Maths Progression Points at Green Lane School

For pre-National Curriculum objectives please refer to the Cedar Pathway – Progression of Skills

	Point 1	Point 2	Point 3	Point 4	Point 5	Point 6
Place Value – Mathematical Vocabulary	Read and spell mathematical vocabulary at a level consistent with pupils increasing word reading and spelling knowledge at year 1.	Read and spell mathematical vocabulary at a level consistent with pupils increasing word reading and spelling knowledge at key stage 1.	Read and spell mathematical vocabulary correctly and confidently, using pupils growing word reading knowledge and their knowledge of spelling.	Read and spell mathematical vocabulary correctly and confidently, using pupils growing word reading knowledge and their knowledge of spelling.	Read, spell and pronounce mathematical vocabulary correctly.	Read, spell and pronounce mathematical vocabulary correctly.
Place Value - Counting	Count and sort objects within 10.\n\nCount to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number.\n\nIdentify one more and one less than a given number to 100.	Count forwards and backwards from any given number in steps of two, three, five and ten by finding more and less.	Continue to count in ones, tens and hundreds, so that pupils become fluent in the order and place value of numbers to 1000.\nCount from 0 in multiples of 50 and 100.\nFind 10 or 100 more or less than a given number.	Count in tens and hundreds, maintaining fluency in other multiples through varied and frequent practice.\nCount in multiples of 25 and 1000.\nFind 1000 more or less than a given number.	Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000.\nCount backwards through zero to include negative numbers (year 4 national curriculum aim).	Understand the relationship between powers of 10 from 1 hundredth to 10 million.
Place Value – Reading and						

Writing Numbers	Read and write numbers from 1 to 20 in numerals and words. Read and write numbers to 100 in numerals.	Read and write numbers to at least 100 in numerals and in words.	Read and write numbers up to 1000 in numerals and in words.		Read and write numbers to at least 1 000 000 and determine the value of each digit, including decimal numbers.	Say, read and write, numbers up to 10 000 000 accurately and determine the value of each digit.
Place Value – Compare and Order Numbers	Compare groups by matching. Compare and order objects and numbers. Use <, > and = signs. Use ordinal numbers.	Compare and order numbers from 0 up to 100 using <, > and = signs.	Compare and order numbers up to 1000.	Order and compare numbers beyond 1000.	Order and compare numbers to at least 1 000 000 and determine the value of each digit, including decimals numbers. Order and compare negative numbers.	Order and compare numbers up to 10 000 000 accurately, including decimals and determine the value of each digit.
Place Value – Understanding Place Value	Recognise the place value of numbers within 20. Begin to recognise the place value of each digit in a two-digit number (tens, ones) beyond 20 supported by objects and pictorial representations. Represent numbers to 20, including on a number line.	Recognise the place value of each digit in a two-digit number (tens, ones) to become fluent. Partition and represent numbers to 100, including on a number line. Begin to understand zero as a place holder.	Identify, represent and estimate numbers using different representations. Recognise the place value of each digit in a three-digit number (hundreds, tens, ones).	Recognise the place value of each digit in a four-digit number. Read scales marked in multiples of 1000 with 2, 4, 5 and 10 equal parts. Partition and represent numbers to 10 000. Estimate numbers on a number line to 10 000.	Partition and represent numbers to at least 1 000 000. Extend and apply understanding of the number system to the decimal numbers and fractions that have been introduced so far. Interpret negative numbers in context and calculate intervals across 0 (point 5 and 6 aim)	Partition and compose numbers up to 10 000 000, including decimals. Read scales marked in multiples of powers of 10 with 2, 4, 5 and 10 equal parts. Estimate numbers up to 10 000 000 digits on a number line.

Place Value - Rounding				Round any number to the nearest 10, 100 or 1000. Connect estimation and rounding numbers to the use of measuring instruments.	Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000.	Round any whole number to a required degree of accuracy.
Place Value – Roman Numerals				Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value.	Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000.	Round any whole number to a required degree of accuracy.
Place Value – Solve Problems	Solve simple problems.	Use place value and number facts to reason with, discuss and solve related problems to develop fluency.	Solve increasingly complex number problems and practical problems, building on the knowledge of point 2.	Solve number and practical problems that involves prior knowledge from years 1 to 3 with increasingly larger positive numbers.	Solve number problems and practical problems that involves prior knowledge from points 1 to 4.	Solve number and practical problems that involve all of the above.
Addition and Subtraction	Add two to an odd number to give the next odd number. Add two to an even number to give the next even number. Subtract two from an odd number to give the previous odd number. Subtract two from an even number to give the previous even number.	Show that the addition of two numbers can be done in any order (commutative) and the subtraction of one number from another cannot. Use known facts for the numbers within ten and apply to the addition of a single-digit number to a two-digit number. Use knowledge of numbers which sum to ten and apply to the addition of a single-digit number and two-	Add and subtract three-digit numbers and ones. Add and subtract three-digit numbers and tens. Add and subtract three-digit numbers and hundreds. Confidently add ones that bridge 10. Confidently add tens that bridge 100. Confidently subtract ones across a 10 from a three-digit number. Confidently subtract tens across a 100	Add and subtract four-digit numbers and ones. Add and subtract four-digit numbers and tens. Add and subtract four-digit numbers and hundreds. Add and subtract four-digit numbers and thousands. Add two numbers up to four digits using partitioning. Add two numbers up to four digits using adjusting and redistribution.	Add and subtract numbers mentally with increasingly large numbers.	Perform mental calculations, including with mixed operations and large numbers.

	Explain what happens when two is added to or subtracted from odd and even numbers.	digit number that sum to a multiple of ten. Add two numbers which bridge the tens boundary by using a 'make ten' strategy.	from a three-digit number.			
Measurement – Statistics – Scales		Use simple ratios of two, five and ten for many-to-one pictograms.	Use simple scales of two, five and ten intervals with increasing accuracy for bar charts and many-to-one pictograms.	Use a greater range of scales for bar charts and line graphs.	Begin to connect coordinates and scales to the interpretation of time graphs.	
Measurement – Statistics – Interpret and Construct Graphs (discrete data)		Interpret and construct simple tables, tally charts, block diagrams and pictograms (including many-to-one correspondence).	Build upon year 2 knowledge and continue to interpret and present data using pictograms (including many-to-one correspondence), bar charts and tables.	Build upon year 3 knowledge to interpret and present discrete data using bar charts.	Complete, read and interpret information in tables, including two-way tables and timetables.	Read, interpret and present data using dual bar charts, relating two variables, arising from pupils own enquiry and in other subjects. Interpret and construct pie charts, understanding that the size of the circle in a pie chart can be different but still represent the same data. Begin to connect work on angles, fractions and percentages to the interpretation of pie charts.
Measurement – Statistics –						

Interpret and Construct Graphs (continuous data)				Interpret and present continuous data using appropriate methods, e.g. time graphs. Begin to relate the graphical representation of data to recording change over time.	Build upon point 4 knowledge to construct and interpret line graphs.	Build upon point 5 knowledge to interpret and draw line graphs, connect conversion from kilometres to miles in measurement to its graphical representation.
Measurement – Statistics – Choosing Appropriate Methods when Recording Data				Interpret and present discrete and continuous data using appropriate graphical methods.	Begin to decide which representations of data are most appropriate and why.	Consider the use of computing as an accurate and efficient way to create a graph in which a circle is divided into sectors that represent proportions of the whole.
Measurement – Statistics – Ask and Answer Questions About Data		Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity. Ask and answer questions about totalling and comparing categorical data.	Solve one-step and two-step problems using information presented in scaled bar charts, pictograms and tables.	Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.	Build upon point 4 knowledge to solve comparison, sum and difference problems using information presented in a line graph.	Interpret and construct pie charts and line graphs and use these to solve problems.
Measurement – Statistics – Averages						Calculate and interpret the mean as an average.
Multiplication and Division - Counting	Count objects in groups of two	Confidently count forwards and backwards in	Secure in counting in multiples two, five and ten.	Secure in counting in multiples of three, four and eight.		

	efficiently by counting in twos. Count objects in groups of ten efficiently by counting in tens. Count on from different multiples of ten. Count objects in groups of five efficiently by counting in fives. Count on from different multiples of five. Count forwards and backs in multiples of two, five and ten. Explain that objects can be grouped in different ways. Describe how objects have been grouped. Represent equal groups as repeated addition.	multiples of two, five and ten. Describe groups as equal and unequal. Make equal groups. Make unequal groups. Describe how many equal groups there are. Describe how many objects are in each equal group. Represent equal groups as repeated addition and multiplication.	Confidently count in multiples of three, four and eight. Identify multiples of ten beyond 120.	Confidently count in multiples of six, seven and nine.	

	Add equal groups to find the total.					
Odd and Even Numbers	Begin to identify odd and even numbers.	Explain why a number is odd or even. Identify larger odd and even numbers. Look for patterns of odd and even numbers in the two, five and ten times tables.		Identify patterns of odd and even numbers in the seven times tables.		
Multiplication and Division	Explain what double means. Use equipment to double numbers.	Explain how a multiplication equation with two as a factor is related to doubling. Double two-digit numbers. Multiply efficiently when one of the factors is two. Know that halving is the inverse of doubling. Solve problems about halving using facts from the two times table and known doubling facts. Halve two-digit numbers. Use knowledge of doubling, halving and the two times table to solve problems.	Explain that products in the four times table are double the products in the two times table. Explain that products in the two times table are half of the products in the four times table. Connect the two, four and eight multiplication tables through doubling.	Explain that products in the six times table are double the products in the three times table. Explain that products in the three times table are half of the products in the six times table. Explain that products in the nine times table are triple the products in the three times table.		

		Explain that products in the ten times table are double the products in the five times table. Explain that products in the five times table are half of the products in the ten times table.			
Multiplication and Division - Times Tables	Identify arrays.

Describe arrays using columns and rows.

Make arrays with objects and counters. | Describe how counting in multiples of two can be represented by the two times table. Explain that adjacent multiples of two have a difference of two. Spot patterns within multiples of two. Recall multiplication facts up to 12 × 2. Use facts from the two times table to solve problems about groups of two. Describe how counting in multiples of tens can be represented by the ten times table. Explain that adjacent multiples of ten have a difference of ten. | Describe how counting in multiples of three can be represented by the three times table. Explain that adjacent multiples of three have a difference of three. Recall multiplication facts up to 12 × 3. Use facts from the three times table to solve problems about groups of three. Describe how counting in multiples of four can be represented by the four times table. Explain that adjacent multiples of four have a difference of four. | Describe how counting in multiples of six can be represented by the six times table. Explain that adjacent multiples of six have a difference of six. Recall multiplication facts up to 12 × 6. Use facts from the six times table to solve problems about groups of six. Use known facts from the five times table to solve problems involving the six times table. Explain the relationship between multiples of three and multiples of six.

Describe how counting in multiples of nine can be represented by the nine times table. | Apply all the times tables and related division facts frequently, commit them to memory and use them confidently to make larger calculations. | Continue to apply all the times tables and related division facts frequently, commit them to memory and use them confidently to make larger calculations, including mixed operations. |

		Spot patterns within multiples of ten. Recall multiplication facts up to 12 × 10. Use facts from the ten times table to solve problems about groups of ten. Describe how counting in multiples of fives can be represented by the five times table. Explain that adjacent multiples of five have a difference of five. Spot patterns within multiples of five. Recall multiplication facts up to 12 × 5. Use facts from the five times table to solve problems about groups of five. Identify and explain the relationship between the five and the ten times tables.	Spot patterns within multiples of four. Recall multiplication facts up to 12 × 4. Use facts from the four times table to solve problems about groups of four. Describe how counting in multiples of eight can be represented by the eight times table. Explain that adjacent multiples of eight have a difference of eight. Spot patterns within multiples of eight. Recall multiplication facts up to 12 × 8. Use facts from the eight times table to solve problems about groups of eight. Explain the relationships between the two, four and eight times tables.	Explain that adjacent multiples of nine have a difference of nine. Recall multiplication facts up to 12 × 9. Use facts from the six times table to solve problems about groups of nine. Use known facts from the ten times table to solve problems involving the nine times table. Investigate the digit sum to identify multiples of three and nine. Describe how counting multiples of seven can be represented by the seven times table. Explain that adjacent multiples of seven have a difference of seven. Recall multiplication facts up to 12 × 7. Use facts from the seven times table to solve problems about groups of seven. Describe how counting in multiples of eleven can be represented		

| | | | | Construct fact families for the three, four and eight times tables. Derive unknown times tables facts by using mental strategies. | by the eleven times table.

Explain that adjacent multiples of eleven have a difference of eleven. Recall multiplication facts up to 12 × 11. Use distributive law to build up the 11 times table by partitioning 11 into 10 and 1.

Describe how counting in multiples of twelve can be represented by the twelve times table. Explain that adjacent multiples of twelve have a difference of twelve. Recall multiplication facts up to 12 × 12. Use distributive law to build up the 12 times table by partitioning 12 into 10 and 2. | | |

				Construct fact families for the 6, 7, 9. 11 and 12 times tables.		
Multiplication and Division - Arrays	Identify arrays. Describe arrays using columns and rows. Make arrays with objects and counters.	Explain the link between an array and a repeated addition expression. Write two multiplication expressions to match an array. Draw an array and write a multiplication expression to represent a picture.	Describe arrays using mathematical statements. Draw arrays to recognise that multiplying by four is the same as doubling then doubling again. Draw arrays to recognise that multiplying by eight is the same as doubling, doubling, then doubling again the products of the two times table. Use arrays to solve multiplication calculations.			
Multiplication and Division - Grouping	Group objects in groups of two, five and ten. Group pictures in groups of two, five and ten. Count how many groups of two, five or ten there are. Solve problems involving grouping objects.	Solve grouping problems where the number of groups is unknown to multiplication equations with a missing factor. Group objects equally, sometimes with a remainder. Explain that objects can be grouped equally.	Confidently identify the amount of groups and items in each group. Confidently calculate the amount of items altogether. Confidently create equal groups from a given amount of items.			

		Identify and explain when objects cannot be grouped equally. Use division equations to represent 'grouping' problems, where the total quantity (dividend) and the group size (divisor) are known. Solve grouping problems where the number of groups is unknown to division equations (quotitive division).	Apply place value knowledge to known additive and multiplicative number facts (scaling facts by ten). Use comparison language to compare quantities. Solve scaling problems across a range of units.			
Multiplication and Division – Multiples, Factors, Squares and Prime Numbers				Find factor pairs of numbers.	Identify and use rules to find multiples. Identify common multiples. Identify common factors of two given numbers. Identify prime numbers up to 100. Recall prime numbers to 19. Explain the differences between prime and composite numbers. Find prime factors of two-digit numbers. Write calculations to make square numbers.	Confidently identify common multiples. Confidently identify common factors of given numbers. Know that common factors can be related to finding equivalent fractions. Confidently recall prime numbers.

				Use the ² notation correctly. Create cubes using interlocking cubes. Write calculations to make cube numbers. Use the ³ notation correctly. Use their knowledge of factors and multiples, squares and cubes to solve problems.	
Multiplication and Division – Multiply and Divide by Powers of Ten				Multiply whole numbers by ten using knowledge of place value. Explain how making a factor ten times the size affects the product. Multiply whole numbers by 100, using knowledge of place value. Explain how making a factor 100 times the size affects the product. Divide whole numbers by ten, identifying how many groups of ten there are in two, three and four-digit numbers.	Multiply whole/ decimal numbers by 10 by moving the whole number one place to the left. Multiply whole/ decimal numbers by one hundred by moving the whole number two places to the left. Multiply whole/ decimal numbers by 1000 by moving the whole number three places to the left. Use zeros accurately as place value holders.	

				Divide whole numbers by 100, identifying how many groups of hundred there are in three and four-digit numbers.	Divide whole/ decimal numbers by 10 by moving the whole number one place to the right. Divide whole/ decimal numbers by 100 by moving the whole number two places to the right. Divide by 1000 by moving the whole number three places to the right. Use knowledge of other multiples of 10, 100 and 1000 to solve related problems.	
Multiplication and Division – Multiplication including Methods		Identify each part of a multiplication equation. Explain the relationship between factors and products. Use the multiplication symbol (×) accurately. Use knowledge of multiplication to calculate the product.	Make links between repeated addition and multiplication when multiplying by three, four and eight. Use the <, > and = symbols to compare multiplication expressions. Partition a two-digit number using a part-whole model to multiply two-digit numbers by one-digit numbers.	Use distributive law to derive multiplication facts beyond known times tables. Make generalisations about factors and products when multiplying by one. Make generalisations about factors and products when multiplying by zero. Use associative law to multiply three numbers to find a product.	Multiply numbers up to four digits by a one-digit number, including regrouping using a formal written method. Use the method of long multiplication to multiply a two-digit by a two-digit number. Use the method of long multiplication to multiply a three-digit by a two-digit number.	Explain how and why a product changes when a factor changes multiplicatively. Confidently multiply numbers up to four digits by a two-digit whole number, including regrouping using long multiplication. Explain how to use the associative law to multiply efficiently.

		Know that multiplication is commutative. Explain and represent multiplication when a group contains zero or one item.	Partition a two-digit number, multiplying both parts by a one-digit number and adding the partial products together. Solve problems involving multiplication of two-digit numbers by one-digit numbers with regrouping. Work systematically to find all the possible combinations to solve correspondence problems. Use multiplication to work out the total number of possible combinations to solve correspondence problems.	Find pairs of factors that multiply to give a product. Choose an efficient method when solving multiplication calculations. Use knowledge of number facts and rules of arithmetic to solve mental and written calculations using informal methods. Multiply a two-digit number by a single-digit number using distributive law, by partitioning the two-digit number into tens and ones, multiplying the parts by the single-digit number, then adding the partial products. Multiply a two-digit number by a single-digit number using short multiplication, with or without regrouping. Multiply a three-digit number by a single-digit number using distributive law, by partitioning the three-digit number into hundreds, tens and ones, multiplying the parts by the single-digit number, then	Use the expanded method to carry out long multiplication to multiply a four-digit by a two-digit number. Use knowledge of long multiplication to solve problems.	Explain when it is more efficient to use long multiplication or factorising to multiply by two-digit numbers. Use knowledge of long multiplication to solve problems. Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.

				adding the partial products.		
				Multiply a three-digit number by a single-digit number using short multiplication, with or without regrouping.		
Multiplication and Division – Division, including Methods	Share objects into two, five or ten groups. Count how many there are in each group. Solve problems involving sharing objects.	Skip count in the divisor to calculate the number of groups (quotient). Solve sharing problems by step counting where the total quantity (dividend) and the number we are sharing between (divisor) are known. Use skip counting to divide by two. Use related multiplication facts to divide by two. Use halving facts to divide by two. Use skip counting to divide by ten. Use related multiplication facts to divide by ten.	Identify whether a question involves sharing or grouping when dividing by three, four and eight. Recognise that dividing by eight is the same as dividing by two three times (or halving three times) Check answers using inverse operations. Divide a two-digit number by a one-digit number with no exchange. Solve problems involving the division of a two-digit number by a one-digit number with no exchange.	Make generalisations about dividends and quotients when dividing by one and itself. Divide a two-digit number by a single-digit number, by partitioning the two-digit number into tens and ones, dividing the parts by the single-digit number, then adding the partial quotients. Divide a two-digit number by a single-digit number using short division, with or without exchanges. Divide a two-digit number by a single -digit number using short division, with remainders.	Divide four-digit numbers by one-digit numbers using short division without exchanging. Divide four-digit numbers by one-digit numbers using short division with exchanging. Divide four-digit numbers by one-digit numbers using short division with remainders. Interpret remainders appropriately for the context. Use knowledge of short division and remainders to solve problems.	Explain how and why a quotient changes when a dividend changes multiplicatively (increase or decrease). Explain how and why a quotient changes when a divisor changes multiplicatively. Identify and explain the relationship between divisors and quotients. Divide numbers up to four digits by a two-digit whole number using long division. Divide numbers up to four digits by a two-digit number using short division where appropriate.

		Recall division facts up to 120 ÷ 10. Use skip counting to divide by five. Use related multiplication facts to divide by five. Recall division facts up to 60 ÷ 5. Explain that multiplication can be done in any order but division of one number by another cannot. Explain that multiplication and division are inverses. Use skip counting to solve division problems. Use multiplication facts to solve division problems.	Use flexible partitioning to divide larger two-digit numbers by one-digit numbers. Divide a two-digit number by a one-digit number with remainders. Explain why the divisor must be larger than the remainder.	Divide a three-digit number by a single -digit number using short division, with or without remainders. Explain when there will and will not be a remainder in a division equation. Use knowledge of division equations and remainders to solve problems. Solve correspondence problems by using their understanding of when n objects relate to m objects.		Explain how to use a ratio chart to solve efficiently: using short division. Explain how to use a ratio chart to solve efficiently: using long division. Divide numbers up to four digits by a two-digit number using long division with remainders. Interpret as whole number remainders, decimals, fractions, or by rounding, as appropriate for the context. Use knowledge of short and long division to solve problems. Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.
Multiplication and Division – Order of Operations						Explore the order of operations using brackets.

						Use knowledge of the order of operations to carry out calculations involving the four operations.
Measurement – Algebra						Generate and describe linear number sequences using one-step and two-step function machines. Form expressions. Use simple formulae. Express missing number problems algebraically. Substitute an algebraic letter for its value. Represent the structure of contextual problems with two unknowns. Compare the structure of problems with one or two unknowns. Form equations. Explain why sometimes there is only one solution to a sum and difference problem. Explain why sometimes there is only one solution to a sum and multiple problem.

						Solve problems with two unknowns in a range of contexts. Explain how they know they have found all possible solutions to problems with two unknowns. Explain how to balance an equation with two unknowns. Systematically solve problems with two unknowns using 'trial and improvement.'
Fractions, Decimals and Percentages	Recognise a half of an object or a shape.	Identify whether something has or has not been split into equal parts.	Confidently recognise and find unit fractions with small denominators of		Multiply unit fractions by an integer within a whole.	Multiply two unit fractions, writing the answer in its simplest form to solve multiplication problems.

	Find a half of an object or a shape. Recognise half of a quantity. Find half of a quantity. Recognise one-quarter of an object or a shape. Find one-quarter of an object or a shape. Recognise one-quarter of a quantity. Find one-quarter of a quantity.	Confidently recognise and find half of a length, shape or set of objects. Confidently recognise and find one-quarter of a length, shape or set of objects. Recognise and find one-third of a length, shape or set of objects. Read and write the fraction notation and relate this to a fraction of a length, shape or set of objects.	shapes and groups of objects. Find unit fractions of quantities using known division facts. Compare and order unit fractions.		Multiply unit fractions by an integer beyond a whole. Explain the relationship between finding a fraction of a quantity and multiplying a whole number by a unit fraction. Complete missing number problems involving fractions of a quantity when the size of a non-unit fraction is known.	Divide a unit fraction by an integer to solve division problems.
Measurement – Mass	Measure mass with non-standard units. Begin to use weighing scales.	Find the mass of objects by using balance scales and gram masses. Read analogue scales with increments of two, five and ten grams/ kilograms. Use knowledge of the number system to deduce the value when the arrow points between numbers on the scales. Measure mass in grams (g).	Measure mass in kilograms and grams confidently. Read and use scales dividing 100 into equal parts of different amounts accurately.			

		Measure mass in kilograms (kg).				
Measurement Mass - Describe, Estimate, Compare and Convert	Know that mass is not always related to size. Compare the mass of items using key vocabulary, e.g. heavier, lighter, heaviest and lightest. Order objects according to their mass using the terms heaviest and lightest.	Estimate mass in grams (g). Use balance scales to compare the mass of objects with one kilogram. Draw arrows on scales to show given masses. Identify objects that are a number of kilograms heavier or lighter than a given mass. Begin to compare and order mass in standard units. Investigate half the mass or twice the mass of objects measured in grams or kilograms.	Calculate simple mass equivalents of mixed units, e.g. 1500g = 1kg and 500g. Compare mass by scaling. Compare mass that combines kilograms and grams. Read scales to compare mass. Compare mass using >, < and = symbols. Recognise simple equivalents of kilograms and grams, e.g. (500g) and (250g). Order the mass of objects.		Understand and use approximate equivalences between metric (g, kg) and imperial (lbs) units. Use decimal notation when converting between metric units of measure. Use knowledge of place value and multiplication and division to convert between standard units.	Convert metric measures from a small unit of length to a larger unit and vice versa. Use decimal notation to three decimal places when converting between units of metric measure. Know approximate conversions and can tell if an answer is sensible. Understand and use approximate equivalences between metric (g, kg) and imperial units (lbs) confidently.
Measurement - Mass – Adding and Subtracting and Solving Problems	Solve practical problems involving comparing, ordering and measuring the mass of objects in non-standard units.	Solve problems involving comparing, ordering and measuring the mass of objects in standard units. Use the four operations to solve mass problems. Find combined masses to reach a total.	Add and subtract masses confidently.		Use all four operations to solve problems involving converting units.	Solve problems involving converting units of mass up to three decimal places.
Measurement –Capacity and Volume		Read scales with increments of five,	Measure capacity and volume in litres and			

	Measure capacity with non-standard units. Begin to use measuring containers.	ten and hundred millilitres. Use knowledge of the number system to deduce the value when the arrow points between numbers on the scales. Measure volume and capacity in millilitres (ml). Measure volume and capacity in litres (l).	millilitres confidently.			
Measurement – Capacity and Volume – Describe, Estimate, Compare and Convert	Use the terms full, nearly full, half full, nearly empty and empty to describe volume. Use the terms greater and smaller to compare and describe capacity. Order containers according to their capacity, using the terms greatest and smallest.	Estimate volume and capacity in millilitres (ml). Estimate volume and capacity in litres (l). Draw arrows on scales to show given capacities. Begin to compare and order capacities in standard units.	Calculate simple capacities and volumes equivalents of mixed units, e.g. 1500ml = 1l and 500ml. Compare capacities and volumes using visual estimation. Use key language to compare volumes without measuring. Recognise simple equivalents of millilitre and litres, e.g. (500ml) and (250ml). Compare capacity and volume using >, < and = symbols.		Estimate the capacity of given containers. Use the amount of liquid in a container to estimate its capacity. Understand and use approximate equivalences between metric (ml/l) and imperial (pints) units. Use decimal notation when converting between metric units of measure. Use knowledge of place value and multiplication and division to convert between standard units.	Convert metric measures from a small unit of length to a larger unit and vice versa. Use decimal notation to three decimal places when converting between units of metric measure. Know approximate conversions and are able to tell if an answer is sensible. Understand and use approximate equivalences between metric (ml, l) and imperial units (pints) confidently.

Measurement – Capacity and Volume – Adding, Subtracting and Solving Problems	Solve practical problems involving comparing, ordering and measuring the capacity of objects in non-standard units.	Solve problems involving comparing, ordering and measuring the capacity and volume in standard units. Use the four operations to solve capacity and volume problems.	Add and subtract capacity and volume up to 1 litre confidently.		Use all four operations to solve problems involving converting units.	Solve problems involving converting units of capacity up to three decimal places.
Measurement - Volume					Record the volume of cubes and cuboids in standard units (cm^3). Calculate the volume of shapes. Compare the volume of given shapes. Estimate the volume of given shapes.	Record the volume of cubes and cuboids in standard units, including mm^3, cm^3, m^3 and km^3. Use a formula to calculate the volume of cubes and cuboids. Compare the volume of cubes and cuboids. Estimate the volume of cubes and cuboids.
Measurement – Capacity and Volume – Adding, Subtracting and Solving Problems		Use language to describe and compare temperature. Identify degrees Celsius (°C) as a unit to measure temperature. Read and show temperatures using a thermometer. Read and mark thermometers with increments of 2°C, 5°C and 10°C.			Interpret negative numbers in context and calculate intervals across 0 (point 6 aim)	

		Estimate temperature in degrees Celsius. Complete challenges relating to measuring temperature in degrees Celsius.				
Measurement – Mass, Measure	Measure mass with non-standard units. Begin to use weighing scales.	Find the mass of objects by using balance scales and gram masses. Read analogue scales with increments of two, five and ten grams/ kilograms. Use knowledge of the number system to deduce the value when the arrow points between numbers on the scales. Measure mass in grams (g). Measure mass in kilograms (kg).	Measure mass in kilograms and grams confidently. Read and use scales dividing 100 into equal parts of different amounts accurately.			
Measurement – Mass – Describe, Estimate, Compare and Convert	Know that mass is not always related to size. Compare the mass of items using key vocabulary, e.g. heavier, lighter, heaviest and lightest.	Estimate mass in grams (g). Use balance scales to compare the mass of objects with one kilogram. Draw arrows on scales to show given masses. Identify objects that are a number of kilograms heavier or lighter than a given mass.	Calculate simple mass equivalents of mixed units, e.g. 1500g = 1kg and 500g. Compare mass by scaling. Compare mass that combines kilograms and grams. Read scales to compare mass. Compare mass using >, < and = symbols.		Understand and use approximate equivalences between metric (g, kg) and imperial (lbs) units. Use decimal notation when converting between metric units of measure.	Convert metric measures from a small unit of length to a larger unit and vice versa. Use decimal notation to three decimal places when converting between units of metric measure. Know approximate conversions and

	Order objects according to their mass using the terms heaviest and lightest.	Begin to compare and order mass in standard units. Investigate half the mass or twice the mass of objects measured in grams or kilograms.	Recognise simple equivalents of kilograms and grams, e.g. (500g) and (250g). Order the mass of objects.		Use knowledge of place value and multiplication and division to convert between standard units.	can tell if an answer is sensible. Understand and use approximate equivalences between metric (g, kg) and imperial units (lbs) confidently.
Measurement – Mass – Adding and Subtracting and Solving Problems	Solve practical problems involving comparing, ordering and measuring the mass of objects in non-standard units.	Solve problems involving comparing, ordering and measuring the mass of objects in standard units. Use the four operations to solve mass problems. Find combined masses to reach a total.	Add and subtract masses confidently.		Use all four operations to solve problems involving converting units.	Solve problems involving converting units of mass up to three decimal places.
Measurement – Capacity and Volume - Measure	Measure capacity with non-standard units. Begin to use measuring containers.	Read scales with increments of five, ten and hundred millilitres. Use knowledge of the number system to deduce the value when the arrow points between numbers on the scales. Measure volume and capacity in millilitres (ml). Measure volume and capacity in litres (l).	Measure capacity and volume in litres and millilitres confidently.			
Measurement – Capacity and Volume –						

Describe, Estimate, Compare and Convert	Use the terms full, nearly full, half full, nearly empty and empty to describe volume. Use the terms greater and smaller to compare and describe capacity. Order containers according to their capacity, using the terms greatest and smallest.	Estimate volume and capacity in millilitres (ml). Estimate volume and capacity in litres (l). Draw arrows on scales to show given capacities. Begin to compare and order capacities in standard units.	Calculate simple capacities and volumes equivalents of mixed units, e.g. 1500ml = 1l and 500ml. Compare capacities and volumes using visual estimation. Use key language to compare volumes without measuring. Recognise simple equivalents of millilitre and litres, e.g. (500ml) and (250ml). Compare capacity and volume using >, < and = symbols.		Estimate the capacity of given containers. Use the amount of liquid in a container to estimate its capacity. Understand and use approximate equivalences between metric (ml/l) and imperial (pints) units. Use decimal notation when converting between metric units of measure. Use knowledge of place value and multiplication and division to convert between standard units.	Convert metric measures from a small unit of length to a larger unit and vice versa. Use decimal notation to three decimal places when converting between units of metric measure. Know approximate conversions and are able to tell if an answer is sensible. Understand and use approximate equivalences between metric (ml, l) and imperial units (pints) confidently.
Measurement – Capacity and Volume – Adding and Subtracting and Solving Problems	Solve practical problems involving comparing, ordering and measuring the capacity of objects in non-standard units.	Solve problems involving comparing, ordering and measuring the capacity and volume in standard units. Use the four operations to solve capacity and volume problems.	Add and subtract capacity and volume up to 1 litre confidently.		Use all four operations to solve problems involving converting units.	Solve problems involving converting units of capacity up to three decimal places.
Measurement - Volume					Record the volume of cubes and cuboids in standard units (cm^3).	Record the volume of cubes and cuboids in standard units, including mm^3, cm^3, m^3 and km^3.

					Calculate the volume of shapes. Compare the volume of given shapes. Estimate the volume of given shapes.	Use a formula to calculate the volume of cubes and cuboids. Compare the volume of cubes and cuboids. Estimate the volume of cubes and cuboids.
Measurement – Capacity and Volume – Adding and Subtracting and Solving Problems		Use language to describe and compare temperature. Identify degrees Celsius (°C) as a unit to measure temperature. Read and show temperatures using a thermometer. Read and mark thermometers with increments of 2°C, 5°C and 10°C. Estimate temperature in degrees Celsius. Complete challenges relating to measuring temperature in degrees Celsius.			Interpret negative numbers in context and calculate intervals across 0 (point 6 aim).	
Measurement – Length and Height	Accurately measure length using different non-standard units. Name some tools used for measuring in centimetres.	Use a ruler to measure accurately to the nearest centimetre. Use measuring tools to measure objects in metres. Decide whether an object should be measured in	Use a ruler to measure accurately to the nearest millimetre. Use appropriate language and record using standard abbreviations, including millimetres.	Continue to measure lengths accurately.	Continue to measure lengths accurately.	Confidently read and write standard units of length.

	Measure how long or tall an object is in centimetres. Measure how long or tall a line is in centimetres.	centimetres or metres. Draw a line of a given length. Use appropriate language and record using standard abbreviations. Write measurements in mixed units (metres and centimetres).	Write measurements in mixed units (metres and centimetres). Write measurements in mixed units (centimetres and millimetres).			
Measurement – Length and Height – Describe, Estimate, Compare and Solve Problems	Identify which object is taller in a set of objects. Identify which object is shorter in a set of objects. Use accurate vocabulary to describe and compare heights, e.g. taller, shorter. Say which object is longer in a set of objects. Use accurate vocabulary to describe and compare lengths, e.g. longer, shorter. Estimate length or height using a	Estimate length or height using a partially-numbered ruler. Order lengths from shortest to longest. Order lengths from longest to shortest. Order heights from shortest to tallest. Order heights from tallest to shortest. Compare lengths and height using simple multiples, such as 'half as high'; 'twice as wide'. Compare lengths and height using the symbols >, < and =. Solve length and height problems with increasing complexity.	Compare lengths that use different units of measurement. Order lengths that use different units of measurement. Add lengths in metres, centimetres and millimetres. Subtract lengths in metres, centimetres and millimetres. Find the difference of lengths in metres, centimetres and millimetres.	Estimate length in centimetres. Estimate length in metres using known lengths to help them. Use <, > and = to compare length measurements. Order lengths in different units of measurement by converting between units. Solve problems involving calculating length where converting between units is required.	Solve problems involving all four operations.	Solve problems involving converting units of length up to three decimal places.

	partially numbered ruler. Solve simple length and height problems involving addition and subtraction. Find the difference in length and height measurements.					
Measurement – Length, Height, Perimeter and Area - Converting Units of Length			Provide simple equivalents of mixed units of length. Change one length to use the same unit of measurement as the other.	Convert from millimetres to centimetres by dividing by 10. Convert from centimetres to millimetres by multiplying by 10. Convert from centimetres to metres by dividing by 100. Convert from metres to centimetres by multiplying by 100. Convert from metres to kilometres by dividing by 1000. Convert from kilometres to metres by multiplying by 1000.	Understand and use equivalences between metric units. Multiply and divide by 1000 when converting between millimetres and metres. Use decimal notation to two decimal places when converting between units of metric measure. Understand and use approximate equivalences between metric (centimetres) and imperial units (inches).	Convert metric measures from a small unit of length to a larger unit and vice versa. Use decimal notation to three decimal places when converting between units of metric measure. Know approximate conversions and are able to tell if an answer is sensible. Understand and use approximate equivalences between metric (centimetres) and imperial units (inches) confidently.

						Convert between miles and kilometres.
Measurement – Length, Height, Perimeter and Area - Perimeter			Know that perimeter is the distance around the edge of a two-dimensional shape. Measure the length of the sides of shapes and calculate the perimeter by adding the side lengths together. Draw different shapes with the same perimeter. Calculate the perimeter of shapes where the sides are not all in the same unit of measurement. Use the properties of squares to calculate perimeter. Use the properties of rectangles (including squares) to calculate perimeter.	Draw shapes on a grid to a given perimeter. Calculate the perimeter of rectangles, using their properties of shape knowledge. Know that the perimeter of a rectangle can be calculated by addition and multiplication. Calculate the perimeter of squares, using their properties of shape knowledge. Calculate the measurement of unknown sides in rectangles and squares. Add together the sides of a rectilinear shape to calculate the perimeter. Calculate the length of missing sides in rectilinear shapes to find the perimeter.	Measure sides accurately to calculate perimeter. Use different methods to calculate the perimeter of rectangles. Draw rectangles that have a given perimeter. Find the perimeter of rectilinear shapes in centimetres and metres, using efficient ways of addition. Find the perimeter of rectilinear shapes, where not all the measurements are given. Find the perimeter of regular polygons, given the length of one side. Find the length of missing sides of regular polygons where the perimeter is given using division.	Recognise that shapes with the same perimeter can have different areas.

					Calculate the length of the sides of a regular polygon, given the perimeter. Create shapes with different perimeters, using the same number of regular polygons.	
Measurement – Measurement – Length, Height, Perimeter and Area - Area				Understand that area is the amount of space taken up by a 2D shape. Find the area of shapes by counting whole squares. Find the area of shapes using whole and half squares. Use multiples to calculate the area of rectangles, including squares. Recognise if a shape is a rectilinear shape or not. Work systematically to create rectilinear shapes to a given number of squares. Count squares to compare the area of rectilinear shapes. Use multiples to compare the area of rectangles. Identify rectangles within rectilinear shapes to compare the area.	Multiply length by width to calculate area. Record the area of flat shapes in standard units (cm² and m²). Compare the area of shapes. Explain how to make different shapes with the same area. Explain what is meant by a compound shape. Split compound shapes into separate rectangles. Use different methods to calculate the area of compound shapes. Count whole squares and part-covered squares to estimate the	Relate the area of rectangles to parallelograms and triangles. Calculate the area of a parallelogram using a formula. Calculate the area of a triangle by counting squares. Adapt the formula for the area of a rectangle to find the area of a right-angled triangle. Calculate the area of any triangle using a formula. Recognise that shapes with the same area can have different perimeters.

				Use arrays to calculate the area of rectangles. Begin to use multiplication to calculate the area of rectangles. Split more complex rectilinear shapes to calculate area.	area of irregular shapes. Calculate the area from scale drawings using given measurements.	
Measurement – Money – Recognising Coins and Notes	Explain the value of a 1p coin in pence. Recognise and explain the value of 2p, 5p, 10p, 20p, 50p, £1 and £2 coins. Read the pound symbol (£). Recognise the four notes used in the UK. Say how many pounds each note is worth.	Recognise and explain the value of coins and notes accurately. Recognise the symbols for pounds (£) and pence (p) accurately. Recognise pounds and pence separately. Write an amount of pounds and pence using the symbols £ and p.	Fluently recognise the value of coins and notes. Confidently record pounds and pence separately. Convert from pounds to pence and vice versa.	Write money amounts using the £ symbol and decimal notation. Convert from pounds to pence and vice versa using decimal notation.		
Measurement – Money – Counting in Coins and Notes	Explain that a single coin can be worth more than one penny. Calculate the total value of the coins in a set of 2p coins.	Skip count to find the values of a group of the same type of coin or note confidently. Read and say amounts of money confidently.				

	Calculate the total value of the coins in a set of 5p coins. Calculate the total value of the coins in a set of 10p coins. Count in steps of 2, 5 and 10 to work out the value of a set of coins.				
Measurement – Money – Estimate and Compare	Compare sets of coins based on their value. Compare the value of different pound coins and notes.	Confidently compare sets of coins or notes based on their value.	Compare amounts of money using <, > and =.	Compare money amounts that have different units. Order money amounts that have different units. Round money amounts to the nearest pound to support estimation.	
Measurement – Money – Adding and Subtracting Money and Solving Problems	Select coins that will make a particular value. Use knowledge of the value of coins to solve problems.	Choose coins and notes to make a particular value. Make different combinations of coins that have the same value. Add money to find totals, involving three one-digit numbers; two-digit numbers and tens; and two two-digit numbers. Calculate change.	Confidently find the total of a group of coins and notes. Find two or more different combinations to make a given amount. Confidently demonstrate that money can be represented in different ways but still have the same value. Add amounts of money, using both	Use and explain the most efficient strategies when adding quantities of money. Use and explain the most efficient strategies when subtracting quantities of money. Find the change when purchasing several items. Use the most efficient and reliable strategy to find the change when purchasing several items.	

		Subtract money, involving subtracting tens from two-digit numbers and subtracting a two-digit number from another two-digit number. Solve simple one-step addition money problems. Solve simple one-step subtraction money problems, including giving change. Begin to solve two-step problems.	pounds and pence in practical contexts. Subtract a manageable amount of money from a given amount without crossing over the pounds boundary. Subtract a manageable amount of money from a given amount when the pounds boundary is crossed over. Calculate change by using a number line to find the difference.	Solve increasingly complex addition and subtraction money problems involving decimal notation. Add and subtract quantities of money using column methods. Solve multiplication and division money problems involving decimal notation.		
Measurement – Ratio and Proportion						Use ratio language. Recognise proportionality in contexts when the relations between quantities are in the same ratio, e.g. recipes. Begin to use the notation a: b to record work. Solve problems in real-life contexts involving unequal quantities using knowledge of fractions and multiples, e.g. recipes.

						Use multiplication and division to calculate unknown values. Use a ratio grid to calculate unknown values. Use multiplication to solve correspondence problems. Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts. Explain how and why scaling is used to make and interpret maps. Identify and describe the relationship between two shapes using scale factors (squares). Identify and describe the relationship between two shapes using scale factors and ratios (regular polygons).

						Identify and describe the relationship between two shapes using scale factors and ratios (irregular polygons).
Measurement – Time – Telling the Time (Analogue Clock)	Tell the time to the hour on an analogue clock. Tell the time to half past the hour on an analogue clock. Draw the hands on a clock face to show the time to the hour and half past the hour.	Accurately read, tell and write the time to quarter past the hour on an analogue clock. Accurately read, tell and write the time to quarter to the hour on an analogue clock. Read, tell and write the time to five minutes to the hour on an analogue clock. Read, tell and write the time to five minutes past the hour on an analogue clock. Draw the hands on a clock face to show quarter past, quarter to and five minute intervals.	Recognise and read Roman numerals from I to XII to support telling the time on a 12-hour clock. Accurately tell and write the time to the nearest minute on an analogue clock.	Continue to read and write the time on an analogue clock accurately.		
Measurement – Telling the Time (Digital Clock)			Read and write the time on a 12-hour digital clock.	Read and write the digital time using 12-hour and 24- hour clocks.		
Measurement – Time – Days, Months and Years	Sequence events in chronological order using language, e.g. before and after.	Know the number of minutes in an hour. Know the number of hours in a day.	Confidently use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight to describe time.			

	Name the days of the week. Name the months of the year. Recognise how the year can be divided into four seasons and know which months belong to each one. Identify parts of a date that show the day, month and year.		Know the number of seconds in a minute. Know the number of days in each month. Know the number of days in a year and leap year.			
Measurement – Time – Estimate, Compare and Convert	Measure time in minutes to compare and describe familiar events. Measure time in seconds to compare and describe familiar actions. Compare time by selecting hours, minutes or seconds to measure the duration of familiar activities and events. Solve practical problems involving comparing time.	Find intervals of time in minutes. Use the words 'longer', 'shorter', 'longest' and 'shortest' to compare intervals of time. Sequence intervals of time from longest to shortest or shortest to longest.	Solve problems involving estimating and measuring time with increasing accuracy to the nearest minute. Solve problems involving recording and comparing duration of time in terms of hours and minutes.	Convert time between analogue and digital 12-hour and 24-hour clocks. Solve problems involving converting years to months. Solve problems involving converting weeks to days. Solve problems involving converting hours to minutes. Solve problems involving converting minutes to seconds.	Confidently solve problems involving converting between units of time. Complete, read and interpret information in tables, including two-way tables and timetables.	Confidently solve problems involving converting between units of time, converting between a small unit of time to a larger unit and vice versa.

Position and Direction – Position	Use the language of position, including left, right, above, below, on top of, between, in front of and behind.	Continue to build mathematical vocabulary to describe position.		Describe positions on a 2D grid as coordinates in the first quadrant. Draw a pair of axes in one quadrant, with equal scales and integer labels. Read, write and use pairs of coordinates. Plot specified points and draw sides to complete a given polygon.	Build on point 4 knowledge of coordinates in the first quadrant.	Draw and label a pair of axes in all four quadrants with equal scaling. Read and plot coordinates in the four quadrants. Draw and label simple shapes specified by coordinates in the four quadrants, predicting missing coordinates using the properties of shapes.
Position and Direction – Direction and Movement	Use the language of motion, including left, right, forwards and backwards.	Continue to build mathematical vocabulary to describe position, direction and movement, including movement in a straight line. Use instructions to move in straight lines. Solve problems involving position, direction and movement.		Describe movements between positions as translations of a given unit to the left/right and up/ down on a grid. Translate shapes on a grid.	Read, write and use pairs of coordinates to translate shapes in the first quadrant. Use appropriate language to describe translation and know that the shape has not changed. Identify, describe and represent the position of a shape following a reflection in lines that are parallel to the axes.	Translate simple shapes where coordinates may be expressed algebraically on the coordinate plane. Reflect simple shapes in the axes.
Position and Direction - Turns	Describe quarter, half, three-quarter and whole turns in both directions and connect clockwise	Distinguish between rotation as a turn for quarter, half and three-quarter turns (clockwise and anticlockwise).				

	with the movement on a clock face.	Solve problems involving turns.				
Properties of Shapes – Recognise 2D shapes and Their Properties	Recognise and name common 2D shapes in different orientations and sizes. Recognise that rectangles and triangles are not always similar to each other. Compose images from smaller shapes to match an example, including manipulating shapes to place them in particular orientations.	Know that a polygon is a 2D shape with straight sides that meet at vertices. Describe polygons using precise mathematical vocabulary, including line symmetry in a vertical line.	Recognise polygons in different orientations and describe them using precise vocabulary, including lengths of lines and acute and obtuse for angles greater or lesser than a right angle. Identify horizontal and vertical lines and pairs of perpendicular and parallel lines in polygons.	Develop mathematical reasoning to analyse shapes and their properties and confidently describe the relationships between them. Identify and describe different types of triangles based on their properties and sizes. Compare triangles, including calculating the perimeter of equilateral and isosceles triangles. Identify, describe and compare different types of quadrilaterals based on their properties. Identify and describe polygons. Recognise lines of symmetry in different orientations. Identify the lines of symmetry in a polygon. Complete symmetrical patterns from a specific line of symmetry. Reflect polygons in a line of symmetry.	Use the properties of rectangles to deduce related facts and find missing lengths and angles by using angle sum facts.	Draw 2D shapes accurately using given dimensions and angles using measuring tools, conventional markings and labels for lines and angles. Know that a parallelogram can be decomposed and the parts rearranged to form a rectangular parallelogram. Know two congruent triangles can be composed to form a parallelogram. Name parts of circles, including radius, diameter and circumference. Know that the diameter is twice the radius and may express this algebraically.

				Reflect polygons that are dissected by a line of symmetry. Reflect symmetrical figures across lines of symmetry in different orientations including horizontal, vertical or diagonal lines.		
Properties of Shapes - Recognise 3D shapes and their Properties	Recognise, handle and name common 3D shapes in different orientations/sizes and relate everyday objects fluently. Recognise that cuboids and pyramids are not always similar to each other.	Handle, identify and describe the properties of 3D shapes, including the number of edges, vertices and faces. Identify 2D shapes on the surface of 3D shapes.	Recognise 3D shapes in different orientations and describe them using precise vocabulary, including lengths of lines and acute and obtuse for angles greater or lesser than a right angle. Make 3D shapes using modelling materials.		Identify 3D shapes, including cubes and other cuboids from 2D representations.	Know that the same 3D shape can be composed from different 2D nets. Recognise, describe and build simple 3D shapes, including making nets.
Properties of Shapes – Compare and Classify Shapes	Sort simple 2D and 3D shapes. Explore, discuss and compare simple 2D and 3D shapes.	Know that polygons can be sorted and named according to the number of sides and vertices. Compare and find different ways to sort common polygons and 3D shapes and use vocabulary precisely, such as sides, edges, vertices and faces.		Compare polygons, including calculating the perimeter. Compare the number of lines of symmetry in a polygon. Compare lengths and angles to decide if a polygon is regular or irregular.	Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.	Compare and classify polygons based on their properties and sizes.
						Draw nets accurately.

Properties of Shapes – Drawing 2D Shapes and Constructing 3D Shapes		Draw lines and shapes using a straight edge.	Begin to connect decimals and rounding to drawing and measuring straight lines in centimetres when drawing shapes accurately. Draw polygons by joining marked points.	Draw with increasing accuracy.	Draw lines with a ruler to the nearest millimetre.	
Properties of Shapes – Angles			Recognise angles as a property of shape or a description of a turn. Identify right angles in 2D shapes presented in different orientations and 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.	Identify acute and obtuse angles. Compare and order angles up to two right angles by size in preparation for using a protractor.	Know that angles are measured in degrees. Compare the size of angles where there is a clear visual difference. Use the terms acute, obtuse and reflex when describing the size of angles or amount of rotation with relation to right angles. Estimate and measure acute, obtuse and reflex angles with increasing accuracy. Draw given angles and measure them in degrees with accuracy. Identify angles on one whole turn (total 360°).	Confidently recognise angles where they meet at a point, are on a straight line and find missing angles. Recognise and find missing vertically opposite angles. Explain how unknown angles and lengths can be derived from known measurements. Find unknown angles in any triangles, quadrilaterals and regular polygons using known measurements. Begin to express unknown angles algebraically (a = 180 – (b + c).

					Identify angles at a point on a straight line. Identify angles on a turn (total 180°) and other multiples of 90°. Begin to use conventional markings for parallel lines and right angles.	
Properties of Shapes – Patterns	Compose pattern block images. Children copy, extend and develop repeating and radiating pattern block patterns.	Explore patterns and repeating patterns, ordering and arranging combinations of 2D and 3D shapes in patterns and sequences with turns.				