

Term-by-term mathematics assessment across primary school

Curriculum Maps for

Progress in Understanding Mathematics Assessment Termly content for Year 6



The *PUMA* tests provide thorough coverage of the **new** National Curriculum Programme of Study for the particular year. These Curriculum Maps take in the new PoS, which describes what should be covered by the end of each year, and suggest how teaching of the material might be allocated to each term. For any test to give reliable results, it needs to be valid – that is, to assess what has been taught – so the Curriculum Maps help to define what *PUMA* assesses each term.

We hope that you will find the Curriculum Maps useful in planning your teaching and for liaison across the school. The *PUMA* test for each term includes much, but obviously not all, of the curriculum we have described for that term. We anticipate that much of the material is introduced in the Autumn term and reinforced in subsequent terms.

- Blue highlighting denotes specific material moved down from a higher year.
- Yellow highlighting denotes content not explicit in the PNS for the year, to help you transfer from your existing lesson planning.
- Purple text denotes repeated statements.
- *Italics* indicate illustrative examples, non-statutory notes and guidance from the new PoS. (NB most of the non-statutory notes and guidance are new, from a higher year, or beyond the PNS.)

You will notice a lot of yellow highlighting, to make you aware of even very small changes. It often indicates little more than an expansion and clarification of what you would already be teaching using the PNS. We have also highlighted the same material in all 3 terms, where it is typically taught in the autumn term, but used and reinforced in subsequent terms.



Y6 section	Autumn	Spring	Summer
NUMBER		· · · · · · · · · · · · · · · · · · ·	
Number and place value	<ul> <li>Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit e.g. What must be added to 26 523 to change it to 54 525?</li> <li>Round any whole number to a required degree of accuracy e.g. round 265 496 to the nearest 10 000 (270 000)</li> <li>Solve number and practical problems that involve number, place value and rounding e.g. What is the largest 5-digit number</li> </ul>	<ul> <li>Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit</li> <li>Round any whole number to a required degree of accuracy e.g. Give an example of a number which you might round to the nearest 10? Nearest 10 000?</li> <li>Use negative numbers in context, and calculate intervals across zero e.g. how much warmer is 5°C than -4°C? (9°C)</li> </ul>	<ul> <li>Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit</li> <li>Round any whole number to a required degree of accuracy e.g. What is the smallest number which rounds to 500 000, to the nearest 1000? (499 500).</li> <li>Use negative numbers in context, and calculate intervals across zero</li> <li>Solve number and practical</li> </ul>
	whose digits sum to 20? (99200).	• Solve number and practical problems that involve number, place value and rounding e.g. What is the smallest number which rounds to 35 000, to the nearest 1000? (34 500).	problems that involve number, place value and rounding e.g. What is the smallest 4-digit integer whose digits sum to 20? (10199).
Addition, subtraction, multiplication and division	<ul> <li>Continue to use all the multiplication tables to 12 × 12 in order to maintain their fluency e.g. 84÷12</li> </ul>	<ul> <li>Continue to use all the multiplication tables to 12 × 12 in order to maintain their fluency</li> <li>Continue to practise the four</li> </ul>	<ul> <li>Continue to use all the multiplication tables to 12 × 12 in order to maintain their fluency</li> <li>Continue to practise the four</li> </ul>
	<ul> <li>Continue to practise the four operations for larger numbers using the formal written methods of columnar addition and subtraction, short and long</li> </ul>	operations for larger numbers using the formal written methods of columnar addition and subtraction, short and long multiplication, and short and long	operations for larger numbers using the formal written methods of columnar addition and subtraction, short and long multiplication, and short and long

multiplication, and short and long	division	division
aivision	Multiply multi-digit numbers up to	<ul> <li>Multiply multi-digit numbers up to</li> </ul>
<ul> <li>Multiply multi-digit numbers up to</li> </ul>	4 digits by a two-digit whole	4 digits by a two-digit whole
4 digits by a two-digit whole number using the formal written	number using the formal written	number using the formal written
method of long multiplication	method of long matiplication	method of long matiplication
	Perform mental calculations,	Perform mental calculations,
Perform mental calculations, including with mixed operations	and large numbers	and large numbers e.g. (13400 +
and large numbers e.g. (13500 ×		$10600) \times 4 \div 12 = 8000$
$2) \neq 9 = 3000$	<ul> <li>Solve addition and subtraction multi-step problems in contexts</li> </ul>	Solve addition and subtraction
Solve addition and subtraction	deciding which operations and	multi-step problems in contexts,
multi-step problems in contexts,	methods to use and why e.g.	deciding which operations and
methods to use and why e.g.	the lottery; one received £197540,	Write a number story for this
There are 6534 cars parked in a	another received £40010; how	number sentence: $23.5 = 20.4 +$
<i>3-storey car park; 1398 are on the first floor and 3765 are on the</i>	much did the third person receive?	4.9 - 1.8
second floor; how many cars are		• Solve problems involving addition,
parked on the third floor?	<ul> <li>Solve problems involving addition, subtraction, multiplication and</li> </ul>	subtraction, multiplication and division e.g. Club A sold 3500
<ul> <li>Solve problems involving addition,</li> </ul>	division <i>e.g. I think of a number</i>	tickets for £9.50 each and Club B
subtraction, multiplication and	and subtract 5.6 from it then	sold 8150 tickets for £3.50; how
adults went on a school trip;	answer is 7.2; what was my	make than Club B?
buses seat 57 people; how many	number?	
buses were needed?	Use estimation to check answers	<ul> <li>Use estimation to check answers to calculations and determine in</li> </ul>
<ul> <li>Use estimation to check answers</li> </ul>	to calculations and determine, in	the context of a problem, levels of
to calculations and determine, in	the context of a problem, levels of	accuracy
accuracy. e.g. find the perimeter	approximately 52 matches; how	<ul> <li>Identify common factors, common</li> </ul>
of a football pitch with side lengths	many boxes can be filled with 10	multiples and prime numbers <i>e.g.</i>

	<ul> <li>105.3m and 46.8m (estimate: (105+45)×2=300m; actual: (105.3+46.8)×2=304.2m (same number of decimal places as numbers in the question)</li> <li>Identify common factors, common multiples and prime numbers e.g. common factors of 12 and 15 are 1 and 3; common multiples of 4 and 6 are 12, 24, 36; prime numbers are numbers with exactly 2 factors e.g. 2, 3, 5, 7, 11, 13,</li> </ul>	<ul> <li>000 matches?</li> <li>Identify common factors, common multiples and prime numbers e.g. <i>Find the smallest common multiple of 5, 6 and 8 (120)</i></li> <li>Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context</li> <li>Use their knowledge of the order of operations to carry out calculations involving the four operations and using brackets; e.g. 2 + 1 x 3 = 5 and (2 + 1) x 3 = 9.</li> </ul>	<ul> <li>Find the highest common factor of 120, 90 and 75 (15) or Find all the prime numbers between 80 and 100.</li> <li>Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context</li> <li>Use their knowledge of the order of operations to carry out calculations involving the four operations and using brackets e.g. 14 x (29 - 12) + 7 = 245</li> </ul>
FRACTIONS Fractions (including decimals and percentages)	• Use common factors to simplify fractions e.g. as the numerator and denominator have a common factor of 4, <sup>12</sup> / <sub>16</sub> can be simplified to <sup>3</sup> / <sub>4</sub> ; use common multiples to express fractions in the same denomination e.g. as the denominators have a common multiple of 12, <sup>3</sup> / <sub>4</sub> and <sup>5</sup> / <sub>6</sub> can both	<ul> <li>Use common factors to simplify fractions; use common multiples to express fractions in the same denomination</li> <li>List equivalent fractions to identify fractions with common denominators</li> </ul>	<ul> <li>Use common factors to simplify fractions; use common multiples to express fractions in the same denomination</li> <li>List equivalent fractions to identify fractions with common denominators</li> </ul>
	be expressed in twelfths i.e. $^{9}/_{12}$ and $^{10}/_{12}$ respectively	<ul> <li>Compare and order fractions, including fractions &gt;1 <i>e.g. put</i></li> </ul>	<ul> <li>Compare and order fractions, including fractions &gt;1 <i>e.g. put</i></li> </ul>

List equivalent fractions to identify fractions with common denominators	these fractions in order from the smallest: <sup>5</sup> /4, <sup>5</sup> /6, <sup>3</sup> / <sub>2</sub> , <sup>4</sup> / <sub>3</sub>	these fractions in order from the smallest: <sup>5</sup> / <sub>4</sub> , <sup>5</sup> / <sub>6</sub> , <sup>3</sup> / <sub>5</sub> , <sup>4</sup> / <sub>3</sub>
<ul> <li>Compare and order fractions, including fractions &gt;1 e.g. put these fractions in order from the</li> </ul>	<ul> <li>Associate a fraction with division and calculate decimal fraction equivalents e.g. 0.375 for a simple fraction e.g. <sup>5</sup>/<sub>8</sub></li> </ul>	<ul> <li>Associate a fraction with division and calculate decimal fraction equivalents e.g. 0.375 for a simple fraction e.g. <sup>5</sup>/<sub>8</sub></li> </ul>
<ul> <li>smallest: <sup>3</sup>/4, <sup>3</sup>/8, <sup>3</sup>/2, <sup>14</sup>/8</li> <li>Identify the value of each digit to three decimal places and multiply</li> </ul>	<ul> <li>Use understanding of relationship between unit fractions and division to work backwards by multiplying</li> </ul>	<ul> <li>Use understanding of relationship between unit fractions and division to work backwards by multiplying</li> </ul>
and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places <i>e.g.</i> $205.6 \div 100 = 2.056$	a quantity that represents a unit fraction to find the whole quantity e.g. if $\frac{1}{4}$ of a length is 36cm, then the whole length is 36 × 4 =	a quantity that represents a unit fraction to find the whole quantity e.g. if $1/_5$ of a mass is 150g, then the whole mass is 150 × 5 = 750g
<ul> <li>Multiply one-digit numbers with up to two decimal places by whole numbers e.g. 0.6 x 7</li> </ul>	<ul> <li>Add and subtract fractions with different denominators and mixed numbers, using the concept of environment fractions of a 1(1)</li> </ul>	• Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions e.g. $1^{3}/_{4} - 5^{5}/_{6} =$
<ul> <li>Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts <i>e.g.</i> order <sup>4</sup>/<sub>5</sub>, 75%, 0.9, <sup>19</sup>/<sub>20</sub></li> </ul>	<ul> <li>Identify the value of each digit to three decimal places and multiply</li> </ul>	<ul> <li>Use a variety of images to support understanding of multiplication with fractions</li> </ul>
	and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places <i>e.g.</i> $\times$ 100 = 140.8	• Multiply simple pairs of proper fractions, writing the answer in its simplest form e.g. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$
	<ul> <li>Multiply one-digit numbers with up to two decimal places by whole numbers e.g. 0.06 x 8</li> </ul>	• Divide proper fractions by whole numbers e.g. $\frac{1}{3} \div 2 = \frac{1}{6}$
	Use written division methods in	<ul> <li>Identify the value of each digit to three decimal places and multiply</li> </ul>

		<ul> <li>cases where the answer has up to two decimal places e.g. 458 ÷ 8 = 57.25</li> <li>Multiply and divide numbers with up to two decimal places by one-digit and two-digit whole numbers e.g. 3.15 × 62</li> <li>Solve problems which require answers to be rounded to</li> </ul>	<ul> <li>and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places <i>e.g. ÷</i> 1000 = 0.45</li> <li>Multiply one-digit numbers with up to two decimal places by whole numbers <i>e.g.</i> 0.04 x 12</li> <li>Use written division methods in cases where the answer has up to</li> </ul>
		<ul> <li>specified degrees of accuracy and check the reasonableness of answers.</li> <li>Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. e.g. find a fraction which lies between 0.4 and 0.5</li> </ul>	<ul> <li>two decimal places e.g. 693 ÷ 15 = 14.2</li> <li>Multiply and divide numbers with up to two decimal places by one- digit and two-digit whole numbers e.g. 93.15 ÷ 5</li> <li>Solve problems which require answers to be rounded to specified degrees of accuracy and check the reasonableness of answers.</li> </ul>
			<ul> <li>Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts e.g. find a decimal which lies between <sup>3</sup>/<sub>8</sub> and <sup>1</sup>/<sub>2</sub></li> </ul>
Ratio and proportion	<ul> <li>Solve problems involving the relative sizes of two quantities where missing values can be</li> </ul>	<ul> <li>Solve problems involving the relative sizes of two quantities where missing values can be</li> </ul>	<ul> <li>Solve problems involving the relative sizes of two quantities where missing values can be</li> </ul>

found by using integer multiplication and division facts e.g. adjust a recipe for 4 people, to serve 20 people	found by using integer multiplication and division facts e.g. adjust a recipe for 4 people, to serve 6 people	found by using integer multiplication and division facts e.g. adjust a recipe for 6 people, to serve 15 people
	• Solve problems involving similar shapes where the scale factor is known or can be found <i>e.g. two</i> rectangular picture frames are the same shape, but one is bigger than the other; the smaller one measures 10cm by 15cm; the larger frame has a width of 30cm, what is its length?	<ul> <li>Solve problems involving similar shapes where the scale factor is known or can be found <i>e.g.</i> On a map 2cm represents 1km; a road measures 7cm on the map, how long is it in real life?</li> <li>Use the notation a : b to record ratio</li> </ul>
	<ul> <li>Begin to use the notation a : b to record ratio</li> <li>Solve problems involving the calculation of percentages (e.g. measures) such as 15% of 360 and the use of percentages for comparison</li> <li>Link percentages of 360° to calculating angles of pie charts</li> <li>Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples e.g. for every egg you need three spoons of flour, how many eggs are needed for 12 spoons of flour?</li> </ul>	<ul> <li>Solve problems involving the calculation of percentages (e.g. measures) such as 15% of 360 and the use of percentages for comparison</li> <li>Link percentages of 360° to calculating angles of pie charts</li> <li>Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples e.g. the ratio of boys to girls in class 6 is 1:2; there are 8 boys, how many girls are there?</li> </ul>

Algebra	Use symbols and letters to	<ul> <li>Use symbols and letters to</li> </ul>	<ul> <li>Use symbols and letters to</li> </ul>
AIgebia	represent variables and unknowns	represent variables and unknowns	represent variables and unknowns
	in mathematical situations	in mathematical situations	in mathematical situations
	<ul> <li>missing numbers lengths</li> </ul>	<ul> <li>missing numbers lengths</li> </ul>	<ul> <li>missing numbers lengths</li> </ul>
	coordinates and angles	coordinates and angles	coordinates and angles
	e a 3y - 24 or the angles in	$e a 5y \pm 1 - 16$ or the angles	e a 68-6t-4 or the angles
	a triangle are 35° 120°	in an isosceles triangle are	in a kite are $x^{\circ} x^{\circ} 15^{\circ}$ and
	a thangle are 55, 120 and $v^{\circ}$ : find v	$50^{\circ}$ v° and v° find v	$53^{\circ}$ : find x or plot points
	and y, mid y	a mathematics and science	$(x, y)$ where $x_1y = 10$
	<ul> <li>mathematics and science</li> </ul>	formulae $\rho \alpha P = 2(L_{\rm HW})$	(x, y) where $x+y=10$
	formulao o g A-lyw	a arithmetic rules of $a$	formulae $\alpha \alpha A - \frac{1}{4} (lyb)$
	o prithmotic rules o d	antininetic rules e.g.	a arithmetic rules
		a apparalising number	o gonoralising number
	a+b-b+a	natterns e.g. 3.6.0.12	natterns e.g. 6, 11, 16, 21
	<ul> <li>Everage missing number</li> </ul>	2n	$5n \pm 1$
	<ul> <li>Express missing number</li> <li>problems algebraically a g 17 – y</li> </ul>	a number nuzzles o a	$\dots$ $311\pm1$
	problems algebraically e.g. $T = x$	0 number puzzles e.g.	0 Trumber puzzles e.g.
	+ 4.5	$a+b=0.5$ and $a\times 0=15$ , mid	x+y=10 and 2x+y=13, mid x and y
	Line simple formulae symposed in	a and b	x and y
	Ose simple formulae expressed in	Express missing number	Everence missing number
		<ul> <li>Express missing number</li> <li>problems algebraically o g, the</li> </ul>	<ul> <li>Express missing number</li> <li>problems algebraically a g l'm</li> </ul>
	number of months, m, in y years.	problems algebraically e.g. the	thinking of a number: I double it
	(y=12111)	has two sides of length 8cm; what	and subtract 12 from the result:
		is the length of the other side?	the answer is 60; what was my
	<ul> <li>Enumerate all possibilities of</li> </ul>	$(20-2\times8)\times50\times-4$ cm)	$a_{11} = a_{11} = a_{12} = a_{13} = a$
	combinations of two variables e.g.	(20-220+2302-4011)	$(2x^{-12}=00, \ 50\ 2x=72, \ 50)$
	investigate now many different	- Use simple formulae everesed in	x=30)
	ways 2 red eggs can be placed in	Ose simple formulae expressed in	
	a 6-space egg carton, by starting	words e.g. while a formula for the	<ul> <li>Use simple formulae expressed in worde o gruurite o formula for the</li> </ul>
	with a 3-space carton, 4-space	COSt of a party, C, which costs	words e.g. write a formula for the
	carton etc?	$\pounds$ 100 plus $\pounds$ per person, n.	cost of a taxi journey, C, which is
		(0=100+211)	$z_2$ . TO plus z 1.00 per kilometre, K.
		Enumerate all passibilities of	(U=2.10+1.00K)
		Enumerate all possibilities of	Environmente de la Université (1916) - C
		complinations of two variables e.g.	Enumerate all possibilities of
		investigate all possible half-time	combinations of two variables e.g.

		•	scores when the full time score of a football match is 4:2 Generate and describe linear number sequences e.g. write the first 5 terms in a 'decrease by 9' sequence starting from 20, or find the nth term of a simple sequence e.g. 4, 8, 12, 16, 4n Find pairs of numbers that satisfy number sentences involving two unknowns. e.g. $a - b = 5$ , give pairs of values that a and b could have (e.g. 8, 3 or 6.5, 1.5 or) or. $p \times q = 24$ ; if p and q are both positive, even numbers, list all the possible combinations (e.g. $2 \times 12$ , $4 \times 6$ ,)	•	list all the combinations of boys and girls in a class where there are twice as many boys as girls and between 25 & 35 children in the class altogether. Generate and describe linear number sequences e.g. 6, 13, 20, 27, 7n-1 Find pairs of numbers that satisfy number sentences involving two unknowns. e.g. $a - b = 5$ , give pairs of values that a and b could have (e.g. 8, 3 or 6.5, 1.5 or)
MEASUREMENT		•			
Measurement	<ul> <li>Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to three decimal places e.g. 4.52kg = 4520g; 1.005km = 1005m</li> </ul>	•	Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to three decimal places	•	Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to three decimal places
	<ul> <li>Recognise that shapes with the same areas can have different perimeters and vice versa e.g. investigate rectangles with areas</li> </ul>	•	Recognise that shapes with the same areas can have different perimeters and vice versa e.g. investigate triangles with areas of 12cm <sup>2</sup> to find which has the	•	Recognise that shapes with the same areas can have different perimeters and vice versa e.g. investigate parallelograms with areas of 24cm <sup>2</sup> to find which has

of 24cm <sup>2</sup> to find which has the smallest perimeter	smallest perimeter	the smallest perimeter
Recognise when it is possible to use formulae for area of shapes e.g. find the length of rectangle which is 4m wide and has the same area as a square with a side length of 8cm	<ul> <li>Recognise when it is possible to use formulae for area and volume of shapes e.g. find the length of the side of a cube with a volume of 27cm<sup>3</sup></li> </ul>	• Recognise when it is possible to use formulae for area and volume of shapes e.g. find the height of cuboid which is 12cm long, 2cm high and has the same volume as a cube with sides of 6cm
Calculate the area of triangles, relating it to the area of rectangles, e.g. compare the 'counting squares' method to	parallelograms and triangles, relating it to the area of rectangles, e.g. compare the 'counting squares' method to using the formula for the area of a	<ul> <li>Calculate the area of parallelograms and triangles, relating it to the area of rectangles</li> <li>Solve problems involving the</li> </ul>
using the formula for the area of a triangle	<ul> <li>parallelogram</li> <li>Solve problems involving the calculation and conversion of units of measure, using decimal notation to three decimal places</li> </ul>	calculation and conversion of units of measure, using decimal notation to three decimal places where appropriate e.g. A jug holds 550ml; how may jugs of water are needed to fill a 4.8 litre bucket?
	where appropriate e.g. Ben walked 850m to the bus stop, travelled on a bus for 8.67km and then a train for 120.9km; how far did he travel altogether?	<ul> <li>convert between miles and kilometres and other units commonly used e.g. use a conversion line graph or be able to work out that 6 pints of milk is a</li> </ul>
	<ul> <li>Convert between miles and kilometres and other units commonly used e.g. know that a mile is approximately 1.6km (and 1km is approximately 0.6miles) and use this to make rough</li> </ul>	<ul> <li>bit more than 3 litres</li> <li>calculate, estimate and compare volume of cubes and cuboids using standard units, including continents, output (cm<sup>3</sup>) and output</li> </ul>
	calculations <ul> <li>Calculate, estimate and compare</li> </ul>	metres ( $m^3$ ) and extending to other units, such as $mm^3$ and $km^3$ .

		volume of cubes and cuboids using standard units, including centimetre cubed (cm <sup>3</sup> ) and cubic metres (m <sup>3</sup> ) and extending to other units, such as mm <sup>3</sup> and km <sup>3</sup> .	<ul> <li>Begin to use compound units for speed e.g. miles per hour</li> </ul>
GEOMETRY			
Properties of shapes	<ul> <li>Draw 2-D shapes using given dimensions and angles using measuring tools and conventional markings and labels for lines and angles e.g. same length lines, parallel lines and same size angles:</li> <li>Marking Labels for Lines and same size angles:</li> <li>Recognise, describe and build simple 3-D shapes, including making nets e.g. investigate different nets for a cube, recognising when 'nets' will fold to make a cube and when they will not.</li> </ul>	<ul> <li>Draw 2-D shapes using given dimensions and angles using measuring tools and conventional markings and labels for lines and angles e.g. complete a triangle with given lengths and angles</li> <li>Recognise, describe and build simple 3-D shapes, including making nets e.g. visualise 3-D shapes drawn on isometric paper and begin to draw 2-D representations of 3-D shapes</li> <li>Compare and classify geometric shapes based on their properties and sizes (e.g. parallel sides, line symmetry, types of angles etc) and find unknown angles in any triangles, quadrilaterals, and regular polygons</li> <li>Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles describing</li> </ul>	<ul> <li>Draw 2-D shapes using given dimensions and angles <i>using measuring tools and conventional markings and labels for lines and angles e.g. construct a triangle or complete a parallelogram with given lengths and angles</i></li> <li>Recognise, describe and build simple 3-D shapes, including making nets</li> <li>Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons</li> <li>Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles <i>describing them algebraically e.g. a=180-(b+c)</i></li> </ul>
	making nets e.g. investigate different nets for a cube, recognising when 'nets' will fold to make a cube and when they will not.	<ul> <li>symmetry, types of angles etc) and find unknown angles in any triangles, quadrilaterals, and regular polygons</li> <li>Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles <i>describing</i> <i>them algebraically e.g. a=180-</i></li> </ul>	<ul> <li>Polygons</li> <li>Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, an find missing angles describing them algebraically e.g. a=180-(b+c)</li> <li>Illustrate and name parts of</li> </ul>

		(b+c).	circles, including radius, diameter and circumference and know that the diameter is twice the radius <i>describing it algebraically as</i> <i>d=2×</i> r
Position and direction	<ul> <li>Describe positions on the full coordinate grid (all four quadrants) e.g. (-3, 7)</li> </ul>	<ul> <li>Describe positions on the full coordinate grid (all four quadrants)</li> </ul>	<ul> <li>Describe positions on the full coordinate grid (all four quadrants)</li> </ul>
	<ul> <li>Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.</li> <li>Predict missing coordinates of quadrilaterals by using the properties of shapes, which may be expressed algebraically e.g. translating vertex (a, b) to (a-2, b+3), or find the other vertices of a square, given two of them are (a, b) and (a+d, b+d)</li> </ul>	<ul> <li>Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.</li> <li>Predict missing coordinates of quadrilaterals by using the properties of shapes, which may be expressed algebraically e.g. translating vertex (a, b) to (a-2, b+3), or find the other vertices of a square, given two of them are (a, b) and (a+d, b+d)</li> </ul>	<ul> <li>Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.</li> <li>Predict missing coordinates of quadrilaterals by using the properties of shapes, which may be expressed algebraically e.g. translating vertex (a, b) to (a-2, b+3), or find the other vertices of a square, given two of them are (a, b) and (a+d, b+d)</li> <li>Draw and label a pair of axes in all four quadrants with equal scaling.</li> </ul>
STATISTICS			
Use and interpret data	<ul> <li>Interpret and construct pie charts and line graphs and use these to solve problems e.g. draw a pie chart to show how Jack spends his £36 birthday money:         <ul> <li>£9 snacks</li> <li>£15 toys</li> <li>£12 books</li> </ul> </li> </ul>	<ul> <li>Calculate and interpret the mean as an average. e.g. find the mean height of these children: 1.2m, 1.07m and 1.12m</li> <li>Interpret and construct pie charts and line graphs and use these to solve problems e.g. create a</li> </ul>	<ul> <li>Calculate and interpret the mean as an average.</li> <li>Interpret and construct pie charts and line graphs and use these to solve problems e.g. connect conversion from kilometres to miles in measure to its graphical.</li> </ul>
	Encounter and draw graphs	conversion graph for pounds and Euros	representation.

relating two variables, arising from their own enquiry and in other subjects e.g. a scattergraph connecting heights of children and their long-jump distance	• Encounter and draw graphs relating two variables, arising from their own enquiry and in other subjects.	<ul> <li>Encounter and draw graphs relating two variables, arising from their own enquiry and in other subjects.</li> </ul>