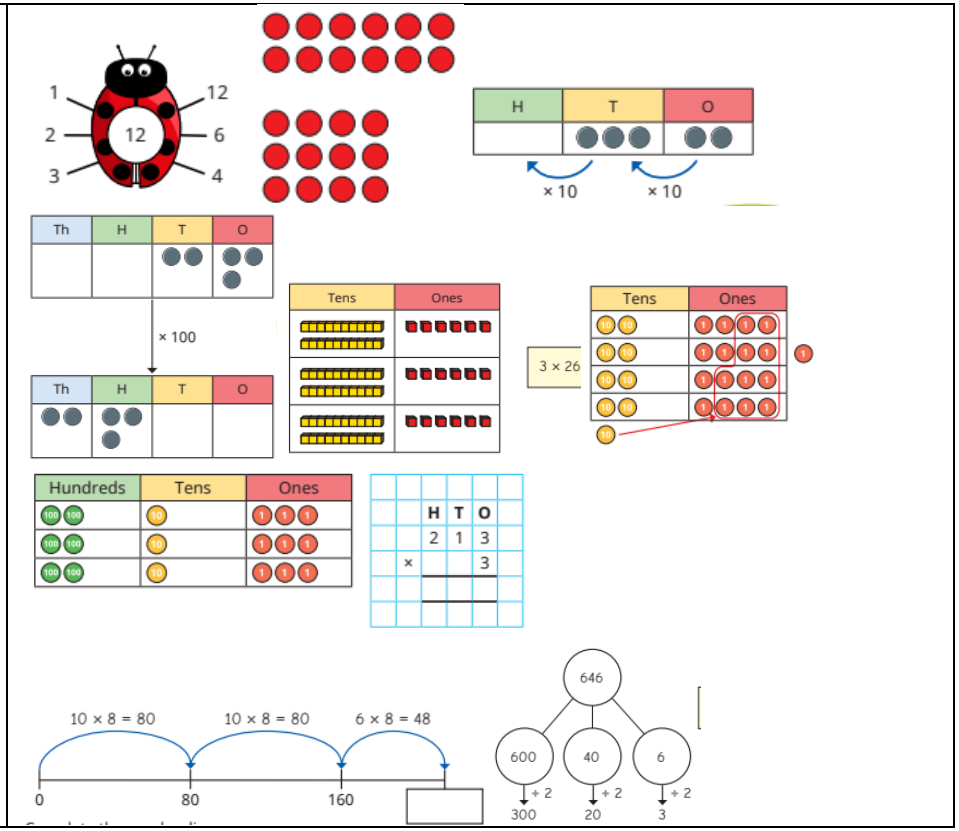
	Money	- £ - pounds - P – pence - value - coins - notes - change - exchange - equivalent	• To know pounds and pence • To be able to add money • To be able to subtract money • To be able to find change	
	Shape (moved earlier in scheme of learning)	- clockwise - anti-clockwise - full turn - quarter turn - compass - north - south - east - west - right angle - horizontal - vertical - parallel - perpendicular - obtuse - acute - lines of symmetry - properties - polygon - vertex - sides - vertices - edge - curved surface - nets	• to understand turns and angles • To know horizontal and vertical • To know parallel and perpendicular • To be able to recognise and describe 2D and 3D shapes • To be able to draw polygons	

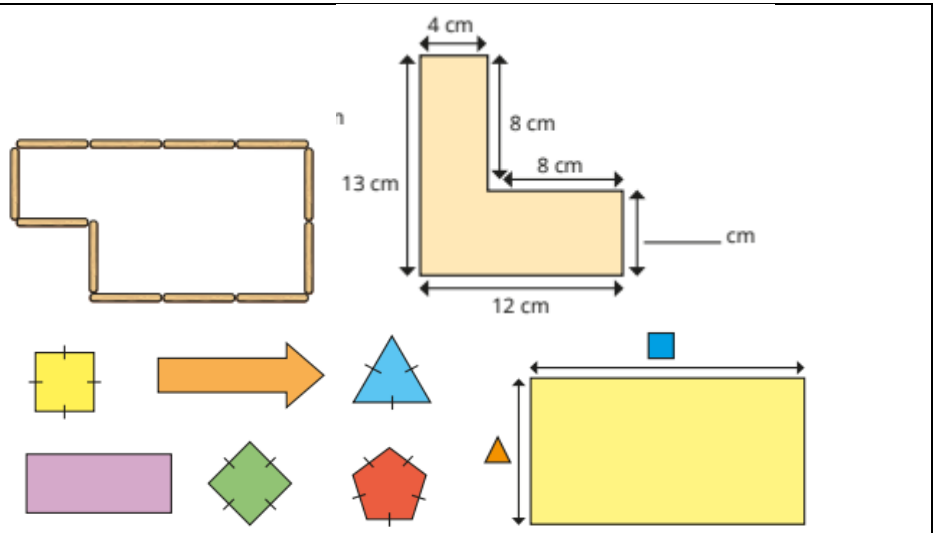
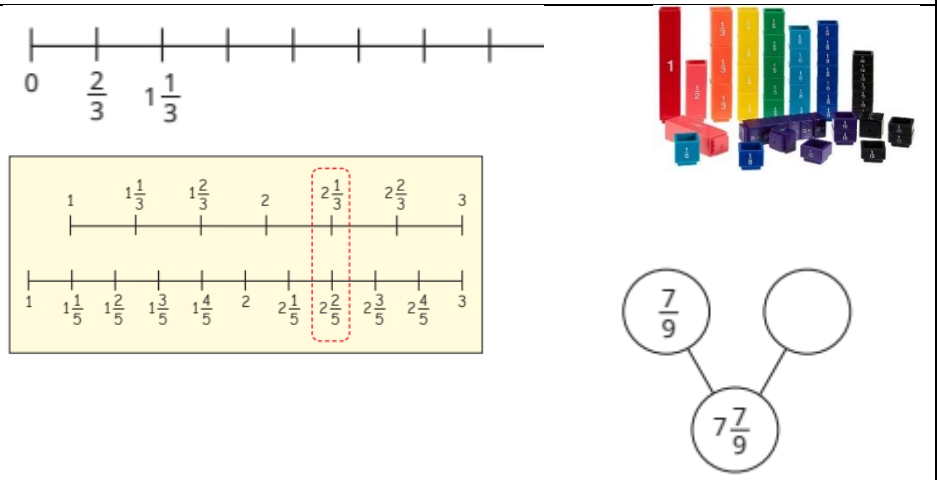
	Time	- Roman numeral - hour - minute - second - hour hand - minute hand - past the hour - to the hour - half past - quarter to - quarter past - digital - analogue - leap year - duration - clockwise - anti-clockwise	• To know Roman numerals to 12. • To be able to tell the time to 1 minute • To be able to use am and pm • To understand years, months, days • To understand duration • To understand minutes and seconds • To understand units of time • To be able to problem solve involving time	 July Monday Tuesday Wednesday Thursday Friday Saturday Sunday 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
	Statistics	- pictogram - bar chart - axis - key - symbol - scale - data - column - row	• To be able to interpret and draw pictograms • To be able to interpret and draw bar charts • To be able to collect and represent data • To understand two way tables	Sport / Tally / Total football 𝍸 𝍸 𝍸 15 tennis 𝍸 𝍸 𝍸 | rugby 𝍸 𝍸 𝍸 ||| cricket 𝍸 𝍸 || basketball 𝍸 ||| Group / Number of cupcakes eaten 1 2 3 4 Key = 5 cupcakes 
Year 4				

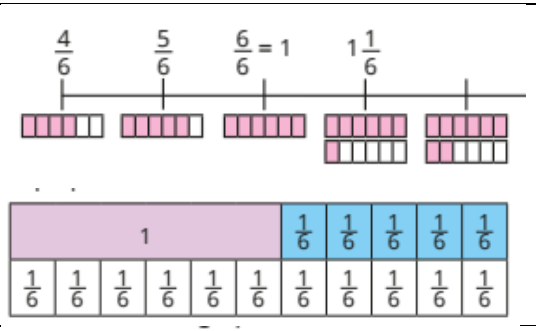
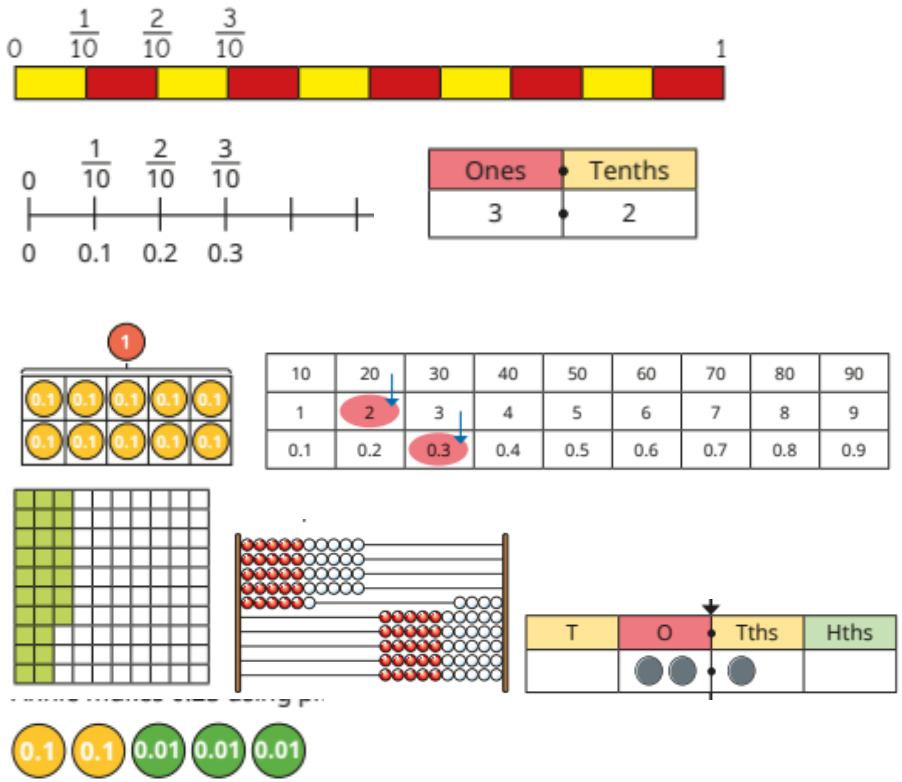
Autumn	Place value	- place value - place holder - ones - tens - hundreds - thousands - estimate - partition - whole - part - number line - intervals - exchange - value - digit - equal to - more than/greater than - less than - smallest - greatest	• To be able to represent numbers to 10,000 • To be able to find up to 1,000 more or less • To be able to compare and order numbers to 10,000 • To understand Roman numerals • To be able to round to the nearest 10, 100 or 1,000	
	Addition and subtraction	(see key vocab for 'place value autumn') - column - addition - subtraction - plus - minus - sum - minuend - subtrahend - addend - difference - inverse	• To be able to add and subtract two, 4 digit numbers with at least one exchange. • To be able to estimate answers	

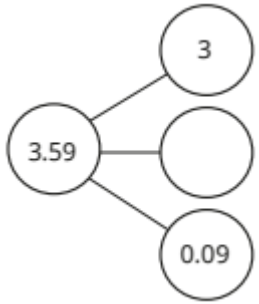
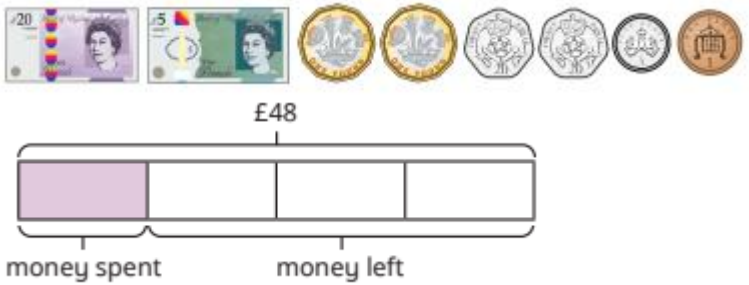
		- multiple		
	Measurement	- area - unit of measure - surface - rhombus - systematically	• To understand area by count squares. • To be able to make shapes • To be able to compare areas	  

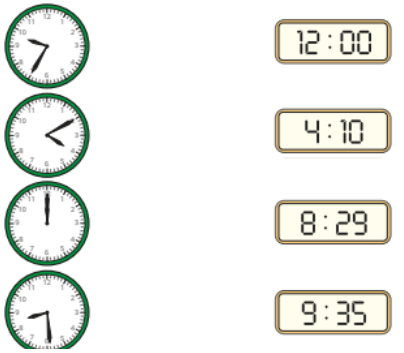
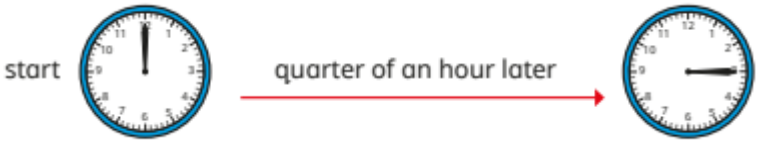
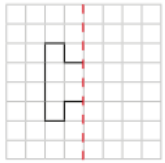
	Multiplication and division	- Odd - Even - multiplicator - multiplicand - product - equal groups - multiply - repeated addition - times - multiple - lots of - divide - dividend - quotient - divisor - share - commutative	• To know the multiples of 3,6 and 9 • To be able to multiply and divide by 7 • To be able to multiply and divide by 11 • To be able to multiply and divide by 12 • To be able to divide by 1 and the number itself • To be able to multiply by 3 numbers	

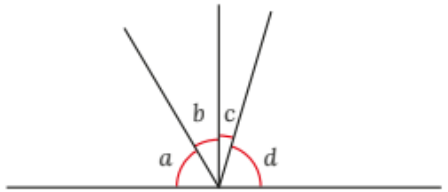
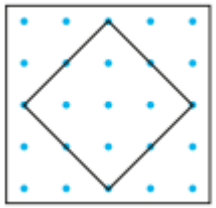
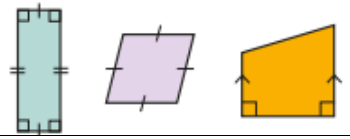
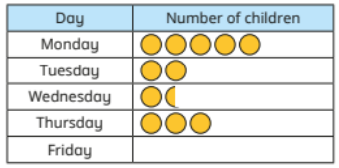
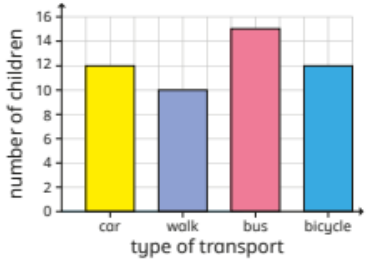
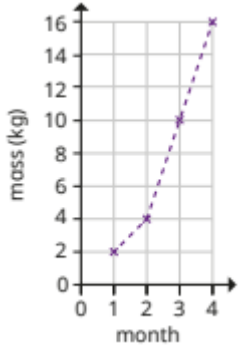
Spring	Multiplication and division	(see Multiplication and division – Autumn) - factor - factor pair	• To be able to use factor pairs • To be able to multiply and divide by 10 and 100 • To understand informal written methods for multiplication • To be able to multiply a 3-digit number by a 1-digit number • To be able to divide a 2-digit number by a 1-digit number • To understand combinations • To know efficient methods	

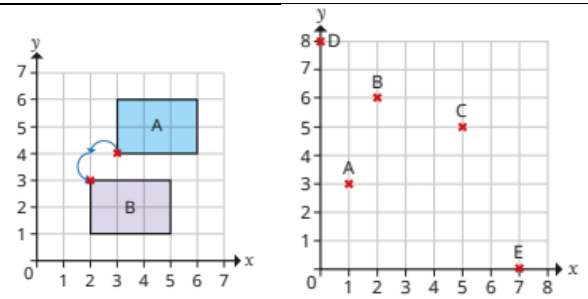
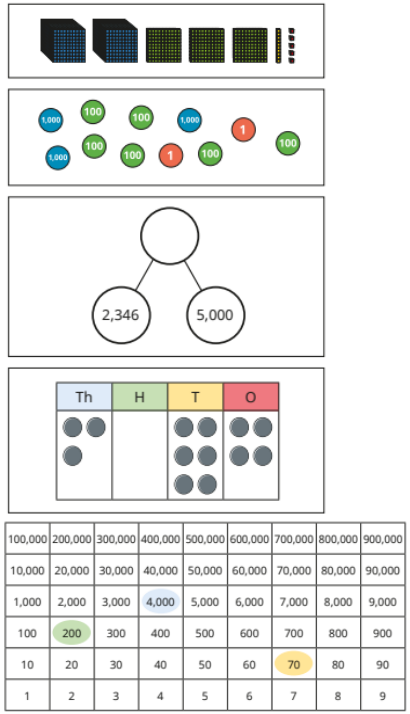
	Length and perimeter	- equivalent - measure - centimetre - millimetre - meter - perimeter - sides - length - meter stick - trundle wheel - ruler - distance - intervals - unit of measurement - regular polygon	• To be able to measure in KM an M • To be able to find equivalent lengths • To be able to measure perimeter including missing lengths	
	Fractions	- fraction - denominator - numerator - equal parts - whole - half - quarter - third - fifth - unit fraction - non- unit fraction - divide - scale - intervals - equivalent - fractional part - mixed number	• To be able to partition a mixed number • To understand number lines with mixed numbers • To be able to compare and order mixed numbers • To be able to convert between mixed numbers and improper fractions • To be able to find equivalent fractions • To be able to add and subtract fractions including mixed numbers.	

		- improper fraction - integer - tenth - hundredth		
	Decimals	- tenths - hundredth - place value - value - decimal point - interval - partition - part - whole	• To understand tenths and hundredths as decimals and fractions • To be able to divide a 2 digit number by 10 and 100	

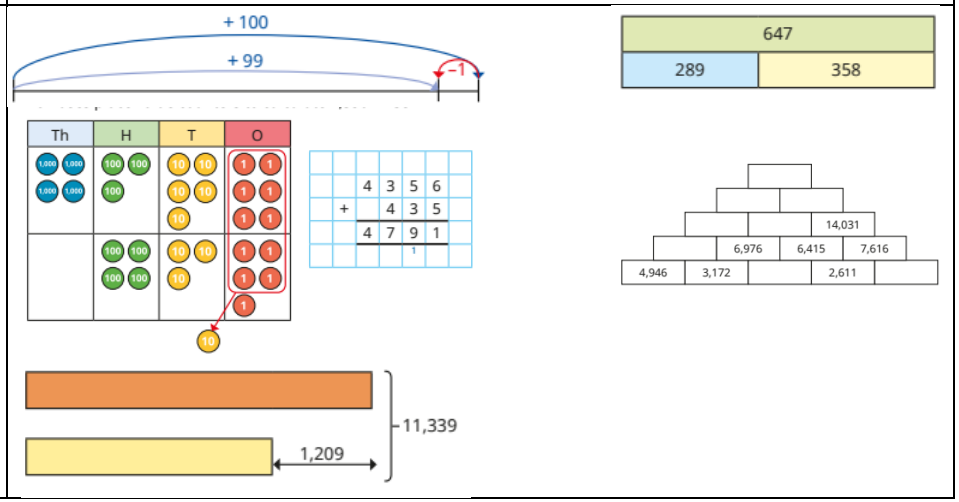
Summer	Decimals	- tenths - hundredth - place value - value - decimal point - interval - partition - part - whole - round	• To be able to make a whole with tenths and hundredths • To be able to compare and order decimals • To be able to round to the nearest whole number • To understand halves and quarters as decimals	 See representations for 'Year 4 Decimals Spring'
	Money	- pounds - pence - hundredths - decimals - total - partition - convert - ascending - descending - estimate - approximately	• To be able to write money using decimals • To be able to convert between pounds and pence • To be able to estimate with money • To be able to calculate with money • To be able to problem solve with money	

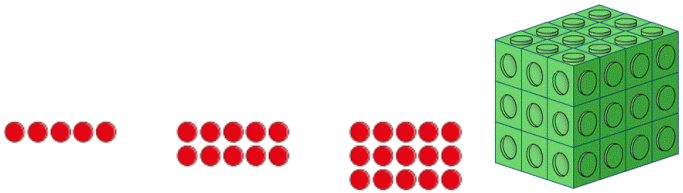
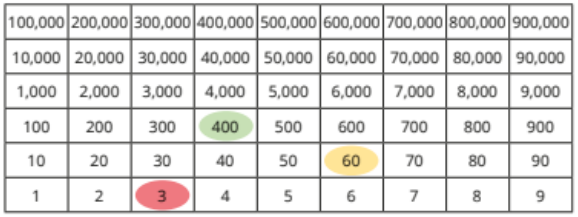
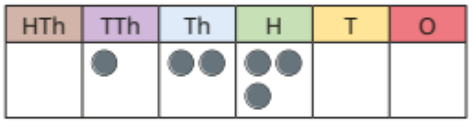
	Time	- digital - analogue - am - pm - leap year - approximately - start time - end time - duration -	• To know years, weeks, days, months • To know hours, minutes, seconds • To be able to convert between analogue and digital times • To be able to convert to and from the 24 hour clock	  12-hour time / 24-hour time 1:45 pm — 13:45 10:17 am — 22:17 8:39 pm — 20:39 5:09 am — 17:09
	Shape	- full turn - half turn - quarter turn - clockwise - anti-clockwise - right angle - obtuse angle - acute angle - equilateral - isosceles - scalene - quadrilaterals - polygons - parallel lines - regular - irregular - symmetry	• To understand angles and turns • To be able to identify, compare and order angles • To know the properties of shapes including quadrilaterals and polygons • To understand lines of symmetry	   1 line of symmetry / More than 1 line of symmetry Up to 4 sides More than 4 sides 

		- horizontal - vertical - vertex -		  
	Statistics	- data - scale - pictogram - represent - difference - sum - estimate - axis	• To be able to interpret charts • To understand comparison, sum and difference • To be able to interpret and draw line graphs	  

	Position and direction	- Translations - Coordinates - Axis - X axis - Y axis - Vertex - Pair of coordinates	• To be able to describe position using coordinates • To be able to plot coordinates • To be able to draw 2D shapes on a grid • To be able to translate and describe translations	
Year 5				
Autumn	Place value	- place value - place holder - ones - tens - hundreds - thousands - ten thousand - hundred thousand - million - estimate - partition - whole - part - number line - intervals - exchange - value - digit - equal to - more than/greater than - less than - smallest	• To know Roman numerals to 1,000 • To know and represent numbers to 1,000,000 • To be able to round to the nearest 10, 100 or 1,000	

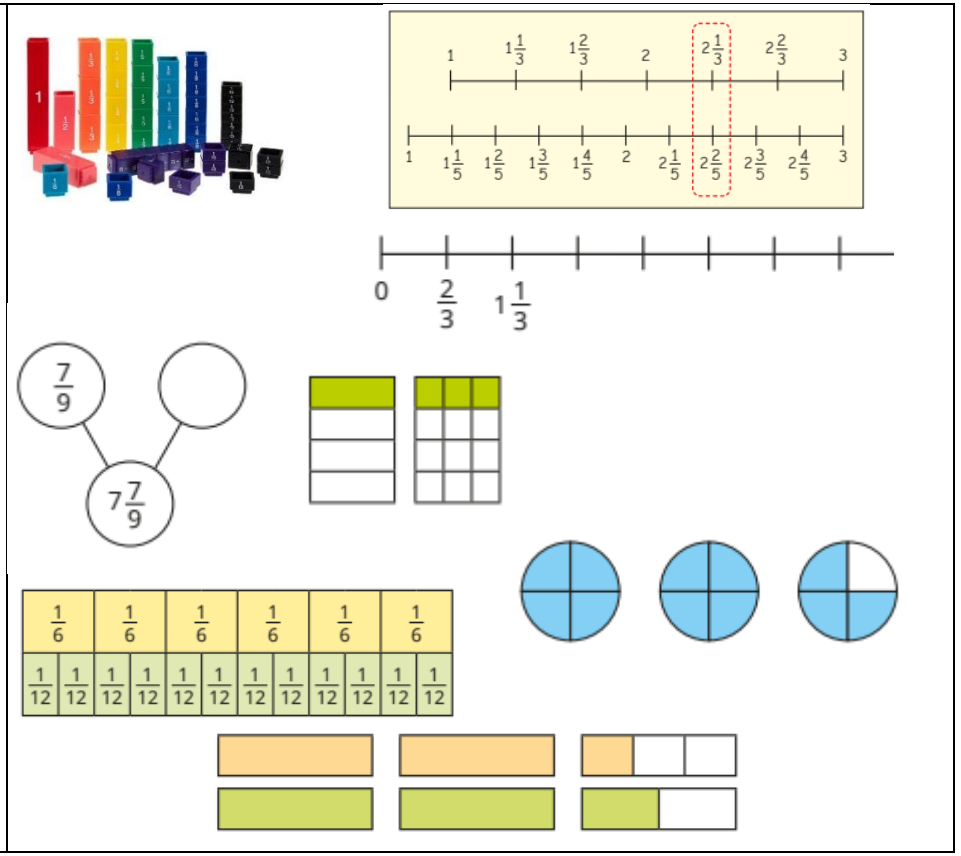
100,000	200,000	300,000	400,000	500,000	600,000	700,000	800,000	900,000
10,000	20,000	30,000	40,000	50,000	60,000	70,000	80,000	90,000
1,000	2,000	3,000	4,000	5,000	6,000	7,000	8,000	9,000
100	200	300	400	500	600	700	800	900
10	20	30	40	50	60	70	80	90
1	2	3	4	5	6	7	8	9

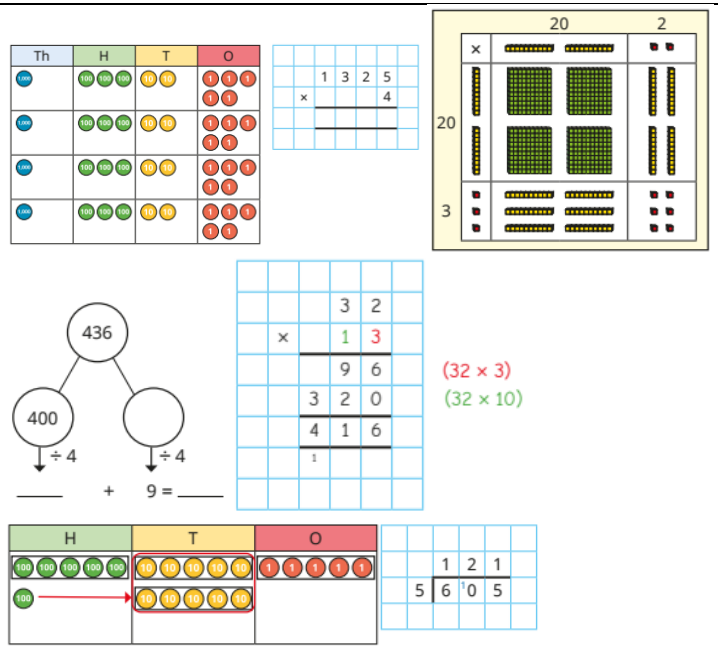
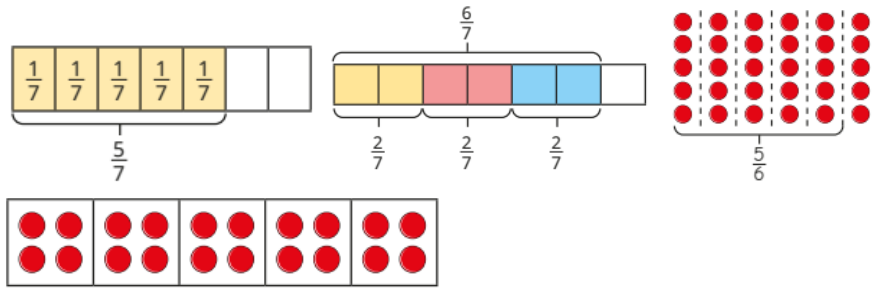
		- greatest - roman numeral - power of 10 - intervals		
	Addition and subtraction	(see key vocab for 'place value autumn') - Inverse - Total - Difference	• To be able to use mental strategies • To be able to add and subtract numbers with more than 4 digits • To be able to round to check answers • To understand inverse • To be able to find missing numbers	

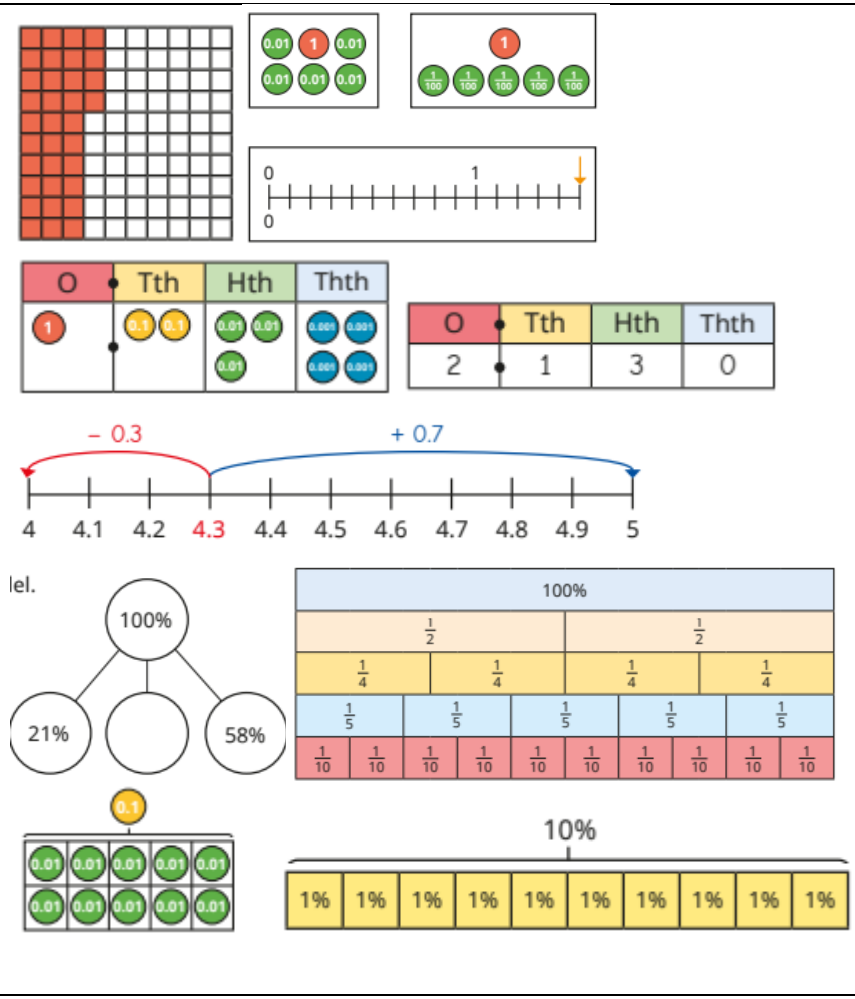
	Multiplication and division	- multiplicator - multiplicand - product - equal groups - multiply - repeated addition - times - multiple - lots of - divide - dividend - quotient - divisor - share - commutative - factor - factor pair - prime number - square number - cube number	• To know multiples and common multiples • To know factors and common factors • To know prime numbers • To know square numbers • To know cube numbers • To be able to multiply and divide by 10, 100 and 1,000 • To know multiples of 10, 100 and 1,000	  

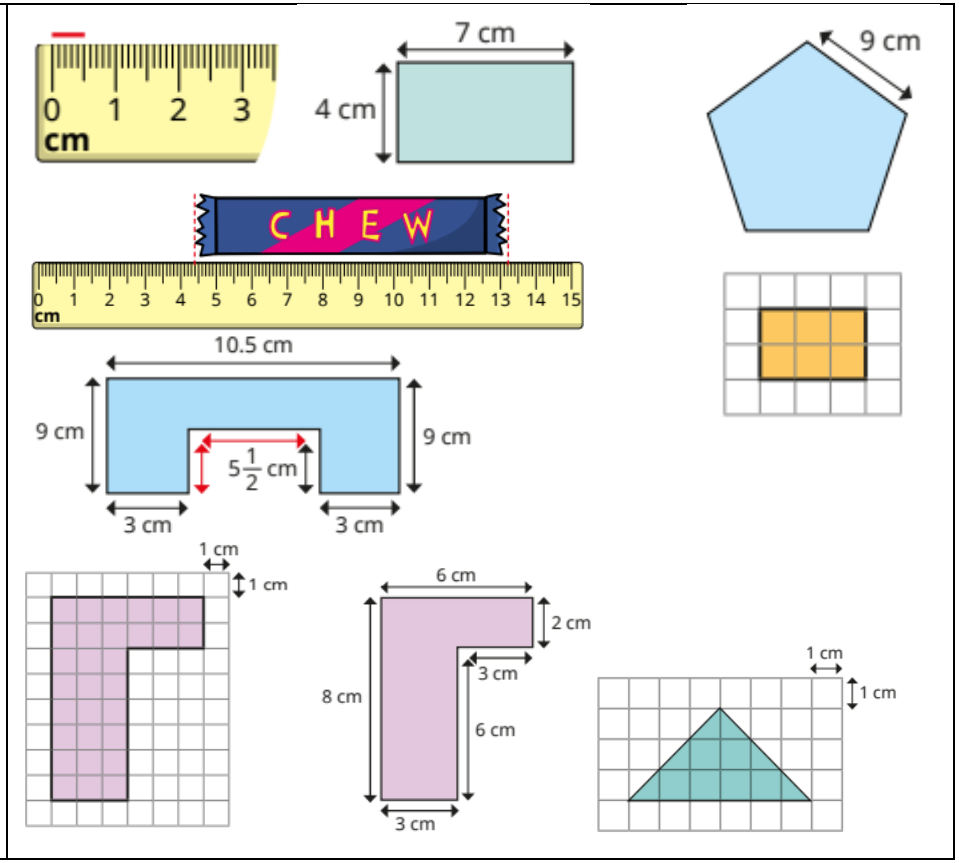
100,000	200,000	300,000	400,000	500,000	600,000	700,000	800,000	900,000
10,000	20,000	30,000	40,000	50,000	60,000	70,000	80,000	90,000
1,000	2,000	3,000	4,000	5,000	6,000	7,000	8,000	9,000
100	200	300	400	500	600	700	800	900
10	20	30	40	50	60	70	80	90
1	2	3	4	5	6	7	8	9

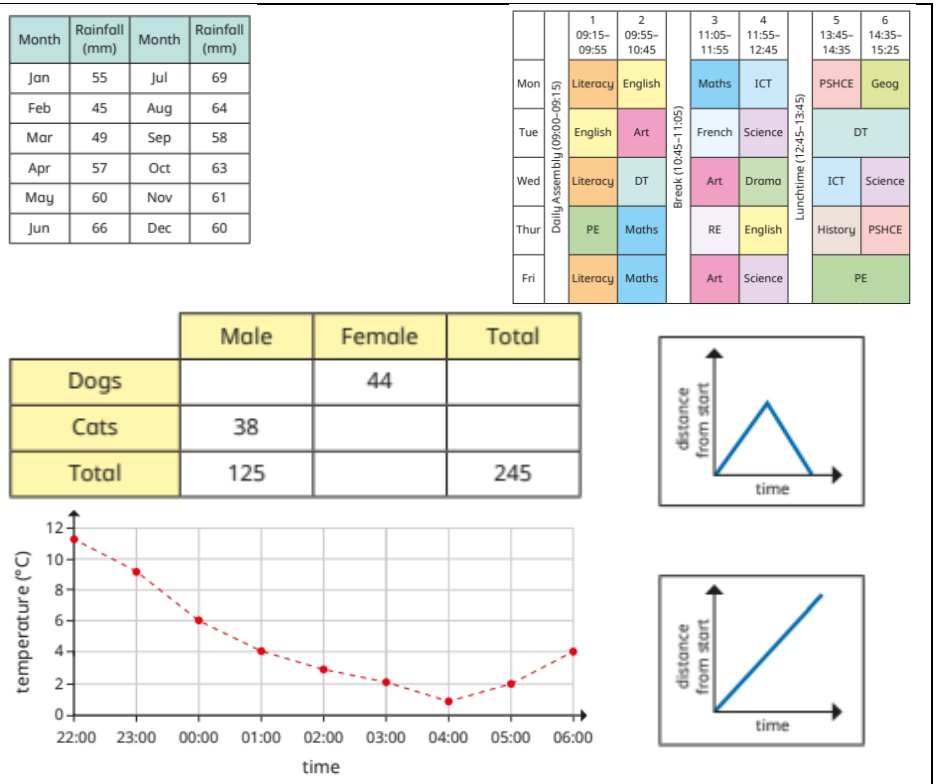
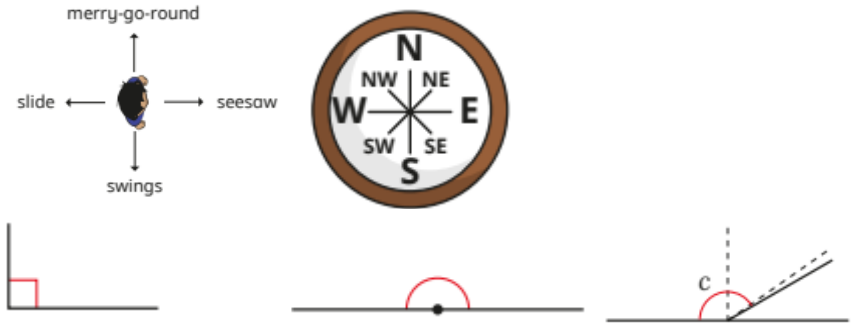
HTh	TTh	Th	H	T	O
	●	● ●	● ● ●		

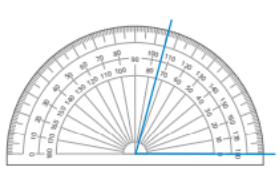
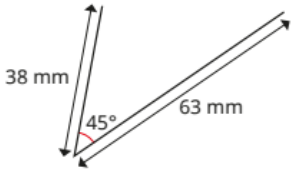
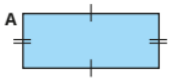
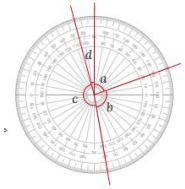
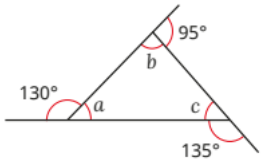
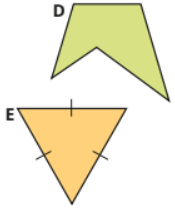
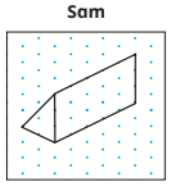
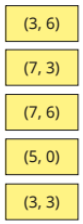
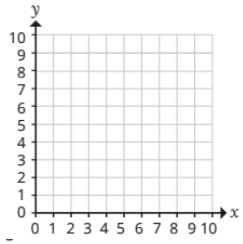
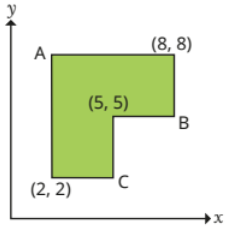
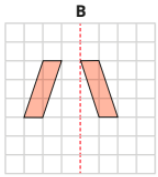
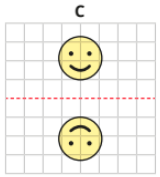
	Fractions	- fraction - denominator - numerator - equal parts - whole - unit fraction - non- unit fraction - divide - scale - intervals - equivalent - fractional part - mixed number - improper fraction - integer - tenth - hundredth - common denominator	• To be able to find and recognise equivalent fractions • To be able to convert between improper and mixed fractions • To be able to compare and order fractions • To be able to add and subtract fractions same denominators • To be able to add and subtract fractions different denominators • To be able to add and subtract fractions from a mixed number	

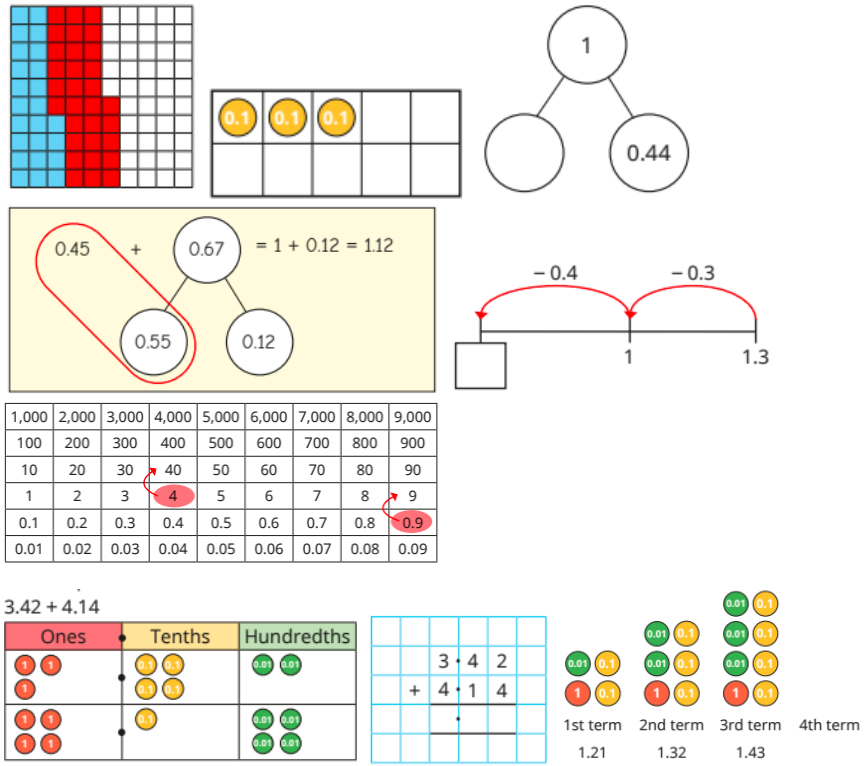
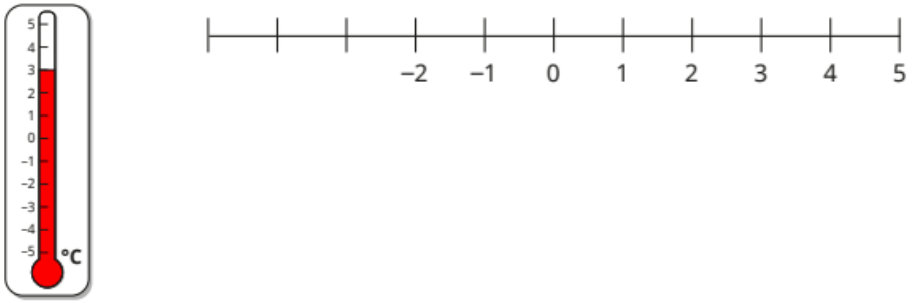
Spring	Multiplication and division	(See autumn – multiplication and division vocabulary) - short division - remainder	• To be able to multiply a 4-digit number by a 2-digit number. • To be able to complete short division with and without remainders • To be able to divide a 4-digit number by a 1-digit number	
	Fractions	(See autumn – fractions vocabulary) (see autumn and spring – multiplication and division vocabulary)	• To be able to multiply fractions by integers • To be able to multiply mixed numbers by integers • To be able to calculate fractions of amounts • To be able to use fractions as operators	

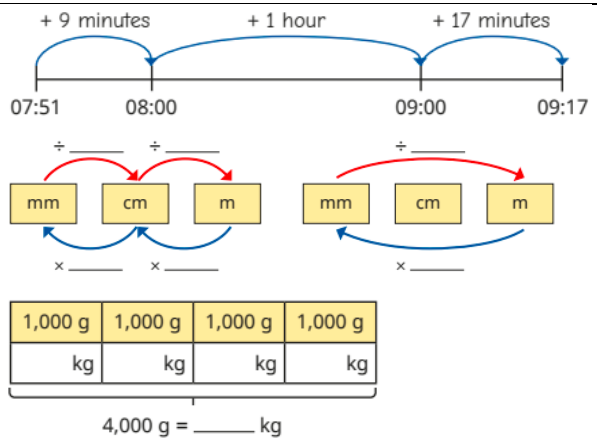
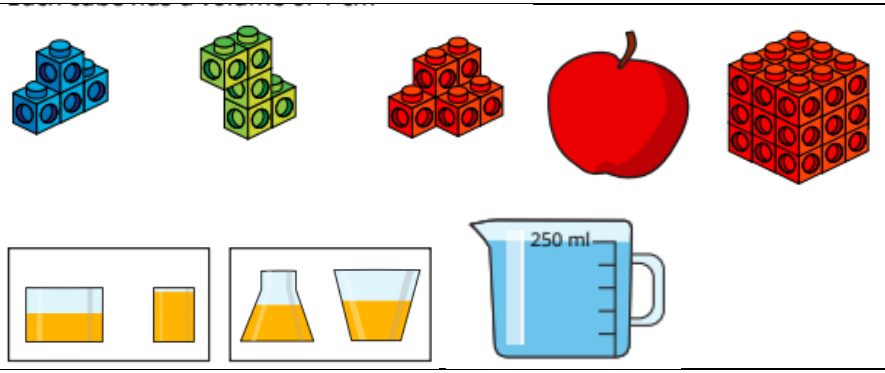
	Decimals and percentages	- tenths - hundredth - thousandth - place value - value - decimal point - interval - partition - part - whole - round - percentages - fraction - equivalent	• To understand decimals up to 2 decimal places • To understand equivalent fractions and decimals (tenths, hundredths) • To understand thousandths as fractions, decimals and on a place value chart • To be able to order and compare decimals • To be able to round to the nearest whole number • To be able to round to 1 decimal place • To understands percentages • To understand percentages as fractions and decimals • To understand equivalent fractions, decimals and percentages	

	Perimeter and area	- Perimeter - Length - Width - Area - Estimate - Rectangle - Polygon - Compound shape - Rectilinear shape - Square - Properties - Approximate	• To be able to work out the perimeter of rectangles • To be able to work out the perimeter of rectilinear shapes • To be able to wotk out the perimeter of polygons • To be able to calculate the area of rectangles • To be able to calculate the areas of compound shapes • To be able to estimate area	

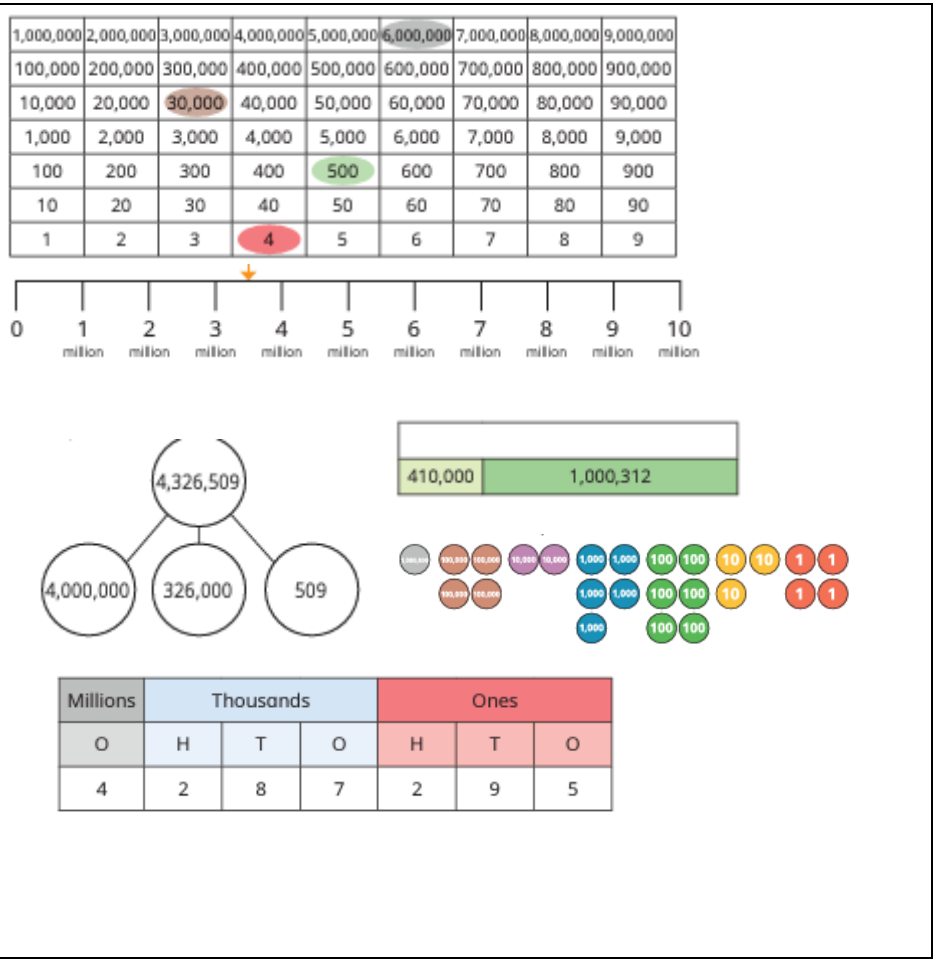
	Statistics	- Line graph - Axis - Vertical - Horizontal - Scale - Intervals - Data - Table - Difference - Column - Row - Value - Two-way table	• To be able to draw and interpret line graphs • To be able to read and interpret tables • To understand two way tables • To be able to read and interpret timetables	
Summer	Shape	- full turn - half turn - quarter turn - clockwise - anti-clockwise - right angle - obtuse angle - acute angle - equilateral - isosceles - scalene - quadrilaterals	• To understand and use degrees • To be able to classify and estimate angles • To be able to measure angles up to 180 • To be able to calculate angles around a point and on a straight line	

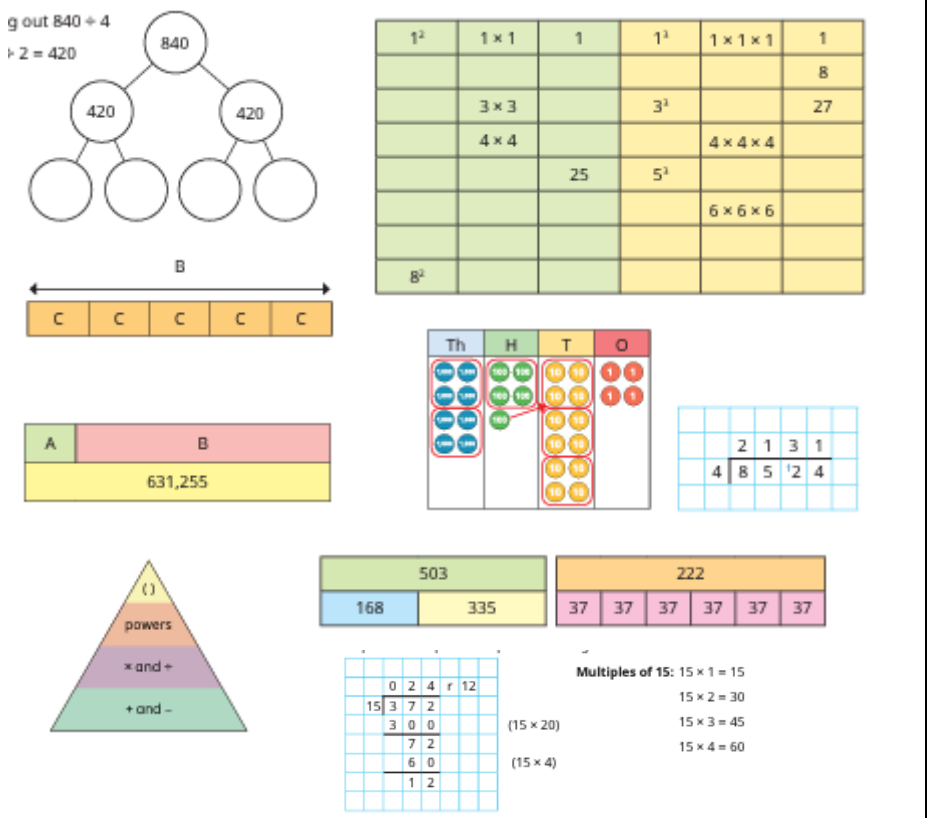
		- polygons - parallel lines - regular - irregular - symmetry - horizontal - vertical - vertex - protractor	• To be able to draw lines and angles accurately • To understand length and angles in shape • To understand regular and irregular polygons • To understand 3D shapes	       
	Position and direction	(see key vocab for – summer – shape) - Coordinates - Translation - Plot - Diagonal - Vertex	• To be able to read, plot and problem solve with coordinates • To understand translations • To understand translations with coordinates • To understand lines of symmetry • To understand reflection in horizontal and vertical lines	    

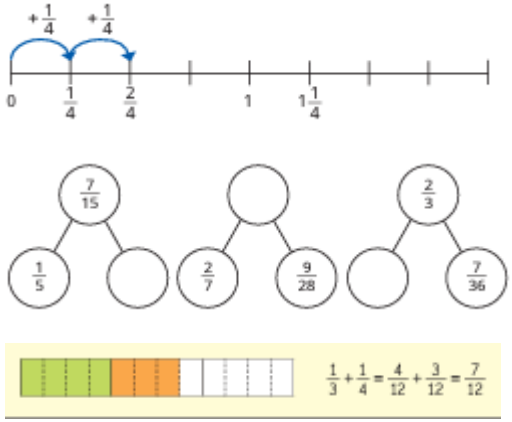
	Decimals	(see spring – decimals and percentages key vocabulary) - Sequence - Complements - term	• To be able to add and subtract decimals • To know complements to 1 • To understand decimal sequences • To be able to multiply and divide by 10, 100 or 1,000 • To be able to multiply and divide decimals (missing numbers)	 1,000 2,000 3,000 4,000 5,000 6,000 7,000 8,000 9,000 100 200 300 400 500 600 700 800 900 10 20 30 40 50 60 70 80 90 1 2 3 4 5 6 7 8 9 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 0.01 0.02 0.03 0.04 0.05 0.06 0.07 0.08 0.09
	Negative numbers	(see autumn – place value key vocab) - Negative number	• To understand negative numbers • To be able to count through zero • To be able to compare and order • To be able to find the difference	

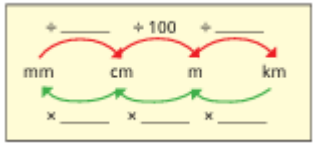
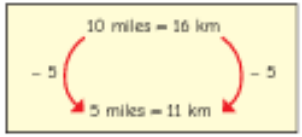
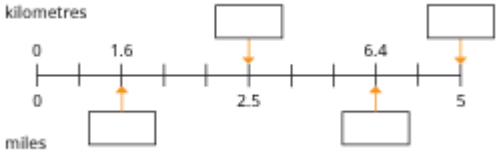
	Converting units	- Kilogram - Kilometre - Millilitre - Millimetre - Imperial - Metric - Inches - Pounds - Pints - Seconds - Minutes - Hours	• To understand kilogram and kilometres • To understand millimetres and millilitres • To be able to convert units of length and time • To be able to convert between imperial and metric units • To be able to calculate with timetables	
	Volume	- capacity - volume - scales - litres - millilitre - intervals - equivalent - cubic centimetre	• To know Cubic centimetres • To be able to compare volume • To be able to estimate volume • To be able to estimate capacity	

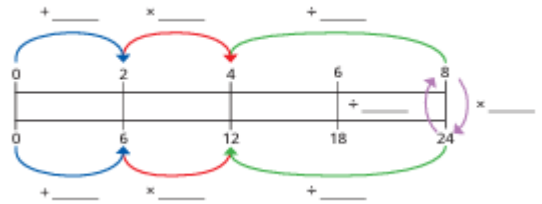
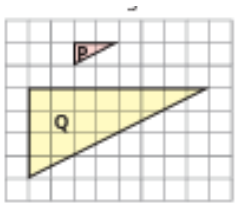
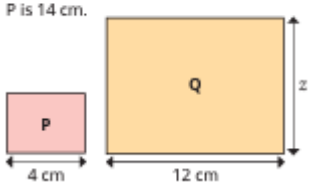
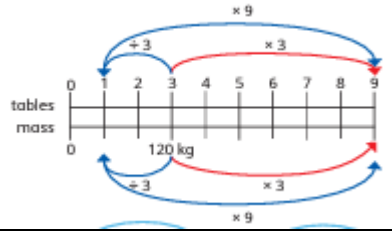
Year 6

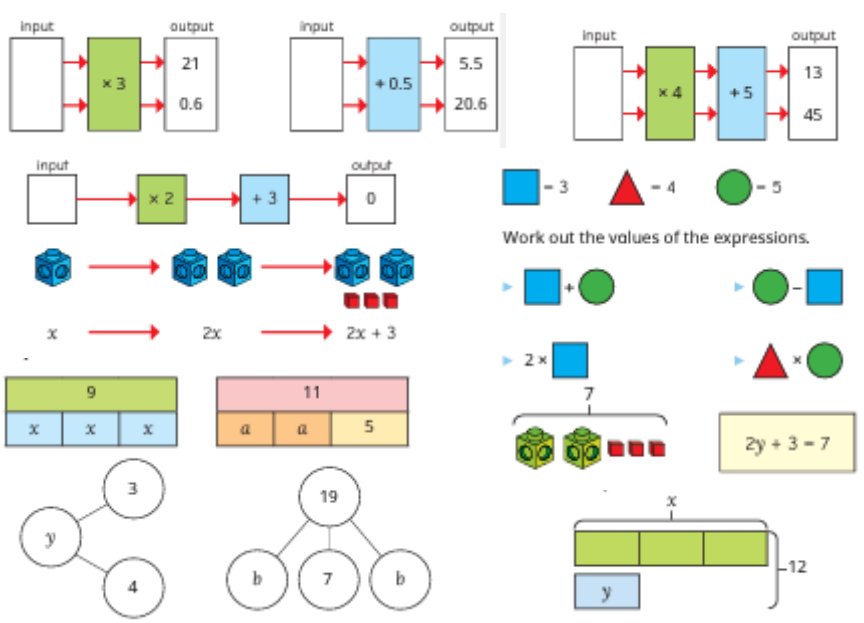
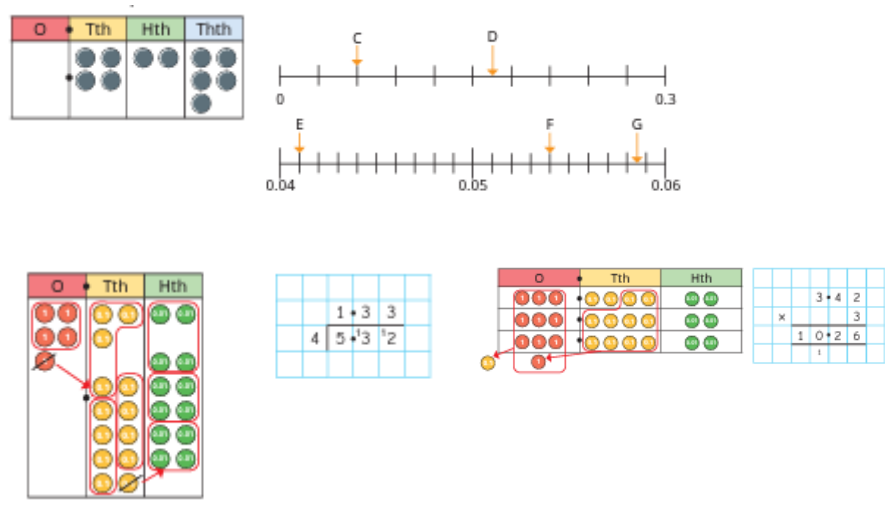
Autumn	Place value	- ones - tens - hundreds - thousands - ten thousand - hundred thousand - millions - Gattegno chart - place value column - placeholders - estimate - partition - whole - part - number line - intervals - exchange - value - digit - equal to - more than/greater than - less than - smallest - greatest	- To know numbers to 10,000,000 - To understand powers of 10 - To be able to compare and order integers - To be able to round any integer - To understand and use negative numbers	

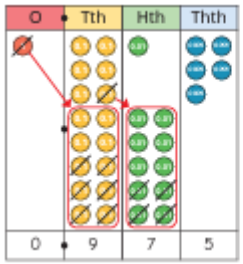
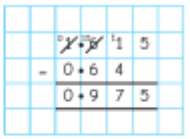
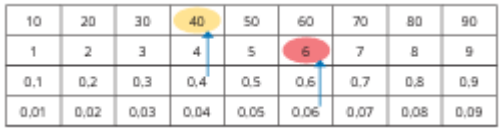
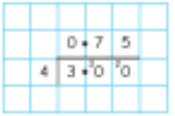
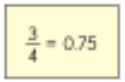
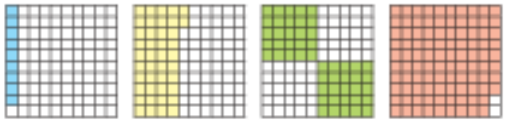
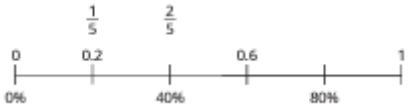
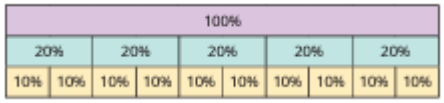
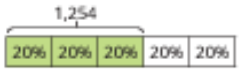
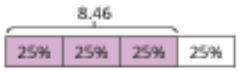
	Addition, Subtraction, Multiplication and Division	(see key vocab for 'place value autumn') - Inverse - Total - Difference - multiplicator - multiplicand - product - equal groups - multiply - repeated addition - times - multiple - lots of - divide - dividend - quotient - divisor - share - commutative - factor - factor pair - prime number - square number - cube number	- To be able to add and subtract integers - To be able to find common multiples and common factors - To know prime numbers - To know square and cube numbers - To understand the rules of divisibility - To be able to multiply up to a 4x2 digit number - To be able to complete short and long division with remainders - To know the order of operations - To be able to make mental calculations and estimations	

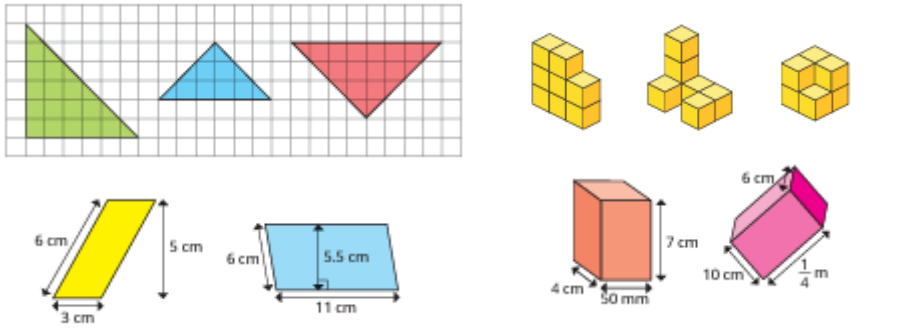
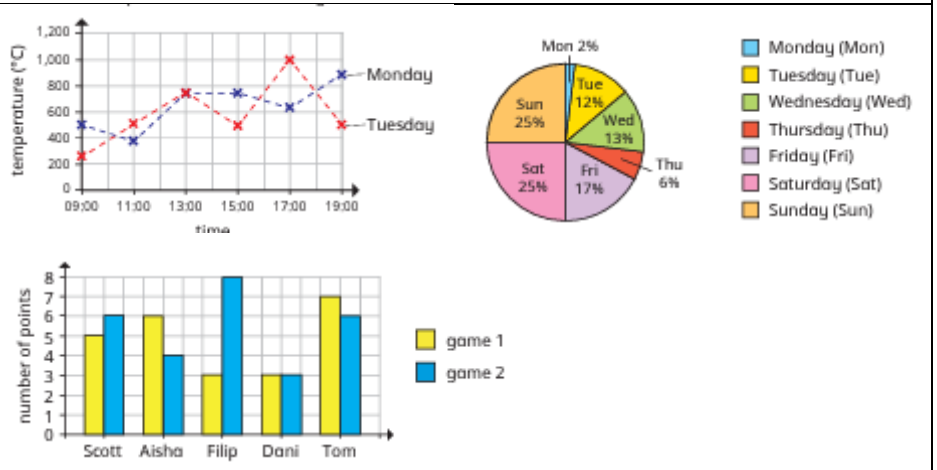
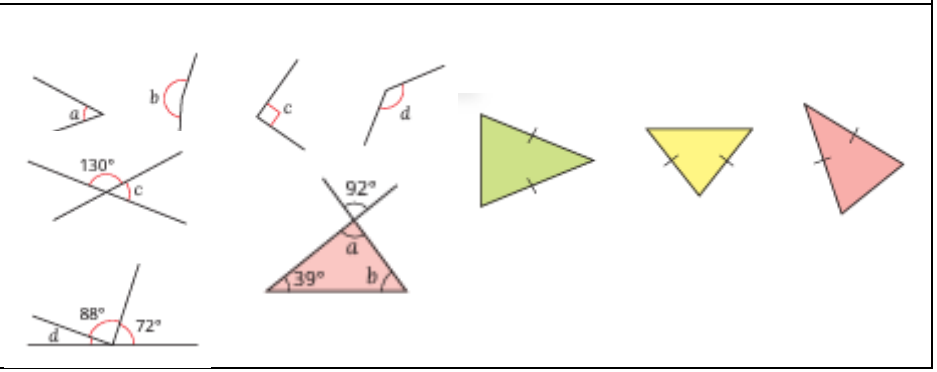
	Fractions A	- fractions - denominator - numerator - equal parts - whole - unit fraction - non-unit fraction - divide - scale - intervals - equivalent - mixed number - compare - order - addition - subtraction - exchange - improper fraction - partition - common multiple - simplest form - common denominator	- To be able to find equivalent fractions - To be able to compare and order fractions - To be able to add and subtract any 2 fractions or mixed numbers	
	Fractions B	(see Fractions A) - multiply - divide - integer - part - whole - split	- To be able to multiply and divide fractions by integers - To be able to multiply fractions by fractions - To be able to find fractions of an amount	

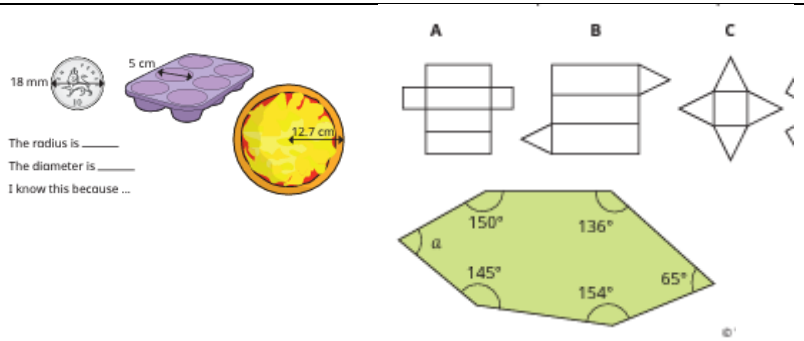
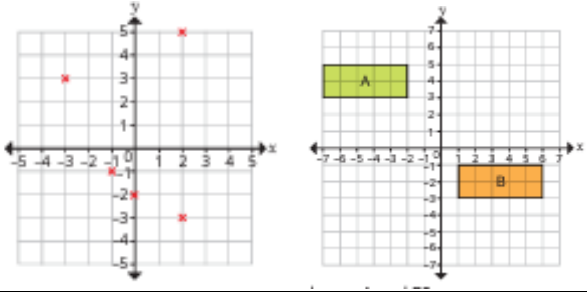
	Converting Units	- length - mass - capacity - volume - grams - kilograms - tonnes - millimetres - centimetres - metres - kilometres - millilitres - litres - centimetres cubed - multiply - divide - addition - subtraction - convert - units - approximate - metric - imperial - inches - feet - pound - stone - ounces - pints - gallons - pints	- To understand, convert and calculate metric measures - To understand miles and kilometres - To be able to convert imperial measures	   

Spring	Ratio	- ration - multiplication - division - multiplicative - value - common factor - ration symbol - simplify - fractions - compare - represent - scale diagram - scale factor - enlargement	- To know and use ratio language - To be able to compare rations and fractions - To understand scale drawings and use scale factors - To be able to solve ration and proportion problems	   For every ____ red counters, there is ____ yellow counter.   For every 16 yellow cubes, there are ____ blue cubes. For every 8 yellow cubes, there are ____ blue cubes. For every 1 blue cube, there are ____ yellow cubes. The bar model shows the ratio 2 : 3 : 4  Rectangles P and Q are similar. The perimeter of rectangle P is 14 cm.  

	Algebra	- input - output - function - rule - algebraic expression - substitute - value - formulae - equation	- To understand 1 and 2 step function machines - To be able to form expressions - To understand substitution - To be able to use formulae - To be able to form and solve up to 2 step equations	
	Decimals	- tenths - hundredth - thousandth - place value - value - decimal point - interval - partition - part - whole round	- To be able to round decimals - To be able to add and subtract decimals - To be able to multiply and divide by 10, 100 and 1000 - To be able to multiply and divide decimals by integers	

				  
	Fractions, decimals and percentages	(see previous vocabulary for decimals and percentages in spring and autumn) - per cent - percentage -	- To be able to find equivalent fractions, decimals and percentages - To understand fractions as division - To be able to order fractions, decimals and percentages - To be able to find a percentage of an amount	         

	Area, perimeter and volume	- length - width - height - dimension - compound shape - area - perimeter - volume - formula	- to understand area and perimeter - To be able to find the area of any triangle - To be able to find the area of a parallelogram - To be able to find the volume of a cuboid	
	Statistics	- line graph - dual bar chart - pie chart - mean - average - scale - approximate - data - percentage - angle - degrees	- To be able to use line graphs - To be able to use dual bar charts - To be able to read and interpret pie charts including with percentages - To be able to draw pie charts - To be able to find the mean	
Summer	Shape	- full turn - half turn - quarter turn - right angle - obtuse angle - acute angle - interior angles - exterior angles - equilateral - isosceles - scalene	- To be able to measure and classify angles - To be able to calculate angles in a straight line and around a point - To know the angles in a triangle - To know the angles in quadrilaterals	

		- quadrilaterals - rhombus - trapezium - kite - parallelogram - polygons - parallel lines - regular - irregular - symmetry - horizontal - vertical - vertex	- To understand the angles in polygons - To be able to identify the radius and diameter of a circle - To be able to draw shapes accurately - To understand a draw nets of 3D shapes	
	Position and direction	- translations - reflections - quadrants - coordinates - Axis - X axis - Y axis - vertex	- To be able to read and plot points in four quadrants - To be able to translate and reflect shapes in four quadrants	
	Themed projects, consolidation and problem solving			