Kingsgate Primary School Maths Progression

Kingsgate Primary School

EYFS

This progression document sets out progression from Nursery to the Early Learning Goals at the end of Reception.

Y1-Y6 maths progression document

This progression document breaks down end of year maths expectations for each year group into three stages: Beginning Developing Secure. It also exemplifies working at greater depth.

Using the maths progression document

As a planning tool to help you to

- Choose appropriate learning objectives.
- Pitch the work to the needs of the children.
- Move children in small steps to be secure in each objective. You should not move them on too fast. You should take into consideration their starting point.
- Challenge high attainers. You should deepen their understanding and develop their reasoning skills.
- Identify gaps for a particular child or a group of children. You should fill these gaps in guided maths sessions.
- Develop your subject knowledge.

You should use this document alongside the calculation policy to ensure appropriate strategies and clear progression.

As an assessment tool

- In KS1 and KS2 you should have one document for any child who is working below expectations, or for a child who was working at greater depth at the previous key stage, and who is no longer working at greater depth. When the child meets an objective, you should highlight it and date it.
- Highlight whilst marking children's maths books. You can check that you are assessing correctly.
- You can find evidence that children have met the objectives: through marking their work; through considering children's responses to your questions in class; through guided maths and through tests.
- A child who is greater depth will demonstrate this across the whole maths curriculum, including through their reasoning, not just in number.

Non-negotiable objectives

- Non-negotiable objectives are in bold. They make up about 50% of end of year objectives.
- If a child does not meet the non-negotiable objectives they will struggle to access the learning the next year.
- You cannot judge a child as secure unless they have met all of the non-negotiable objectives. (However, where only one or two are missing, you should discuss this at moderation).
- Other objectives are important and you must teach them. You cannot assess a child as secure if they have only met the non-negotiable objectives.

Nursery & Reception

Name:_____

Nursery		
End of term expectations (Autumn)	**End of term expectations (Spring)**	**End of term expectations (Summer)**
Number		
• Aware of number names through their enjoyment of action rhymes and songs that relate to numbers • May engage in counting-like behaviour, making sounds and pointing or saying some numbers in sequence • Uses number names of personal significance (eg, age) • Recites some number names to count or sing • Responds to words like lots or more	• Subitises 1 and 2 • Can group small sets • Starting to respond accurately when asked to give one or two things • Notices if someone has more or less than they do • Says which set has more when there is a very big difference	• Recites numbers past 5 • Counts sets up to 5 • Subitises to 3 • Starting to + and – in real life context to 5 • Knows the last number counted is the total in small sets • Starting to represent numbers with fingers • Beginning to compare and recognise changes in • numbers of things, using words like 1 more, 1 less, lots or 'same'
Spatial awareness		
• Explores space around them and engages with position and direction, such as pointing to where they would like to go	• Investigates fitting themselves inside and moving through spaces	• Understands some spatial and positional language (without pointing) • Describes a familiar route and talks about direction
Shape		
• Stacks objects using flat surfaces • Attempts, sometimes successfully, to match shapes with spaces on inset puzzles • Starts to talk about and name shapes	• Enjoys using blocks to create their own simple structures and arrangements • Beginning to select a shape for a specific space • Names some shapes • Can say which shapes are the same or different	• Talks about and explore 2D and 3D shapes using informal mathematical language • Recognises that two objects have the same shape • Makes simple constructions and solves problems with shape. Selects shapes appropriately • Combines shapes
Pattern		
• Joins in with repeated actions in songs and stories • Becoming familiar with patterns in daily routines • Beginning to arrange items in their own patterns, e.g. lining up toys	• Initiates and continues repeated actions • Joins in with and predicts what comes next in a story or rhyme	• Joins in and anticipates repeated sound and action patterns • Is interested in what happens next using the pattern of everyday routines • Talks about patterns around them • Can continue an ABAB pattern • Can spot an error in a pattern and generate their own
Measures		
• Shows an interest in objects of contrasting sizes in meaningful contexts • Gets to know and enjoys daily routine and uses some language of time and sequencing • Shows an interest in emptying containers	• Shows an interest in size and weight and notices differences • Explores capacity by selecting, filling and emptying containers, and uses language related to capacity • Beginning to understand that things might happen now or at another time, in routines • Know some days of the week	• Explores differences in size, length, weight and capacity • Use money in role play • Beginning to describe a sequence of events – first, then

Reception		
End of term expectations (Autumn)	**End of term expectations (Spring)**	**End of term expectations (Summer) ELG**
Number		
• Counts sets accurately to 6 • Counts beyond 10 • Points or touches (tags) each item, saying one number for each item, using the stable order of 1,2,3,4,5.6 • Orders numbers to 6 • Begins to recognise numerals 0 to 6 • Links numerals with amounts up to 6 • Writes some recognisable numerals • Subitises 1-5 (without counting)- dice pattern • Separates a group of three or four objects in different ways, beginning to recognise that the total is still the same (composition) • Beginning to use understanding of number to solve practical problems in play and meaningful activities • Beginning to recognise that each counting number is one more than before • Compares two small groups of up to five objects, saying when there are the same number of objects in each group, e.g. You've got two, I've got two. Same!	• Recites numbers from 0 to 10 (and beyond) and back from 10 to 0 • Understands the 1 more than and 1 less than relationship with consecutive numbers • In practical activities, adds one and subtracts one with numbers to 10 • Increasingly confident at putting numerals in order 0 to 10 (ordinality) • Counts out up to 10 objects from a larger group • Can estimate within 10 • Counts objects, actions and sounds • Subitises numbers to 5- different arrangements • Knows some number bonds within 10 • Shows awareness that numbers are made up (composed) of smaller numbers, exploring partitioning in different ways with a wide range of objects • Matches the numeral with a group of items to show how many there are (up to 10) • Begins to conceptually subitise larger numbers by subitising smaller groups within the number, e.g. sees six raisins on a plate as three and three	Children at the expected level of development will: • Have a deep understanding of number to 10, including the composition of each number; • Subitise (recognise quantities without counting) up to 5 • Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.
• Responds to and uses language of position and direction • Predicts, moves and rotates objects to fit the space or create the shape they would like when making pictures or construction	• Uses spatial language, including following and giving directions, using relative terms and describing what they see from different viewpoints. • Investigates turning and flipping objects in order to make shapes fit and create models; predicting and visualising how they will look (spatial reasoning) • Makes simple maps of familiar and imaginative environments, with landmarks	Numerical Patterns Children at the expected level of development will: • Verbally count beyond 20, recognising the pattern of the counting system • Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity; • Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally
Shape		
• Can talk about shapes and their properties using everyday mathematical language • Shows awareness of shape similarities and differences between objects • Attempts to create arches and enclosures when building, using trial and improvement to select blocks	• Uses informal language and analogies, (e.g. heart-shaped and hand-shaped leaves), as well as mathematical terms to describe shapes • Can compose and decompose shapes, learning which shapes combine to make other shapes • Uses own ideas to make models of increasing complexity, selecting blocks needed, solving problems and visualising what they will build	
Pattern		

• Explores and adds to simple linear patterns of two or three repeating items, e.g. stick, leaf (AB) or stick, leaf, stone (ABC)	• Chooses familiar objects to create and recreate repeating patterns beyond AB patterns and begins to identify the unit of repeat	
Measures		
• In meaningful contexts, finds the longer or shorter, heavier or lighter and more/less full of two items • Measures in non-standard units	• Enjoys tackling problems involving prediction and discussion of comparisons of length, weight or capacity, paying attention to fairness and accuracy • Can recognise when things are equal or balanced • Becomes familiar with measuring tools in everyday experiences and play	
• Uses money and the vocabulary of money in role play		

Year 1

Name:_____

Year 1			
Beginning	**Developing**	**Secure**	**Greater Depth**
Number and Place Value			
Continue to count from any number to 100.	Continue counting forwards and backwards to 100 from any given number.	Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number.	Begin to recognise place value in numbers beyond 20 by reading, writing, counting and comparing numbers up to 100.
Count and read numbers to 100 in numerals. Understands that the position a digit is placed in a number determines its value.	Write numbers to 100 in numerals Understands that the language used to name numbers does not always expose the place value, for example the word 'twelve' does not make it transparent that the value of this number is ten and two.	Count, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s	Recognise simple patterns of multiples e.g. multiplies of 5 always end in a 0 or 5 and patterns for odd and even numbers.
Order numbers correctly to 30.	Say a number that is 1 more or 1 less to 50	Given a number, identifies 1 more and 1 less.	Be able to solve and begin to explain a word problem where 1 more or less is needed for the answer without counting.
Identify numbers using objects and use the language of: more than, less than (fewer), most, least	Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least	Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least	Be able to show if a number is bigger or smaller than another by positioning them on an empty number line.
Read and write numerals and number words from 1-10.	Read and write numerals and number words from 11- 20.	Read and write numbers from 1 to 20 in numerals and words.	Be able to read number words in a simple maths word problem.

Autumn Term: Judgment		**Spring Term:** Judgment		**Summer Term:** Judgment	

Year 1			
Beginning	**Developing**	**Secure**	**Greater Depth**
Addition and Subtraction			
Understand the vocabulary related to addition (+), subtraction (−) and equals (=) signs.	Use the correct vocabulary when reading and interpreting a simple number sentence.	Read, write and interpret mathematical statements involving addition (+), subtraction (−) and equals (=) signs.	Be able to find the missing operation in a subtraction or addition mathematical statement.
Represent and use number bonds and related subtraction facts within 10.	Represent and use number bonds and related subtraction facts within 15. *Relating numbers to 5 and 10 helps develop knowledge of the number bonds within 20. For example, given 8 + 7, thinking of 7 as 2 + 5 and adding the 2 to 8 to make 10 and then the 5 to total 15.*	Represent and use number bonds and related subtraction facts within 20.	Memorise and reason with number bonds to 10 and 20 in several forms e.g. 9 + 7 = 16, 16-9 = 7, 7 = 16 – 9 and realise the effect of adding or subtracting 0.
Add two 1-digit numbers.	Add a one-digit number to a two-digit number within 20 Subtract a one-digit number from a 2- digit number within 20	Add and subtract one-digit and two-digit numbers to 20, including 0.	Confidently and accurately add and subtract numbers to 20 and beyond with increased fluency.
Solve one-step problems that involve addition and subtraction, using concrete objects.	Solve one-step problems that involve addition and subtraction, using pictorial representations. Begin to work out the value of a missing number	Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and solve missing number problems such as 7 = □ – 9	Record work using + - and = symbols and explain why it is used for a given problem

Autumn Term: Judgment		**Spring Term:** Judgment		**Summer Term:** Judgment	

Year 1			
Beginning	**Developing**	**Secure**	**Greater Depth**
Multiplication and Division			
Recognise a pattern counting in 2s. Know doubles to double 5. *Counting in steps of equal sizes is based on the big idea of 'unitising' ; treating a group of, say, five objects as one unit of five.*	Know doubles to double 10. Recognise a pattern counting in 10s. Group objects in 2s, 10s and 5s for counting. *Working with arrays helps pupils to become aware of the commutative property of multiplication, that 2 × 5 is equivalent to 5 × 2.*	Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.	Make connections between arrays, number patterns and counting in 2s, 5s and 10s.

Autumn Term: Judgment		**Spring Term:** Judgment		**Summer Term:** Judgment	

Year 1			
Beginning	**Developing**	**Secure**	**Greater Depth**
Fractions			
Recognise half as 1 of 2 equal parts of a shape. Understands that halving involves partitioning an object, shape or quantity into two equal parts.	Recognise, find and name a half as 1 of 2 equal parts of an object, shape or quantity. Understands that the two parts need to be equivalent in, for example, area, mass or quantity. Find half of an even quantity which is less than 10.	Recognise, find and name a half as 1 of 2 equal parts of an object, shape or quantity.	Use halves to solve problems using shapes, objects and quantities and begin to explain my reasoning.
	Recognise, find and name a quarter as 1 of 4 Knows that fractions express a relationship between a whole and equal parts of the whole. *Ensure children express this relationship when talking about fractions. For example, 'If the circle (where the circle is divided into four equal parts with one part shaded) is the whole, one part is one quarter of the whole circle.'*	Recognise, find and name a quarter as 1 of 4 equal parts of an object, shape or quantity.	Use quarters to solve problems using shapes, objects

Autumn Term: Judgment		**Spring Term:** Judgment		**Summer Term:** Judgment	

Year 1			
Beginning	**Developing**	**Secure**	**Greater Depth**
Measurement			
Use everyday language to talk about size, weight, capacity, position, distance, time and money. Compare quantities and objects and solve problems *Understands that measurement is about comparison, for example measuring to find out which rope is the longest.*	Begin to use the correct mathematical language for measurement when comparing quantities and objects *Understands that measurement is about equivalence, for example how many cubes are equivalent to the length of the table or the mass of the teddy?*	Compare, describe and solve practical problems for: lengths and heights [for example, long/short, longer/shorter, tall/short,double/half mass/weight [for example, heavy/light, heavier than, lighter than] capacity and volume [for example, full/empty, more than, less than, half, half full, quarter] time [for example, quicker, slower, earlier, later]	Begin to use common standard units of measurement when comparing and using different quantities and objects Begin to recognise standard measures when using measuring tools such as a ruler, weighing scales and containers
Use everyday language to talk about size, weight, capacity, position, distance, time and money. Compare and order 3 or more items in terms of length, mass and capacity	Use and compare different types of quantities and measures using non-standard units	Measure and begin to record the following: lengths and heights mass/weight capacity and volume time (hours, minutes, seconds) recognise and know the value of different denominations of coins and notes sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]	Show and explain my thinking when solving simple measurement problems e.g. how much I have left if I have 80p and I spend 10p guessing the name of the bear at the school fair, without counting in 1s
Know that each day has a different name Know what month their birthday is in	Say the days of the week in order Begin to name some of the months	Recognise and use language relating to dates, including days of the week, weeks, months and years	Answer simple questions related to the order of the days of the week, months and years
Begin to recognise and use the vocabulary of time	Begin to understand that an hour is longer than a minute Know a clock has an hour and a minute hand	Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times	Begin to compare and sequence intervals of time e.g. the school day

Autumn Term: Judgment		**Spring Term:** Judgment		**Summer Term:** Judgment	

Year 1			
Beginning	**Developing**	**Secure**	**Greater Depth**
Geometry			
Explore the characteristics of everyday 2D objects and shapes and use mathematical language to describe them.	Use mathematical language to describe common 2D shapes.	Recognise and name common 2-D shapes, including: 2-D shapes [for example, rectangles (including squares), circles and triangles]	Recognise 2D shapes in different orientations and sizes and explain why rectangles and triangles are not always similar to others.
Explore the characteristics of everyday 3D objects and shaped and use mathematical language to describe them.	Use mathematical language to describe common 3D shapes.	Recognise and name common 3-D shapes, including: 3-D shapes [for example, cuboids (including cubes), pyramids and spheres]	Recognise 3D shapes in different orientations and sizes and explain why cuboids and pyramids are not always similar to others.
Recognise, create and describe patterns.	Use the language of position, direction and motion, including: left and right, top, middle and bottom, on top of, in front of, above, between, around, near, close and far, up and down, forwards and backwards, inside and outside.	Describe position, direction and movement, including whole, half, quarter and three-quarter turns	Make whole, half, quarter and three- quarters turn in both directions and connect turning clockwise and anti- clockwise with movement on a clock face.

Autumn Term: Judgment		**Spring Term:** Judgment		**Summer Term:** Judgment	

Year 2

Name:_____

Year 2			
Beginning	**Developing**	**Secure**	**Greater Depth**
Number and Place Value			
Counts backwards in steps of 2's, 5's and 10	Counts in steps of 2, 5 and 10 from 0 forwards and backwards. Counts forwards in steps of 3 from 0	Counts in steps of 2, 3, 5 and 10 from 0, forwards and backwards.	Recognises and identifies a multiple of 2, 5 and 10 and explains how they know
Understands that a two-digit number is made up of tens and ones Estimates number of objects to 20	Partitions a 2 digit number in different ways (groups of tens and ones) using dienes apparatus, other place value equipment and pictorial representations Identifies, represents and estimates numbers up to 20 using different representations, including the number line.	Recognises the place value of each digit in a two-digit number (tens, ones) Identifies, represents and estimates numbers using different representations, including the number line for numbers up to 100. Partition any two-digit number into different combinations of tens and ones, explaining their thinking verbally, in pictures or using apparatus* e.g. 63 = 60 + 3 or 50 + 13 or 40 + 23 etc. **This is not a national curriculum statement but is one of the judgment statements from the assessment standards for KS1*	Explains why switching the digits in a two-digit number changes its value. Accurately estimates where numbers are positioned on an empty number line and explains why they have chosen that position.
Compares pairs of numbers up to 100 using the phrase 'greater or less than'	Compares and orders numbers up to 100	Compares and orders numbers from 0 up to 100; use <, > and = signs	Uses the <, > and = signs between pairs of calculations to compare the size of the answers. E.g. 12+38>51-4
Reads numbers to 100	Reads and writes numbers to 20 in words.	Reads and writes numbers to at least 100 in numerals and words.	Reads numbers correctly in words when solving a mathematical problem.
Makes use of place value apparatus to partition numbers when solving problems	Partitions numbers into tens and ones prior to solving problems when appropriate	Uses place value and number facts to solve problems	Explains how they have applied place value understanding and number facts to solve a problem and why the answer is correct.

Autumn Term: Judgment		**Spring Term:** Judgment		**Summer Term:** Judgment	

Year 2			
Beginning	**Developing**	**Secure**	**Greater Depth**
Addition and Subtraction			
Selects the correct operation to solve problems that involve addition and subtractions	Demonstrates an understanding of problems involving addition and subtraction using concrete apparatus or pictorial representations	Solves problems with addition and subtraction applying increasing knowledge of mental and written methods	Solves a simple 2-step problem with addition and subtraction and explains the steps they have taken to solve it
Recalls addition and subtraction facts to 10 and reasons about associated facts e.g. 6+4=10 therefore 4+6=10, 10-6=4 and 10-4=6	Recalls and uses addition and subtraction facts to 20	Recalls and uses addition and subtraction facts to 20 fluently, and derives and uses related facts up to 100	Uses fluent recall of subtraction and addition facts to support mental calculations
Adds and subtracts 3 one digit numbers using concrete objects, pictorial representations, and mentally. Understands the importance of the equals sign meaning 'equivalent to' (i.e. that 6 + 4 = 10, 10 = 6 + 4 and 5 + 5 = 6 + 4 are all valid uses of the equals sign). *It is crucial children understand the equals sign for later work in algebra. Empty box problems can support the development of this key idea. Correct use of the equals sign should be reinforced at all times. Altering where the equals sign is placed develops fluency and flexibility.*	Adds and subtracts numbers using concrete objects, pictorial representations and mentally, including: a two-digit number and 1s a two-digit number and 10s Develops more efficient methods e.g when adding three or more numbers knows it is helpful to look for pairs of numbers that are easy to add. For example, given 5 + 8 + 2 it is easier to add 8 + 2 first rather than to begin with 5 + 8.	Adds and subtracts numbers using concrete objects, pictorial representations, and mentally**, including: a two-digit number and 1s a two-digit number and 10s 2 two-digit numbers* adding 3 one-digit numbers **in order to achieve the expected standard in the KS1 standards document children need to add and subtract 2 two-digit numbers bridging through tens. E.g 48+35; 72-17* ***in order to achieve the expected standard in the KS1 standards document children need to demonstrate they can select an efficient strategy and explain their method verbally, in pictures or using apparatus.*	Demonstrates their understanding of a calculation and place value by selecting an appropriate method to solve it based on place value, the operation and the numbers involved. Reasons about numbers and relationships to solve more complex problems and explain their thinking (e.g. 29 + 17 = 15 + 4 + □; 'together Jack and Sam have £14. Jack has £2 more than Sam. How much money does Sam have?' etc.) Solves unfamiliar word problems that involve more than one step (e.g. 'which has the most biscuits, 4 packets of biscuits with 5 in each packet or 3 packets of biscuits with 10 in each packet?')
Understands that in addition the answer is increased and in subtraction the answer is decreased. Can demonstrate this on a number line.	Understands that numbers can be rearranged in an addition number sentence to make a calculation easier to solve. e.g. when adding two numbers it can be more efficient to put the larger number first. For example, given 3 + 8 it is easier to calculate 8 + 3.	Shows that addition of 2 numbers can be done in any order (commutative) and know that subtraction of 1 number from another cannot	Explains with the use of examples why addition is commutative but subtraction is not
Recognises and uses the inverse relationship between addition and subtraction with apparatus and pictorial representations eg part – whole illustrations.	Recognise and use the inverse relationship between addition and subtraction and use this to check the answer to calculations.	Recognises and uses the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems	Be able to make 2 addition and 2 subtraction calculations using 2 digit numbers. E.g. 24+37=61 37+24=61 61-24=37 61-37=24

Autumn Term: Judgment		**Spring Term:** Judgment		**Summer Term:** Judgment	

Year 2			
Beginning	**Developing**	**Secure**	**Greater Depth**
Multiplication and Division			
Understands that when multiplying they can use repeated addition on a number line and arrays. Can use repeated subtraction when dividing and sharing/grouping using concrete apparatus	Knows and uses the 2,5 and 10 times tables in order Explores the nature of odd and even numbers in terms of fair and unfair shares	Recalls and uses multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers	Uses commutativity and inverse relations to develop multiplicative reasoning e.g. 4 X 5 = 20 and 20 ÷ 5 = 4 Recalls and uses multiplication and division facts for 2, 5 and 10 and make deductions outside known multiplication facts
Recognises and uses the multiplication (×), division (÷) and equals (=) signs	Selects the correct operation for a problem involving multiplication or division	Calculates mathematical statements for multiplication and division within the multiplication tables and writes them using the multiplication (×), division (÷) and equals (=) signs	Solves multiplication and division calculations slightly beyond those within their expected tables by applying place value and number fact knowledge. E.g. 13x5=12x5+5
Generates arrays (no larger than 40 dots) to solve multiplication problems and explains these in terms of repeated addition and multiplication	Creates an array (no larger than 40 dots) to support multiplication and division and generates all the calculations they display.	Shows that multiplication of 2 numbers can be done in any order (commutative) and division of 1 number by another cannot	Recognises, uses and explains the inverse relationships between multiplication and division Uses this to solve missing number problems
Makes use of apparatus and generates illustrations to support calculation with problems involving multiplication and division.	Solves one-step problems involving multiplication and division using objects, pictorial representations and arrays.	Solves problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts	Shows and explains how knowing a multiplication fact helps them to solve a division word problem and records related number sentences

Autumn Term: Judgment		**Spring Term:** Judgment		**Summer Term:** Judgment	

Year 2			
Beginning	**Developing**	**Secure**	**Greater Depth**
Fractions			
Finds and names ½ , ¼ and $\frac{2}{4}$ of a length, shape, set of objects or quantity	Understands how to draw or find ¾ of a length, shape, set of objects.	Recognises, finds, names and writes fractions ⅓, ¼, $\frac{2}{4}$ and ¾ of a length, shape, set of objects or quantity	Solves and explains how to use fractions when solving problems using shape, objects and quantities. Make links between finding a fraction of a quantity and division.
Finds and writes simple fractions of numbers E.g. ½ of 4=2 ¼ of 8=2	Explores and explain why $\frac{2}{4}$ is equivalent to ½ with the use of objects, shapes and numbers.	Writes simple fractions e.g. ½ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and ½	Counts in halves and quarters up to 10 on a number line and begin to understand the concept of fractions as numbers.

Autumn Term: Judgment			**Spring Term:** Judgment			**Summer Term:** Judgment	

Year 2			
Beginning	**Developing**	**Secure**	**Greater Depth**
Measurement			
Uses appropriate standard units to estimate and measure length/height and distance,(m/cm) (within 100) using rulers tape measures and metre sticks **ensure that measuring equipment used only displays metric units – not inches*	Chooses and uses appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, measuring vessels with increasing accuracy	Chooses and uses appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels Can compare and order lengths, mass, volume/capacity and record the results using >, < and =	Calculates using different units of measurement to solve a problem.
Recognises that different things cost different amounts of money	Recognises and knows the value of different denominations of coins and notes	Recognises and uses symbols for pounds (£) and pence (p); combine amounts to make a particular value Finds different combinations of coins that equal the same amounts of money Solves simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change	Solves and explains problems involving addition and subtraction of money of the same unit, including giving change
Demonstrates understanding about how a clock face works and the speed of the hour and minute hands. Explain the position of the hour hands in relation to the numbers when it is half past.	Writes and tells the time to the hour, half past and quarter past and quarter to and draw the hands on a clock face to show these times. Position the hour hand appropriately.	Writes and tells the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times* Know the number of minutes in an hour and the number of hours in a day **in order to achieve the expected standard in the KS1 standards document children need to read the time on a clock to the nearest 15 minutes which is less challenging as a national curriculum expectation.*	Solves and explains simple problems involving time using a time number line.

Autumn Term: Judgment		**Spring Term:** Judgment		**Summer Term:** Judgment	

Year 2			
Beginning	**Developing**	**Secure**	**Greater Depth**
Geometry			
Identifies and describes the properties of 2-D shapes, including the number of sides and corners when looking at the shape.	Identifies the unknown 2D shape being described based on its properties in terms of sides and corners Find lines of symmetry on common 2D shapes identify when shapes do not have lines of symmetry.	Identifies and describes the properties of 2-D shapes, including the number of sides, and line symmetry in a vertical line Compares and sorts common 2-D and everyday objects	Compares and sorts a wide variety of 2-D shapes according to their properties and use precise vocabulary when explaining (including quadrilaterals and polygons)
Identifies and describes the properties of 3-D shapes, including the number of edges, vertices and faces when holding the shape.	Identifies the unknown 3D shape being described based on its properties in terms of edges, faces and vertices Identifies the 2D shapes that create the faces of the 3D shape.	Identifies and describes the properties of 3-D shapes, including the number of edges, vertices and faces Compares and sorts common 3-D shapes and everyday objects Identifies 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]	Compares and sorts a wide variety of 3-D shapes according to their properties and use precise vocabulary when explaining (including prisms)
Continues a mathematical repeating pattern or sequence.	Makes a mathematical repeating pattern or sequence with two or more criteria.	Orders and arranges combinations of mathematical objects in patterns and sequences	Finds different ways of describing a sequence of shapes, objects or numbers and give alternative ways in which a sequence could be continued with justification.
Uses mathematical vocabulary to describe position, direction and movement, including movement in a straight line	Identifies right angles in shapes, illustrations or objects and understand these are a quarter turn. Uses the terms clockwise and anti-clockwise and left and right with a degree of accuracy.	Uses mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise)	Applies their understanding of angles and turns when describing or drawing shapes and when coding.

Autumn Term: Judgment		**Spring Term:** Judgment		**Summer Term:** Judgment	

Year 2			
Beginning	**Developing**	**Secure**	**Greater Depth**
Statistics			
Creates simple pictograms where one illustration represents one answer/ response. *Statistics is not formally covered in Y1.*	Interprets the information provided on simple pictograms. Understand how the information on a pictogram or tally chart can be used to generate a block diagram.	Recognises simple pictograms, tally charts, block diagrams and tables. *one illustration / square may represent more than one response on a pictogram/block graph	Recognises simple pictograms, tally charts, block diagrams and tables.
Begins to ask questions about simple pictograms and tables.	Is able to ask questions about simple pictograms, tally charts, and tables.	Is able to ask questions about simple pictograms, tally charts, block diagrams and tables.	Generalises and draw conclusions from the information

Autumn Term: Judgment			**Spring Term:** Judgment			**Summer Term:** Judgment	

Year 3

Name:_____

Year 3			
Beginning	**Developing**	**Secure**	**Greater Depth**
Number and Place Value			
Counts in steps of 2, 3, 5 and 10 from any number forward and backwards.	Counts from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number Finds 10 more or less than a given number and 100 more than a given number	Counts from 0 in multiples of 4, 8, 50 and 100; Finds 10 or 100 more or less than a given number	Counts from 0 in multiples of 6, 25 and 1000
Recognises the place value of each digit in a two-digit number	Starts to recognise the place value of each digit in a three-digit number (hundreds, tens, ones)	Recognises the place value of each digit in a three-digit number (hundreds, tens, ones)	Recognises the place value of each digit in a four-digit number (thousands, hundreds, tens, ones)
Compares and orders numbers up to 100	Compares numbers up to 1000	Compares and orders numbers up to 1000	Compares and order numbers beyond 1000
Identifies, represents and estimates numbers up to 100 using different representations	Identifies, represents and estimates numbers up to 500 using different representations	Identifies, represents and estimates numbers up to 1000 using different representations	Identifies, represents and estimates numbers beyond 1000 using different representations
Reads and writes numbers to at least 100 in numerals and in words	Reads and writes numbers up to 1000 in numerals	Reads and writes numbers up to 1000 in numerals and in words	Reads and writes numbers beyond up to 10,000 in numerals and in words
Solves number problems and practical problems involving the ideas above	Solves number problems and practical problems involving the ideas above	Solves number problems and practical problems involving the ideas above	Solves number problems and practical problems involving the ideas above

Autumn Term: Judgment		**Spring Term:** Judgment		**Summer Term:** Judgment	

Year 3			
Beginning	**Developing**	**Secure**	**Greater Depth**
Addition and Subtraction			
Adds and subtracts numbers mentally, including: a two-digit number and ones a two-digit number and tens a two-digit number and hundreds *Subtraction bonds can be thought of in terms of addition: for example, in answering 15 – 8, thinking what needs to be added to 8 to make 15. Counting on for subtraction is a useful strategy that can also be applied to larger numbers.*	Adds and subtracts numbers mentally, including: a three-digit number and ones a three-digit number and tens	Adds and subtracts numbers mentally, including: a three-digit number and ones a three-digit number and tens a three-digit number and hundreds	Pupils continue to practise both mental methods for addition and subtraction with increasingly large numbers
Records addition and subtraction in columns to support place value	Adds and subtracts numbers with up to two digits, using formal written methods of columnar addition and subtraction	Adds and subtracts numbers with up to three digits, using formal written methods of columnar addition and subtraction	Adds and begins to subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate
Uses the inverse relationship between addition and subtraction to check calculations	Starts to estimate the answer to a calculation and use inverse operations to check answers	Estimates the answer to a calculation and use inverse operations to check answers on a regular basis	Uses inverse operations to check answers to a calculation with numbers up to 4 digits.
Solves missing number problems	Solves problems, including missing number problems, using number facts and place value.	Solves problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.	Begins to solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.

Autumn Term: Judgment		**Spring Term:** Judgment		**Summer Term:** Judgment	

Year 3			
Beginning	**Developing**	**Secure**	**Greater Depth**
Multiplication and Division			
Recalls and use multiplication and division facts for the 2, 5 and 10 multiplication tables	Recalls and use multiplication and division facts for the 3 and 4 multiplication tables	Recalls and use multiplication and division facts for the 3, 4 and 8 multiplication tables	Recalls and use multiplication and division facts for the 3, 4, 6 and 8, 9 and 11 multiplication tables
Calculates mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication, division and equals signs.	Writes and calculates mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental methods	Writes and calculates mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods	Writes and calculates mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and formal written methods
Solves problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.	Solves problems, including missing number problems, involving multiplication and division, including positive integer scaling problems	Solves problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.	Confidently solves problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.

Autumn Term: Judgment		**Spring Term:** Judgment		**Summer Term:** Judgment	

Year 3			
Beginning	**Developing**	**Secure**	**Greater Depth**
Fractions			
Counts up to 10 in halves and quarters	Counts up in tenths; recognises that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10	Counts up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one- digit numbers or quantities by 10	Counts up in hundredths; recognises that hundredths arise when dividing an object by one hundred and dividing tenths by ten and use these in a growing variety of problems.
Writes simple fractions of numbers for example ½ of 6=3	Recognises, finds and writes fractions of a discrete set of objects: unit fractions with small denominators	Recognises, finds and writes fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators	Recognises, finds and writes fractions of a discrete set of objects: unit fractions and non-unit fractions with larger denominators and use these in a growing variety of problems.
	Recognises and uses fractions as numbers: unit fractions with small denominators	Recognises and uses fractions as numbers: unit fractions and non-unit fractions with small denominators	Recognises and uses fractions as numbers: unit fractions and non-unit fractions with larger denominators and use these in a growing variety of problems.
Recognises the equivalence of $^{2}/_{4}$ and $^{1}/_{2}$	Recognises the equivalence of halves, quarters, fifths and tenths.	Recognises and shows, using diagrams, equivalent fractions with small denominators	Recognises and show, using diagrams, families of equivalent fractions and use these in a growing variety of problems.
Recognises that if you add 2 halves together or 4 quarters together they add up to 1.	Adds fractions with the same denominator within one whole	Adds and subtracts fractions with the same denominator within one whole	Adds fractions with the same denominator beyond one whole and use these in a growing variety of problems.
Compares and orders fractions with the same denominators	Compares and orders fractions with the same denominators and compare unit fractions	Compares and orders unit fractions, and fractions with the same denominators	Begins to recognise there is equivalence between fractions and decimals.
Solves problems that involve all of the above	Solves problems that involve all of the above	Solves problems that involve all of the above	Solves problems that involve all of the above

Autumn Term: Judgment		**Spring Term:** Judgment		**Summer Term:** Judgment	

Year 3			
Beginning	**Developing**	**Secure**	**Greater Depth**
Measurement			
Estimates and measures lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) *Developing benchmarks to support estimation skills is important as pupils become confident in their use of standard measures. The height of a door frame, for example, is approximately 2 metres, and a bag of sugar weighs approximately 1 kilogram.*	Measures and compares lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)	Measures, compares, adds and subtracts: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)	Measures and compares, selecting the appropriate tools and units; add and subtract using mixed units and equivalence of units e.g. 75cm and ½ m
Be able to find the perimeter of squares and rectangles drawn on squared paper by counting	Measures the perimeter of squares, rectangles and triangles	Measures the perimeter of simple 2-D shapes	Measures and calculates the perimeter of simple 2-D shapes accurately
Adds and subtracts simple amounts of money using the support of practical apparatus	Adds and subtracts amounts of money to give change, using practical apparatus if needed	Adds and subtracts amounts of money to give change, using both £ and p in practical contexts	Adds and subtracts amounts of money including mixed units and give change in manageable amounts
Tells and writes the time from an analogue clock to the nearest quarter of an hour	Tells and writes the time from an analogue clock to the nearest five minutes Knows Roman numerals from I to XII	Tells and writes the time from an analogue clock*, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks* **to the nearest minute* ***digital time not covered until Y4. This refers to 11am or 11pm*	Confidently applies knowledge of time, including using Roman numerals, 12-hour and 24-hour, to a wide range of practical contexts, on a range of clock faces with understanding of the role of each hand
Estimates and reads time with increasing accuracy to the nearest quarter of an hour; record and compare time in terms of hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight	Estimates and reads time with increasing accuracy to the nearest five minutes; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight	Estimates and reads time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight	Estimates and reads time with accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and days; Confidently use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight
Knows the number of seconds in a minute and the number of minutes in an hour	Knows the number of seconds in a minute, the number of minutes in an hour and the number of days in each month.	Knows the number of seconds in a minute and the number of days in each month, year and leap year	Knows and applies knowledge of the number of seconds in a minute and the number of days in each month, year and leap year to a wide range of applications
Compares durations of events given in seconds or minutes	Compares durations of events that involve simple conversion	Compares durations of events, for example to calculate the time taken by particular events or tasks.	Confidently compares durations of events given in a range of formats

Autumn Term: Judgment		**Spring Term:** Judgment		**Summer Term:** Judgment	

Year 3			
Beginning	**Developing**	**Secure**	**Greater Depth**
Geometry – Properties of Shape			
Draws 2-D shapes and make 3-D shapes using modelling materials with support	Draws 2-D shapes and make 3-D shapes using modelling materials; begin to recognises 3-D shapes in different orientations	Draws 2-D shapes and make 3-D shapes using modelling materials; recognises 3-D shapes in different orientations and describe them.	Describes, with appropriate vocabulary, the properties of 2- D and 3-D shapes, when presented in a range of formats, using my knowledge of lengths and angles. Recognises that relationships are at the heart of properties of shapes, not particular measurements. For example, the opposite sides of any rectangle will always be equal, not that rectangles have a pair of long sides and a pair of short sides.
Recognises that angles are a description of a turn with support	Recognises that angles are a description of a turn and understands the lengths of the lines used to represent angles do not affect the size of the angle.	Recognises that angles are a property of shape or a description of a turn	Recognises that angles are a property of shape or a description of a turn and can be measured in degrees or as a fraction both clockwise and anticlockwise
Identifies right angles, and when prompted, recognises that two right angles make a half-turn and four a complete turn	Identify right angles, recognises that two right angles make a half-turn, three make three quarters of a turn and four a complete turn	Identifies right angles, recognises that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identifies whether angles are greater than or less than a right angle.	Demonstrates secure understanding that two right angles = 180° = ½ turn and three right angles = 270° = ¾ turn; Classify angles according to their size
Identifies horizontal and vertical lines	Identifies horizontal and vertical lines and begin to identify parallel lines.	Identifies horizontal and vertical lines and pairs of perpendicular and parallel lines.	Applies knowledge of horizontal, vertical, parallel and perpendicular lines to shape using correct mathematical vocabulary

Autumn Term: Judgment		**Spring Term:** Judgment		**Summer Term:** Judgment	

Year 3			
Beginning	**Developing**	**Secure**	**Greater Depth**
Statistics			
Interprets and presents data using pictograms, tables and block graphs. Understands that data needs to be collected with a question or purpose in mind.	Interprets and presents data using pictograms, tables and bar charts with simple scales. Knows that tally charts are used to collect data over time (cars passing the school, birds on the bird table). They can also be used to keep track of counting. Can demonstrate appropriate use of tally charts.	Interprets and present data using bar charts, pictograms and tables	Interprets and compares data presented in different formats, deriving simple conclusions
Solves simple one-step and two-step questions using information presented in simple block charts, pictograms and tables with support	Solves one-step and two-step questions using information presented in simple bar charts, pictograms and tables	Solves one-step and two-step questions such as 'How many more?' and 'How many fewer?' using information presented in scaled bar charts and pictograms and tables.	Solves increasingly complex multi-step questions

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Year 4

Name:_____

Year 4			
Beginning	**Developing**	**Secure**	**Greater Depth**
Number and Place Value			
Counts in multiples of 6s using knowledge of counting in 3s to support Count in multiples of 1000s using knowledge of counting in 100s to support.	Counts in multiples of 25 Explores and recognise the pattern in the 9 times table	Counts in multiples of 6,7,9,25 and 1000	Explores the patterns and relationships between the count of different multiples. E.g. odd even odd even in all odd step counting.
Reads and writes numbers up to 1000 in numerals and in words noting and taking care where zero appears as a placeholder.	Reads and writes numbers up to 9999 in numerals and words noting and taking care where zero appears as a placeholder.	Finds 1000 more or less than a given number	Explains what happens when 10, 100 or 1000 are added or subtracted from a number when bridging is involved. e.g. 103-10 or 945+100 or 1234-1000
Counts back from 10 to -10 recognizing the symmetry of the numbers either side of zero.	Places positive and negative numbers between -100 and 100 in approximately the correct position on an empty number line justifying their decision	Counts backwards through zero to include negative numbers	Understands and explains that how far a number is from zero affects the magnitude of the number. I.e. 1<5 but -1>-5
Understands that the value of the digits is ten times greater than the previous place value position. Use place value apparatus to support this.	Builds four digit numbers that contain zeros and explain the role the zero plays in the value of the number.	Recognises the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)	Recognises the place value of each digit in a five-digit number (ten thousands, thousands, hundreds, tens, and ones). *This is beyond year four expectations however the jump into year five is very high.
Compares and orders numbers up to 2000.	Orders numbers up to 9999 appreciating that the thousands then the hundreds then the tens and then the ones affects the magnitude of a number.	Orders and compares numbers beyond 1000	Using the same four digits build all of the possible four digit numbers and explore the pattern in the numbers created and where they would be positioned on an empty number line.
Rounds any number to the nearest 10 knowing that 5s round up.	Rounds any number to the nearest 10 or 100 knowing that 50s round up.	Rounds any number to the nearest 10, 100 or 1000	Rounds any number to the nearest 10, 100, 1000 and explain when rounding is used in real life and using rounding to approximate.
Solves number and practical problems that involve aspects of the above and with increasingly large positive numbers	Solves number and practical problems that involve aspects of the above and with increasingly large positive numbers and negative numbers to -100	Solves number and practical problems that involve all of the above and with increasingly large positive numbers	Solves number and practical problems that involve all of the above and with increasingly large positive numbers, that use an increasing number of steps and greater complexity
Reads Roman numerals to 10 (I to X)	Knows the key Roman numerals up to 100 (I=1, v=5, X=10, L=50 and C=100)	Reads 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	Compares the Roman numeral structure to the place value structure that we use and explore the similarities and differences. Consider the number systems used by other cultures and explore their structures. Compare to our system.

Autumn Term: Judgment		**Spring Term:** Judgment		**Summer Term:** Judgment	

Year 4			
Beginning	**Developing**	**Secure**	**Greater Depth**
Addition and Subtraction			
Carries out addition and subtraction of numbers with up to 3 digits using the formal written methods of columnar addition and subtraction with increasing understanding and accuracy. *While this is a continuation of the year three objective pupils will benefit from further focus on an essential objective.*	Adds and begins to subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction choosing when these methods are appropriate and when to use informal methods.	Adds and subtracts numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate.	Carries out addition and subtraction calculations justifying their choice of calculation approach according to the nature of the numbers in the calculation. Eg Writes three calculations where you would use column method and three where you would use mental strategies. Explain why. Makes sensible adjustments to a calculation in order to simplify it or to calculate more efficiently.
Estimates the answer to a calculation with numbers up to three digits using rounding.	Recognises the inverse of a calculation and use this to check answers to a calculation with numbers up to 4 digits. Rounds the numbers in a calculation and carry out the simplified calculation to generate an estimate.	Estimates and uses inverse operations to check answers to a calculation up to 4 digits.	Estimates whether the answer is sensible and explain reasoning. Explains whether the last digit in an answer is mathematically correct based on number properties. Eg 233-97 cannot equal 135 since the answer must be even.
Solves addition and subtraction one-step problems in contexts, using three digit numbers, deciding which operations and methods to use and why.	Solves addition and subtraction two-step problems in contexts, deciding and explaining which operation is required.	Solves addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.	Solves addition and subtraction two-step problems efficiently in contexts, deciding which operations and methods to use and explaining choice of method. Uses knowledge of place value, number bonds, rounding etc. to simplify the calculation wherever possible.

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Year 4			
Beginning	**Developing**	**Secure**	**Greater Depth**
Multiplication and Division			
Uses knowledge of the 3 times table to derive then recall and use multiplication and division facts for the 6 times table. Recall and use multiplication and division facts for the 11 times table.	Uses knowledge of other tables to derive multiplication and division facts for the 9 and 12 times tables. Counts in 7s to support the learning of the 7 times table.	Recalls multiplication and division facts for multiplication tables up to 12 × 12	Recalls multiplication and division facts for multiplication tables up to 12 × 12 with increasing speed Uses strong knowledge of times tables to generate other multiplication facts with agility.
Uses place value, known and derived facts for 2,3,4,5,8 and 10 and including multiplying by 0 and 1 and dividing by 1	Uses place value, known and derived facts for 2,3,4,5,6,8,9,10 and 11 including multiplying by 0 and 1; dividing by 1.	Uses place value, known and derived facts to multiply and divide mentally with numbers up to 12x12, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers	Uses place value, known and derived facts to multiply and divide mentally with numbers up to 12x12, justifying their choice of approach according to the nature of the numbers in the calculation. Multiplies together three or more numbers making reasoned decisions about the order in which to combine the numbers.
Explores and recognises what factor pairs are in known multiplication tables.	Recognises numbers may have different numbers of factors Finds factor pairs all known multiplication tables.	Recognises and uses factor pairs and commutativity in mental calculations	Investigates the nature and number of factor pairs of different numbers. Simplifies multiplication calculations by applying knowledge of factor pairs.
Begins to multiply two-digit numbers a one-digit number using formal written layout	Multiplies two-digit and three-digit numbers by a one-digit number using formal written layout Explain the place value within the formal written layout.	Multiplies two-digit and three-digit numbers by a one-digit number using formal written layout consistently. *Ensure an understanding of place value is at the center of this approach to calculation.*	Carries out missing number problems within formal written multiplication calculations demonstrating understanding of the method and application of multiplication knowledge.
Understands and explains using example how multiplication is commutative.	Solves problems involving multiplying and adding, including using the distributive laws to multiply numbers. E.g. 18 x 5= (10 + 8) x 5 = (10 x 5) + (8 x 5) = 50 + 40 = 90	Solves problems involving multiplying and adding, including using the associative and distributive laws to multiply two digit numbers by one digit number.	Solves multiplication problems efficiently in contexts, deciding which operations and methods to use and explaining choice of method. Use knowledge of place value, number bonds, rounding etc. to simplify the calculation wherever possible.
Understands when a problem involves scaling rather than repeated addition. E.g. recipe adaptation	Solves simple scaling problems using multiplication and division - e.g. triple the amount *This is the initial stage to introducing the concepts of ratio where one quantity is considered in relative quantitative value to another*	Solves integer scaling problems and harder correspondence problems	Solves increasingly complex integer scaling problems and harder correspondence problems appreciating how information provided needs to be multiplied or divided in order to solve the problem.

Autumn Term: Judgment		**Spring Term:** Judgment		**Summer Term:** Judgment	

Year 4			
Beginning	**Developing**	**Secure**	**Greater Depth**
Fractions			
Builds models using number rods to derive equivalent fractions with denominators to 10.	Demonstrates fractional equivalence through the use of concrete apparatus and pictorial representation; discuss the relationships evident in the structures.	Recognises and show, using diagrams, families of common equivalent fractions	Explains using knowledge of factors and multiples how and when equivalent fractions can be derived. Justify this pictorially.
Counts up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one- digit numbers or quantities by 10 and that this can be written in decimal format Understands that 0.1 is a tenth of one whole.	Counts up in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.	Counts up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.	Explains the relationship between tenths and hundredths and understand that in decimal numbers the place value of the digits is not the same in terms of magnitude as with whole numbers. Understanding the role zero plays as a place holder in decimal numbers
	Finds the effect of dividing a one- or two- digit number by 10, identifying the value of the digits in the answer as ones and tenths.	Finds the effect of dividing a one- or two- digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths	Explains the effect of multiplying and dividing by 10 and 100 on any number between 1 and 100 including those with decimals, demonstrating strong understanding of place value and using correct mathematical terminology.
	Finds which whole numbers a number to one decimal place lies between.	Rounds decimals with one decimal place to the nearest whole number	Considers real life situations when rounding would be appropriate and those when accuracy is necessary.
Relates fractions to division in the context of problem solving. Understand that finding a unit fraction of an amount is the same as dividing by the denominator.	Solves problems simple fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number Understands and can articulate that fractions arise from solving problems, where the answer lies between two whole numbers.	Solves problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number	Solves increasingly complex problems involving increasingly fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number and the remainder needs to be considered in terms of what has been divided.
Adds and subtracts fractions with the same denominator within one whole	Adds fractions with the same denominator to one whole explaining why the numerators are added but the denominator is maintained	Adds and subtracts fractions with the same denominator	Completes missing number calculations involving fractions with the same denominator appreciating that they behave similarly to whole numbers. Generates illustrations to support their calculation
Recognises and use fractions as numbers understanding that they are positioned between whole numbers on a number line. Knows that ½ is the same as 0.5	Recognises and write decimal equivalents of any number of tenths	Recognises and write decimal equivalents of any number of tenths or hundredths	Explains with appropriate mathematical language how they digits either side of the decimal point (to two decimal places) behave in relation to each other and discuss their relative magnitude. Eg the value of the 2 in 0.42 in relation to in 24.5 Explain with clarity the role of zero as a place holder in numbers to two decimal places.
	Recognises and write decimal equivalents to ½ and ¼	Recognises and write decimal equivalents to ½ ¼ and ¾	Reads and writes decimal numbers up to one decimal place as fractions and use this to derive facts e.g. 0.2 = 2/10 =1/5
Explains which whole numbers a number with one decimal place is located between.	Places numbers with one decimal place on an empty number line.	Compares numbers with the same number of decimal places up to two decimal places	Places decimals and fraction with denominators up to ten on the same empty number line and explore their positioning.
Understands the fractional relationships in familiar measures and use these to support problem solving. 50p = ½ of a pound. 10p = 1/10 of a pound.	Solves simple measure and money problems where there is simple decimal conversion between units of measurement. Eg £0.30 = 30p, 20cm = 0.2m	Solves simple measure and money problems involving fractions and decimals to two decimal places.	Responds to 'would you rather statements' where both decimal and fractional amounts of a total are compared. Justifies their decisions with use of concrete apparatus, pictorial representation and clear mathematical reasoning. E.g., would you rather have 2/3 of £150 or 0.4 of £200

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Year 4			
Beginning	**Developing**	**Secure**	**Greater Depth**
Measurement			
Explores the meaning of milli, centi, and kilo in relation to units of measurement.	Explains the relationship between different units of measurement. E.g. mm to cm to m to km. Seconds to minutes to hours to days.	Converts between different units of measure [for example, kilometre to metre; hour to minute]	Applies agility with place value demonstrate fluency when converting between different units of measurement selecting the most appropriate unit for the answer in problem solving situations
Measures the perimeter of a simple straight-sided 2d shape using a ruler.	Explains what the perimeter of a shape is in terms of the total length of all of the sides.	Measures and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres	Measures the perimeter of simple 2-D shapes explaining how to simplify the calculation where possible eg 4 times one side for a square
Makes comparisons between different shapes in terms of their relative size and the amount of space that they fill.	Understands that the area of a shape is how much space it fills and shapes can be described in terms of their area.	Finds the area of rectilinear shapes by counting squares	Relates finding the area of a rectilinear shape to an array and identify the repeated addition or multiplication that could be used to calculate the area. Understands that different shapes can have the same area. Find examples to show this.
Orders three sets of measurements where measurements are of mixed unit E.g. 3.25m, 58cm and 2m	Converts mixed measures to one unit of measure and then solve a calculation in that format then reconvert. E.g. £17.56 + 85p = 1756p + 85p = 1841p = £18.41	Estimates, compares and calculates different measures, including money in pounds and pence	Uses appropriate mathematical language to compare items expressed in different formats of the same measure.eg 300cm is longer than 2m or five lots of 75p is less expensive than double £2.
Reads the time to the nearest minute on both analogue and digital clocks *This is the first time children will be formally taught digital time*	Begins to convert time between analogue and digital 12- and 24-hour clocks understanding that 2 o'clock etc. occurs twice each day.	Reads, writes and converts time between analogue and digital 12- and 24-hour clocks	Be fluent in reading, writing and converting between analogue and digital clocks and begin to apply these skills to problem solving situations
Begins to solve simple problems involving converting from hours to minutes	Solves simple problems involving converting from hours to minutes; minutes to seconds.	Solves problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.	Approximates with justification the duration of a range of events in different units of time eg number of minutes and hours spent in school in a week.

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Year 4			
Beginning	**Developing**	**Secure**	**Greater Depth**
Geometry			
Compares geometric shapes based on their properties identifying similarities and differences using correct mathematical vocabulary to describe them.	Understands that quadrilateral and triangle are collective names for a wide range of polygons whereas shapes such as square or circle have a defined set of properties. Understands that shapes can belong to more than one classification. For example, a square is a rectangle, a parallelogram, a rhombus and a quadrilateral.	Compares and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes	Given a set of properties can find and name shapes which meet these criteria.
Discusses the size of an angle in comparison to a right angle.	Identifies whether an angle is less or greater than a right angle and use the language of acute and obtuse	Identifies acute and obtuse angles and compare and order angles up to two right angles by size	Estimates the size of an angle based on their knowledge that a right angle is 90 degrees and can justify their estimation
Identifies lines of symmetry in squares, rectangles, triangles of different type and other quadrilaterals.	Understands that the number of lines of symmetry in a regular polygon is equal to the number of sides. Understand that irregular shapes may have lines of symmetry.	Identifies lines of symmetry in 2-D shapes presented in different orientations	Understands when a diagonal line is or is not a line of symmetry in a 2D shape. Investigates the nature and number of lines of symmetry in irregular shapes.
Recognises objects which do and do not have lines of symmetry and discuss when symmetry is not accurate on and object e.g a human or clock face.	Completes a simple symmetric figure with respect to a horizontal or vertical line of symmetry on squared paper.	Completes a simple symmetric figure with respect to a specific line of symmetry.	Given part of a shape and the line of symmetry can use a ruler to complete the shape with accuracy on plain paper.
Knows that a value on the horizontal axis is the x value and a value on the vertical axis is the y value.	Translates a shape in one direction by a number of units and explore how the coordinates change. e.g. 2 places to the right	Describes positions on a 2-D grid as coordinates in the first quadrant describe movements between positions as translations of a given unit to the left/right and up/down	Solves problems related to position and translation. Given the nature of a translation and the resulting coordinates find the original coordinates. Eg A 1 by 4 rectangle has moved 2 squares right and 3 square down. Its current coordinates are (2,3), (2,7), (3,3) and (3,7). What were its original coordinates.
Given a point can identify x and y value and write these within a set of brackets.	Plots specified points on a grid which have been presented as x and y coordinates within brackets. E.g. (3,4)	Plots specified points and draw sides to complete a given polygon.	Given the name of a polygon, draw this on a grid and explore the position of the points according to the points. Can describe and explain any patterns which occur e.g. a square (2,2), (2,4), (4,4) and (4,2).

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Year 4			
Beginning	**Developing**	**Secure**	**Greater Depth**
Statistics			
Interprets data presented in simple graphs, charts and tables. Using unit and steps of 2s, 5s and 10s. Understands whether data or information is discrete (e.g. shoe size) or continuous (e.g. temperature). Using this information finds totals and differences between categories.	Generates (unit and simple scale stepped) bar charts, line graphs and tables from both given data and data generated. e.g. links with science Children understand the importance of precision in presentation of data on a graph. Calculates quantities by extracting data from a graph, chart or table.	Interprets and presents discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. Solves comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.	Given a graph can explain what can be interpreted from it and what cannot. Can compare different formats of presentation of the same data and suggest a preference and why.

Autumn Term: Judgment		**Spring Term:** Judgment		**Summer Term:** Judgment	

Year 5

Name:_____

Year 5			
Beginning	**Developing**	**Secure**	**Greater Depth**
Number and Place Value			
Reads, writes, orders and compares numbers to at 10,000 and determine the value of each digit	Reads, writes, orders and compares numbers to at 100,000 and determine the value of each digit Understands that the comma provides a support to the reading of a number since digits between the comma will be read in terms of hundreds, tens and ones.	Reads, writes, orders and compares numbers to at least 1,000,000* and determine the value of each digit **Knows that one million has six zeros. Large numbers of six digits are named in a pattern of three: hundreds of thousands, tens of thousands, ones of thousands, mirroring hundreds, tens and ones.*	Demonstrates an understanding of the magnitude of 1 million. Can relate this understand to real life contexts and problems related to size (estimation not calculation). *Refer to the book 'How big is a million'*
Counts forwards or backwards in steps of powers of 10 for any given number to 10,000. e.g. count in hundreds from 212	Counts forwards or backwards in steps of powers of 10 for any given number to 100,000. e.g. count in thousands from 2122	Counts forwards or backwards in steps of powers of 10 for any given number up to 1,000,000	Counts forwards or backwards in multiples of 10, 100 and 100 for any given number up to 1,000,000 e.g. counting forward in 40s from 326 or count back in 300s from 1725
Continues sequences counting up and down through 0 in steps of equal size where the pattern is symmetrical around zero. E.g. -4, -2, 0, 2, 4 *use number line to support*	Develops sequences of equal size steps through zero where the pattern is not symmetrical around zero E.g. -11, -6, -1, 4, 9 *use number line to support*	Interprets negative numbers in context, counts forwards and backwards with positive and negative whole numbers, including through 0	Positions positive and negative numbers on a range of empty number lines and scales. Number lines can be presented both horizontally or vertically and zero is not always in the middle.
Rounds any number up to 10,000 to the nearest 10, 100, 1,000	Rounds any number up to 100,000 to the nearest 10, 100, 1,000, 10, 000	Rounds any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000	Uses rounding to approximate and understand when estimation is appropriate or when accuracy is essential.
Solves number problems and practical problems that involve all of the above	Solves number problems and practical problems that involve all of the above	Solves number problems and practical problems that involve all of the above	Solves number problems and practical problems that involve all of the above with a an increasing number of steps and greater complexity
Writes Roman numerals to 100 (I to C)	Generates calculations using Roman numerals to further explore the value of each symbol	Reads Roman numerals to 1,000 (M) and recognises years written in Roman numerals	Explains why the number system moved beyond Roman numerals and how a system that is not based on place value makes our calculation methods impractical.

Autumn Term: Judgment		**Spring Term:** Judgment		**Summer Term:** Judgment	

Year 5			
Beginning	**Developing**	**Secure**	**Greater Depth**
Addition and Subtraction			
Makes decisions about when formal column method of addition or subtraction is the best method for calculation based on the numbers involved using 4 digit numbers	Using the language of place value explains their working as they carry out columnar addition and subtraction calculations including those involving bridging and decomposition	Adds and subtracts whole numbers with 5 digits, including using formal written methods (columnar addition and subtraction)	Justifies when and why an informal approach to carrying out a calculation would be more efficient and appropriate than a formal method based on the numbers involved.
Uses mental methods for addition and subtraction including the use of partitioning to aid speed and fluency.	Adjusts a calculation in order to simplify it using their number facts and rounding.	Adds and subtracts numbers mentally with increasingly large numbers, using known skills such as rounding and partitioning.	Selects from a variety of informal mental calculation approaches in order to add and subtract numbers with increasingly large numbers, justifying their choice of approach.
Based on rounding estimates the range for an expected answer and judge the answer accordingly.	Uses inverse operations to check answers to a calculation, including rounding pounds and pence to the nearest 10 pence or pound. *Insisting a child carries out the inverse calculation in order to 'check' is often inefficient. However they do need to be able to carry out the process.*	Uses rounding and the inverse to check answers to calculations and determine, in the context of a problem, levels of accuracy.	Critiques the accuracy of answer based on the estimation.
Solves addition and subtraction one-step problems in contexts, deciding which operations and methods to use and why.	Solves addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why	Solves addition and subtraction multi- step problems in contexts, deciding which operations and methods to use and why	Solves addition and subtraction multi- step problems in contexts, deciding on the most efficient method to use.

Autumn Term: Judgment		**Spring Term:** Judgment		**Summer Term:** Judgment	

Year 5			
Beginning	**Developing**	**Secure**	**Greater Depth**
Multiplication and Division			
Finds all factor pairs of a number.	Finds all factor pairs of a number and find multiples. Understand that factors and multiples are connected ideas: 48 is a multiple of 6 and 6 is a factor of 48. Can define 'factor' and 'multiple'.	Identifies multiples and factors, including finding all factor pairs of a number, and common factors of 2 numbers	Explores and investigate multiples and factors. For example how many factor pairs does 12 have compared to 24 and 48? Explores and understand perfect numbers, deficient numbers and abundant numbers.
Defines a prime number and understand why 1 is not a prime number.	Builds factor trees which become prime factors	Knows and uses the vocabulary of prime numbers, prime factors and composite (non-prime) numbers. Establishes whether a number up to 100 is prime and recall prime numbers up to 19.	Identifies prime numbers and use divisibility checks to work out whether larger numbers are prime. Explores whether numbers beyond 100 are prime
Multiplies three-digit by one-digit numbers using formal written layout.	Using the language of place value explains their working as they carry out multiplication calculations. Carries out expanded multiplication when carrying out multiplication by two digits numbers greater than 12.	Multiplies numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers	Fills the missing numbers in formal written multiplications with three by two digit numbers based on multiplicative reasoning and knowledge of multiplication facts
Understands how and when to apply times tables knowledge to a problem and select the appropriate calculation to find an answer.	Uses known multiplication facts and place value to mentally calculate beyond the known times tables e.g. 23x7= (20x7) + (3x7) = 140 + 21= 161	Multiplies and divides numbers mentally, drawing upon known facts such as multiplication tables and related division facts and multiplying by multiples of 10.	Considers and justifies whether a formal written method to carry out a multiplication calculation is necessary or whether a mental or informal approach might be more efficient. E.g. 124x25 might be more efficiently solved by x100 and ÷4
Divides two-digit and three-digit numbers by a one-digit number, using formal written layout.	Divides two-digit and three-digit numbers by a one-digit number, using formal written layout, introducing remainders.	Divides numbers up to 4 digits by a one- digit number using the formal written method of short division and interpret remainders appropriately for the context	Divides numbers using the most efficient method for the question. (e.g. Recognize the times tables facts needed to solve 330 ÷ 8 using multiplication facts) and interpret remainders appropriately for the context
Understands how the digits move and the decimal point stays in the same position when multiplying or dividing by 10 and 100.	Explains the role of zero in multiplying ten and hundred	Multiplies and divides whole numbers and those involving decimals by 10, 100 and 1,000	Explains why the phrase 'add a zero/ add _zeros' or 'move the decimal point _ places' when multiplying or dividing by powers of 10 is mathematically incorrect
Understands that the square of a number is made by multiplying a number by itself.	Generates square numbers and identify the pattern that squared numbers form in a times table square. Use the notation of squared (^{2})	Recognises and uses square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3})	Investigates the nature of square and cubic numbers, in terms of their nature and the pattern of their distribution.
Solves problems involving multiplication including using my knowledge of factors.	Solves problems involving multiplication and division, including using my knowledge of factors and multiples and squares.	Solves problems involving multiplication and division, including using my knowledge of factors and multiples, squares and cubes	
Makes use of the equals sign in balancing calculations where one calculation is equivalent to another (rather than when the = sign leads to the answer).	Solves two step problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	Solves problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	Explores how adjusting the calculation on one side of an equals sign impacts upon the calculation on the other side. e.g. 13+24=39-2 14+24=39-1
Recognises where a problem is asking for a number or size to be scaled up and down. e.g. recipe conversion ingredients for 1 person to ingredients for 4 people.	Solves problems involving multiplication and division and problems which require both scaling or repeated addition/subtraction.	Solves problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates	Solves problems involving multiplication and division, including scaling by fractions and problems involving rates to support the introduction of ratio (adapting a more complex recipe for more or less servings e.g mixed units and adapting a recipe for 2 people for 3 people)

Autumn Term: Judgment		**Spring Term:** Judgment		**Summer Term:** Judgment	

Year 5			
Beginning	**Developing**	**Secure**	**Greater Depth**
Fractions			
Pupils can identify the smaller of two simple fractions by generating pictorial representations.	Positions fractions on a number line where the fractions have denominators which are all multiples of the same number,	Compares and orders fractions whose denominators are all multiples of the same number	Compares, orders and positions fractions and decimals > 1 on an empty number line. Explores and discusses equivalence.
Finds fractions of a number in order to understand the concept of equivalent fractions. E.g. Using numicon show 2/3 of 12 = 4/6 of 12	Building a fraction wall to generate equivalent fractions of a given fraction.	Identifies, names and writes equivalent fractions of a given fraction, represented visually, including tenths and hundredths	Draws or makes a fraction wall to show the relationship between halves, thirds, quarters, fifths, sixths, tenths and twelfths, and use it to identify groups of equivalent fractions. They are able to explain why some have several equivalent fractions and others do not have any.
Recognises where the fraction given is greater than 1. Understands that this occurs when the numerator is bigger than the denominator there is more than a 'whole'*.	Recognises mixed numbers and improper fractions, understanding that they represent the same value, and convert from one to the other using visual representations as an aid.	Recognises mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number	Explains the equivalence of the improper fraction to the mixed numbers in terms of numerators, denominators and whole numbers giving real life examples the back up their explanation. e.g. 11/10 of £1 = 11x10p which is equivalent to £1.10
Adds and subtracts non unit fraction with the same denominator	Adds and subtracts fractions with the same denominator where one is a multiple of the other.	Adds and subtracts fractions with the same denominator and denominators that are multiples of the same number	Adds and subtracts fractions with denominators that are multiples of the same number Including improper fractions and mixed numbers.
Multiplies proper fractions by whole numbers within 1. E.g 2/5 x 2 = 4/5	Multiplies simple fractions by whole numbers creating an answer greater than 1. E.g 2/3 x 4 = 8/3 = 2 2/3 Understands why the denominator stays the same when multiplying.	Multiplies proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	Explains why when multiplying mixed numbers partitioning into whole numbers and proper fractions is often an efficient approach. e.g 4 and 1/3 x 5 = 4x5 + 5/3 = 20+1 an 2/3 = 21 and 2/3
Recognises and write decimals numbers as fractions up to tenths.	Understands that a number written as a decimal is a fraction over10 or 100 or 1000 depending on its place value./ e.g 0.2 = 2/10	Reads and writes decimal numbers as fractions up to hundredths	Moves fluently between fractions and decimal notation (to 2dp) and simplifies fraction when possible.
Understands that one tenth is the same as 10 hundredths.	Recognises and use thousandths and relate them to hundredths. Understands and uses thousandths of a unit in a familiar measure. E.g. grams to kilograms.	Recognises and uses thousandths and relate them to tenths, hundredths and decimal equivalents	Converts between units where the relationship is 1:100 or 1:1000 e.g. m to cm or cm to km
Understands that % are a form of fraction where the denominator is 100 – 'out of a hundred or per cent' Recognises the % symbol.	Understands how simple the conversion from hundredths to % is. E.g 0.43 = 43% = 43/100	Recognises the per cent symbol (%) and understands that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal	Converts % to fractions with the knowledge that a % is a fraction over a hundred. Can simplify the fraction, when possible, to create an equivalence to the % e.g. 75% = 75/100 = ¾ 96% = 96/100 = 48/50 = 24/25
Rounds decimals with one decimal place to the nearest whole number	Rounds decimals with two decimal places to the nearest whole numbers	Rounds decimals with two decimal places to the nearest whole number and to one decimal place	Explains how rounding decimals is a useful skill with examples using units of measure. E.g. £1.99 problems
Compares numbers with up to two decimal places in terms of magnitude and explain possible misconceptions e.g. 0.1 is larger than 0.08	Reads, writes, orders and compares numbers with up to three decimal places on a number line, initially with the same number of decimal places and moving on to decimals with different numbers of digits.	Reads, writes, orders and compares numbers with up to three decimal places	Given two different decimals can place on a number line and can find the mid-point. e.g. 0.25 and 0.025
Solves problems involving number up to two decimal places.	Solves problems involving number up to three decimal places with the same number of places within one question.	Solves problems involving number up to three decimal places	Solves problems involving number up to three decimal places, with the answer rounded to a specified degree of accuracy.
Solves problems which require knowing decimal equivalents of ½, ¼ and ¾.	Solves problems which require knowing percentage and decimal equivalents of ½, ¼ and ¾.	Solves problems which require knowing percentage and decimal equivalents of ½, ¼, 1/5, 2/5 and 4/5 and those fractions with a denominator of a multiple of 10 or 25.	Solves problems which require knowing percentage and decimal equivalents of a variety of fractions and those fractions with a denominator of a multiple of 10 or 25.

Autumn Term: Judgment		**Spring Term:** Judgment		**Summer Term:** Judgment	

Year 5			
Beginning	**Developing**	**Secure**	**Greater Depth**
Measurement			
Converts between units of metric measures using equivalence e.g. 10mm = 1cm 100cm=1m 1000m=1km	Explains the relationship between units of metric measures in terms of fractions e.g. 1mm = 1/10cm= 1/100m 1cm=1/100m 1m=1/1000km *Explore the meaning of milli, cent and kilo to support this.*	Converts between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)	Using understanding of the relationship between units of measure efficiently convert measures to a different unit of the measure E.g. mm to m cm to km
Discusses the use of imperial measures as a historical form of measuring. Understand that the metric measures work in multiples of ten and are therefore more efficient to calculate with.	Experiences approximate equivalences between metric units and common imperial units such as inches. Uses measuring equipment which has both imperial and metric equivalence e.g. pints/litres, cm/inches, g/lbs.	Understands and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints	Converts between imperial and metric measures using either formula or conversion tables.
Identifies the sides needed to add to find the perimeter of rectilinear and composite rectilinear shapes.	Explains how to simplify the composite rectilinear shapes into rectilinear shapes in order to calculate the perimeter – avoiding counting shared edges.	Measures and calculates the perimeter of composite rectilinear shapes in centimetres and metres	Finds the length of missing sides of a composite rectilinear shape given some sides or fewer sides and the total perimeter. Understands that the relationship between area and perimeter is not a simple one. Increasing or decreasing area does not necessarily mean the perimeter increases or decreases respectively, or vice versa.
Finds the areas of a right angled triangle as half of the area of a rectangle using the perpendicular sides.	Estimates the area of irregular shapes by counting squares and approximating or considering them as a fraction of a rectilinear shape. Eg the area of a right angled triangle as half of the oblong or a isosceles triangle on squared paper.	Calculates and compares the area of rectangles (including squares), and including using standard units, square2centimetres (cm) and square metres2(m) and estimate the area of irregular shapes	Estimates the area of more complex irregular shapes giving justification for their decision. e.g. an irregular hexagon Explores how shapes with a given perimeter can have a variation in area and vice versa.
Estimates capacity (e.g.: using water) for a variety of containers. Can reference objects of known capacity e.g. can of drink	Estimates volume (e.g. using $1cm^3$ blocks to build cuboids, including cubes)	Estimates volume [for example, using $1cm^3$ blocks to build cuboids (including cubes)] and capacity [for example, using water]	Drawing on experience and knowledge of volume and capacity in common objects, estimates and justifies judgments of larger quantities e.g how many tins of beans in the bath tub for charity.
Extracts simple information from a range of time tables.	Solves problems involving converting between units of time with the use of a time number line .	Solves problems involving converting between units of time	Using time conversion estimates and solves time problems and riddles such as 'How many minutes old were you on your first birthday'. 'How many days until your 40^{th} birthday'
Uses all four operations to solve problems for all of the above using decimal notation.	Uses all four operations to solve problems for all of the above using decimal notation, including scaling. Understands and explains why compact or column methods of calculation are not effective when doing time calculations.	Uses all four operations to solve problems for all of the above using decimal notation, including scaling.	Uses all four operations to solve problems for all of the above using decimal notation, including scaling.

Autumn Term: Judgment		**Spring Term:** Judgment		**Summer Term:** Judgment	

Year 5			
Beginning	**Developing**	**Secure**	**Greater Depth**
Geometry			
Identities and names regular and irregular polygons and identify and name 3-D shapes.	Given the names, number of faces, edges and vertices can name and construct the 3d shape	Identities 3-D shapes, including cubes and other cuboids, from 2-D representations	From a range of perspectives and a typical orientation pupil can identify the 3d shape from the 2d representation. Have a clear understanding of the parts of the shape they cannot see and what the shape could look like from different perspectives. e.g a square could be a cuboid or a square based pyramid
Knows angles are measured in degrees compares acute, obtuse and reflex angles	Understands that acute angles are less than 90°, obtuse angles are greater than 90° but less than 180° and reflex angles are greater than 180° and less than 360°. Can identify and label all angles in the environment around them.	Knows angles are measured in degrees: estimate and compare acute, obtuse and reflex angles	Knows angles are measured in degrees: estimate and compare acute, obtuse and reflex angles with increased accuracy and fluency
Explores protractors as a tool for measuring angles considering how to place them on a given line at the point of lines meeting and reading the scale clockwise or anticlockwise to establish the size an angle	Draws given angles, with increasing accuracy making efficient use of the protractor and drawing lines with a ruler demonstrating precision.	Draws given angles and measure them in degrees	Generates instructions for how to use a protractor to draw and measure angles with a high degree of accuracy - including reflex angles using half circular protractors.
Understands that the distance or between two lines that meet at point is calculated in degrees	Finds pairs of angles that total 360° Finds pairs of angles that total total 180° Calculates the missing angle when one angle of a pair to make a straight line is given. Calculates the missing angle when one angle of a pair to make a whole turn is given.	Identifies: angles at a point and one whole turn (total 360°) angles on a straight line and ½ a turn (total 180°) and other multiples of 90°	Estimates the size of an angle by visually rounding to the nearest angle with a multiple of 90°. Explain and justify the estimate.
Knows that there are 360 degrees within a square or rectangle (4 lots of 90 degrees)	Discusses which properties squares and oblong share and which are different. Uses the term rectangle for quadrilaterals with 4 right angles and two pairs of parallel sides i.e. inclusive of squares and oblong.	Uses the properties of rectangles to deduce related facts and find missing lengths and angles	Explores the internal angles of regular shapes on squared paper using a protractor looking for generalisations
Explains what the term regular means in relation to shapes	Identifies and name regular 2D s based on their properties.	Distinguishes between regular and irregular polygons based on reasoning about equal sides and angles.	Given the internal angle and the length of a side constructs an accurate illustration of a regular 2D shape using a protractor and ruler.
Reflects shapes within the first quadrant in a horizontal or vertical line and explore the new coordinates.	Carries out the translation of a shape by a combination of horizontal and vertical movements within the first quadrant exploring the change to the coordinates following the translation.	Identifies, describes and represents the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.	Given the nature of a reflection or translation finds the missing coordinates for a regular shape given only a selection of them.

Autumn Term: Judgment		**Spring Term:** Judgment		**Summer Term:** Judgment	

Year 5			
Beginning	**Developing**	**Secure**	**Greater Depth**
Statistics			
From a graph of non-unit scale extract the data and makes a comparative statement about information from two readings. E.g. it was two degrees colder at 4pm than at 2pm	Understands that a line graph is used to present continuous data (e.g. change over time) and is not a suitable graph type for discrete data.	Solves comparison, sum and difference problems using information presented in a line graph	Solves comparison, sum and difference problems using information presented in a line graph. Decides which representations of data are most appropriate for the data and support with reasoning. Distinguishes between discrete and continuous data.
Reads and interprets information in tables	Constructs a table from a set of data deciding on appropriate ranges for the information provided. E.g. heights of children in the class	Completes, reads and interprets information in tables, including timetables.	Fills in the missing data on a table or time table when clues are given, e.g. what time did the 10:10 train arrive in Nottingham if it was 10 minutes quicker than the 9:15

Autumn Term: Judgment		**Spring Term:** Judgment		**Summer Term:** Judgment	

Year 6

Name:_____

Year 6			
Beginning	**Developing**	**Secure**	**Greater Depth**
Number and Place Value			
Given a set of seven digits including zero generates numbers up to seven digits and place them in order of size	Positions numbers to 10,000,000 in approximately the right place on an empty number line making benchmark values as appropriate.	Reads, writes, orders and compares numbers up to 10 000 000 and determine the value of each digit	Explores how a seven digit number changes when powers of ten are added to or subtracted from it. Recognize the impact of multiplying or dividing by powers of ten on each digit.
Rounds numbers to the nearest million and ten million	Considers when rounding is used to generate an approximation.	Rounds any whole number to a required degree of accuracy.	Rounds any decimal to the nearest whole number or decimal place
Places positive and negative and positive numbers on a number line at an appropriate distance from zero.	Explores negative numbers in context. *Links to science and geography*	Uses negative numbers in context, and calculate intervals across zero	Records number sentences using negative numbers for intervals across zero
Solves number and practical problems that involve all of the above.	Solves number and practical problems that involve all of the above.	Solves number and practical problems that involve all of the above.	Solves number and practical problems that involve all of the above in familiar and unfamiliar contexts.

Autumn Term: Judgment		**Spring Term:** Judgment		**Summer Term:** Judgment	

Year 6			
Beginning	**Developing**	**Secure**	**Greater Depth**
Addition, Subtraction, Multiplication and Division			
Adds and subtracts whole numbers with 5 or more digits, including using formal written methods (columnar addition and subtraction)	Solves addition and subtraction multi- step problems in context, including using formal written methods including numbers to 2 dp.	Solves addition and subtraction multi-step problems in context, deciding which operations and methods to use and why	Selects and justifies the most appropriate method for carrying out a calculation and not resort to formal written methods when these are not as effective or efficient.
Given a word problem decides which operation could be used.	Given a complex word problem decides which operation could be used and which information is necessary.	Solves problems involving addition, subtraction, multiplication and division	Demonstrates an understanding of inverse to reverse the process necessary to solve a complex mufti step word problem. E.g. what was his original number problems.
Uses rounding to check answers to calculations	Estimates prior to carrying out a calculation and evaluate the answer based on this estimate.	Uses estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.	Justifies and provides situations when an estimate is more valid than carrying out a calculation.
Multiplies 4 digit numbers by 2 digits using the formal written method of long multiplication.	Explores and explains the long multiplication algorithm and the use of place value within it. e.g. I know I am not multiplying by 2, I am multiplying by 20 and this is why I use the zero as a place holder.	Multiplies multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication	Recognises when to use formal methods of short and long multiplication and division, calculate accurately, interpreting remainders appropriately.
Given a division calculation which generates a remainder can understand the nature of the remainder in the context of the problem and what to do with it.	Applies knowledge of factors and multiples to long division calculations to make this approach to calculation efficient.	Divides 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.	
Understands the difference between the processes and steps used to carry out long and short division	Applies knowledge of factors and multiples to short division calculations to make this approach to calculation efficient.	Divides numbers up to 4 digits by a two- digit number using the formal written method of short division where appropriate, interpreting remainders according to the context	
Carries out two step problems mentally including mixed operations	Performs mental calculations, including those with mixed operations; making use of partitioning, place value and adjustment of the numbers as appropriate	Performs mental calculations, including with mixed operations and large numbers.	Explains and justifies mental methods used to solve a problem and recognises the most efficient method
Systematically finds all factor pairs of a number.	Reconises that square numbers have an odd number of factors Recognises that prime numbers have two factors, one and themselves.	Identifies common factors, common multiples and prime numbers	Have and be able to explain systematic strategies to find common factors and multiples.
Knows that the part of the calculation within the brackets must be carried out first.	Develops their knowledge of the order of operations, knowing that division and multiplication are carried out before addition and subtraction.	Uses their knowledge of the order of operations to carry out calculations involving the four operations.	Places brackets in the appropriate position in a number sentence to make the calculation correct.

Autumn Term: Judgment		**Spring Term:** Judgment		**Summer Term:** Judgment	

Year 6			
Beginning	**Developing**	**Secure**	**Greater Depth**
Fractions including decimals and percentages			
Identifies that there is a common factor between the numerator and denominator when it can be simplified. Uses concrete apparatus and pictorial representation to support this.	Understands the link between common factors of a number and simplifying fractions. Realises that the numerator and denominator need to maintain the same proportion to generate an equivalent fraction.	Uses common factors to simplify fractions; use common multiples to express fractions in the same denomination	Makes use of concrete apparatus, pictorial illustrations and contextualized examples to explain the concept of equivalent fractions.
Compares and orders non unit fractions whose denominators are all multiples of the same number	Converts fractions to a common denominator in order to effectively compare them.	Compares and orders fractions, including fractions > 1	Compares and orders a combination of fractions, percentages and decimals converting them to a common representation if necessary.
Recognises that fractions with different denominators cannot be combined without converting them.	Understands that when adding and subtracting fractions they need to have a common denominator. Demonstrate this understanding pictorially.	Adds and subtracts fractions with different denominators and mixed numbers, using the concept of equivalent fractions	Solves multi-step problems for addition and subtraction of mixed fractions with different denominators in a range of contexts
Multiplies unit fractions and relate this to division.	Generates illustrations which explain why numerators are multiplied when fractions are multiplied.	Multiplies simple pairs of proper fractions, writing the answer in its simplest form [for example, ¼ x ½ = 1/8]	Multiplies pairs of proper fractions, writing the answer in its simplest form
divides unit fractions by whole numbers to establish why the numerator stays the same and the denominator changes	divides proper fractions by whole numbers with the support of concrete apparatus	Divides proper fractions by whole numbers [for example, 1/3 ÷ 2 = 1/6]	Divides proper fractions by another proper fraction supported by diagrams
Writes numbers with one or two decimals place as a fraction with a denominator of 10 or 100	Reads and writes decimal numbers as fractions and vice versa	Associates a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, 3/8]	Associates a fraction with division and calculate decimal fraction equivalents, knowing when to apply this strategy
Reads, writes, orders and compares numbers with up to three decimal places	Reads, writes, orders and compares numbers with up to three decimal places, identifying the value of each digit	Identifies the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places.	Multiplies and divides numbers by any power of 10
multiplies one-digit numbers with one decimal place by 2,4, 5 and 10 using mental methods where possible.	Multiplies one-digit numbers with one decimal place by a whole numbers 12 or less.	Multiplies one-digit numbers with up to two decimal places by whole numbers.	Chooses an appropriate method to use when multiplying one-digit numbers with up to three decimal places by whole numbers.
Uses written division methods in cases where the answer has one decimal places.	Interprets the decimal generated as a result of a division calculation, refer to the unit if necessary. e.g. 14.1 could equal £14.10 in a money problem	Uses written division methods in cases where the answer has up to two decimal places.	Chooses an appropriate method to use when using written division methods in cases where the answer has up to three decimal places.
Recalls and uses some equivalence between simple fractions, decimals and percentages, ½, quarters, fifths, tenths, hundredths.	Recalls and uses some equivalence between simple fractions, decimals and percentages, ½, quarters, fifths, tenths, hundredths. Uses these to generate other simple equivalence.	Recalls and uses equivalences between simple fractions, decimals and percentages, including in different contexts.	Has efficient methods to generate equivalence fractions, decimals and percentages.

Autumn Term: Judgment		**Spring Term:** Judgment		**Summer Term:** Judgment	

Year 6			
Beginning	**Developing**	**Secure**	**Greater Depth**
Ratio and Proportion			
Uses simple integer scaling to generate pairs of numbers with the same ratio Eg 1:2 to 2:4 - doubling 1:5 to 2:10 – five times greater	Scales up or scale down a set of values a given scale factor	Solves problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts	explores how multipliers to connect two sets of quantities 2 to 6 and 12 to 36
Calculates the percentage of an amount where the percentage is a multiple of ten or has a known fractional equivalent	Understands how finding key percentages can be used to calculate more complex percentages and use this to find the percentage of an amount. Eg to find 26% of £160 Find 50% =£80 Find 25%=£40 Find 1%=£1.60 Therefore 26%=£41.60	Solves problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison	Compares different percentages of a total and discuss which they would rather have. Eg would you rather have 45% of £90 or 32% of £125
Solves problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. Understand how increasing or reducing the size of a shape will lead to the increase or decrease in its dimensions	Solves problems involving similar shapes where the scale factor is known Find the scale factor by which a shape has increased or decreased in size.	Solves problems involving similar shapes where the scale factor is known or can be found	Solves problems involving similar shapes where the scale factor is known or can be found, including fractions Calculate the ratio relationship between similar shapes and explore and investigate the impact of the change in
Begins to solve simple problems involving unequal sharing and grouping Interprets problems which require unequal sharing and demonstrate their understanding through the use of bar diagrams	Solves simple problems involving unequal sharing and grouping Solves problems where there is a simple inequality for sharing or multiplying eg £150 budget for the theme park - adults cost £12 and children cost £7. Explore the different numbers of people who could visit.	Solves problems involving unequal sharing and grouping using knowledge of fractions and multiples.	Solves increasingly complex problems involving unequal sharing and grouping using knowledge of fractions and multiples. Solves multi step problems and investigations involving unequal sharing and grouping using knowledge of fractions multiples and scale factors.

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Year 6			
Beginning	**Developing**	**Secure**	**Greater Depth**
Algebra			
Uses simple familiar formulae, e.g. area of a rectangle to find missing values Explain the simple formula that they are already familiar with e.g. area and perimeter of a rectangle	Uses a greater range of familiar formulae Given a formula generates a series of answers.	Uses simple formulae	Uses more complex formulae in a range of contexts both familiar and unfamiliar Explore the impact of a formula. Plot the answers and generalize about these.
Describes a simple linear number sequence in words	Generates a simple number sequence given a rule	Generates and describes linear number sequences	Finds the nth term of a simple number sequence linked to multiplication tables Finds and justify the nth term of a number sequence exploring and explaining what stays the same and what varies.
Begins to express simple missing number problems algebraically with support Using understanding of the four operations adjusts missing number statements so that they are easier to solve Eg 2a+5=15 So 2a=15-5 So 2a=10 So a=10÷2 So a=5	Expresses simple missing number problems algebraically Given a formula explains and uses an understanding of inverse relationships to calculate missing terms	Expresses missing number problems algebraically	Reads and interpret algebraic notation consistently Explores algebraic formula for missing number statements with at least two variables. Discuss the outcomes and generalize where possible. Eg 2(y+3z) -1 will always be odd because….
Finds a pair of numbers that satisfy an equation with two unknowns when prompted Finds a pair of numbers that satisfy an equation with two unknowns	Finds at least one pair of numbers that satisfy an equation with two unknowns without being prompted Uses concrete apparatus to solve equations with two unknowns eg numicon/ number rods and balance scales	Finds pairs of numbers that satisfy an equation with two unknowns	Explains and justify how all possible values have been found Explain the nature of the numbers which must be used within an algebraic formula with at least two variables for an outcome to be possible.
Finds a combination of two variables that meet a stated criteria Using trial and improvement finds a pair of integers which could give the solution to an equation with two variables.	Finds at least one combination of two variables that meet a stated criterion without being prompted When given a solution finds several possible combinations of integers which could solve an equation.	Enumerates possibilities of combinations of two variables.	Generalises about possible s o l utions to an equation with two variables when integer, negative and /or fractional values are used.

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Year 6			
Beginning	**Developing**	**Secure**	**Greater Depth**
Measurement			
Understands that when calculating the time particular care needs to be taken when converting between one unit of time and another.	Demonstrates an understanding of place value to convert measures to one unit of measurement prior to carrying out calculation. As appropriate reconvert units into the most appropriate form of the unit when providing the solution to the problem. Eg 1130 mm of ribbon and 2.4 m of wool were used to border the blanket. What was the perimeter of the blanket? 1130+ 2400=3630mm=3.63m	Solves problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate	Solves problems multi step measures problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.
Understands that the unit of measure must be identified before measuring. Selecting a unit will depend on the size and nature of the item to be measured and the degree of accuracy required.	Demonstrates experience and understanding of units of measurement by estimating and justifying their estimate. Know that to read scale they first work out how much each mark or division on the scale represents.	Uses, reads, writes and converts 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 up to three decimal places	Moves swiftly between units of measurement, carrying out conversion as appropriate when solving a range of problems and using a wide variety of measuring equipments.
Has an appreciation of miles and kilometres and can approximate roughly the distance to, or between known points of reference.	Uses the relationship that 5 miles = 8 km to convert multiples of 5 miles to km and multiples of 8km to miles.	Converts between miles and kilometres	Applies their understanding of ration to convert between imperial and metric units. Uses these to solve problems. Reads and plots values on conversion graphs.
Draws a rectangle with a fixed perimeter or area.	Draws the rectangle with a fixed perimeter and area.	Recognises that shapes with the same areas can have different perimeters and vice versa	Works out what changes to a rectilinear shape will alter the area but not the perimeter, and which will alter perimeter but not the area.
Use formulae for finding area and perimeter of rectangles	Shows understanding of finding the area and/or perimeter of rectangles by solving missing number problems.	Recognises when it is possible to use formulae for area and volume of shapes	Finds the area and volume of compound 2d and 3d shapes and explain decisions made
Finds the area of a triangle and use the appropriate formula	When looking at parallelogram children identifies the internal rectangle and the two triangles at either end which combine to make another rectangle and use these to calculate the total area.	Calculates the area of parallelograms and triangles	Solves problems using missing lengths for triangles and parallelograms
Uses cubes to begin to explore the volume of a cube and cuboid and have an awareness of the standard units used	Derives a formula for finding the volume of a cube or cuboid and use appropriate units if prompted	Calculates, estimates and compares volume of cubes and cuboids using standard units, including cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units [for example, mm^3 and km^3].	Calculates the volume of cubes and cuboids using the correct units and notation Estimates the volume of cubic shapes.

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Beginning	**Developing**	**Secure**	**Greater Depth**
Geometry			
Makes accurate use of a protractor and ruler to construct regular 2D shapes	Completes a triangle, given some of the properties but not all.	Draws 2-D shapes using given dimensions and angles	Draws a triangle from written instructions such as AB= 8 cm, BC = 9cm and BCA = 56deg realizing that there are two different triangles which could be drawn.
Recognises and build simple 3-D shapes using apparatus and paper	Relates simple 3-D shapes to their associated nets. Given a series of possible nets can identify which net makes a specified shape. *include problems with patterns.	Recognises, describes and builds simple 3-D shapes, including making nets	Generalises the nature of successful nets for a given 3d shape. E.g. cube will have a run of 4 by 3 square faces.
Sorts a set of 2 or 3d shapes into a variety of diagrams (Carroll) for a variety of different criteria such as 'equal diagonals, 'pairs of parallel lines' and line symmetry, perpendicular lines. Identifies where angles meet on a straight line and find missing angles	Find unknown angles in any triangles, quadrilaterals, and regular polygons. Knows that the total sum of the internal angles in a triangle is 180 deg Knows that the total sum of the internal angles in a rectangle is 360 deg Identifies where angles are vertically opposite and find missing angles when prompted	Compares and classifies geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons Recognises angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.	Investigates and explores the internal and external angles of regular polygons and form generalisations. Works on missing angle problems to greater complexity – e.g. corresponding, equal and opposite
Names the parts of a circle as radius, diameter and circumference.	Understands the relationship between the radius and the diameter.	Illustrates and names parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius	Uses the language of circles including radius, diameter and circumference with confidence and accuracy. Begins to explore the formula for the circumference of circles.
Be fluent in describing positions in the first quadrant. Plots points with negative x values.	Plots points on the full coordinate grid (all four quadrants) Considers how to plot points in relation to the origin (0,0).	Describes positions on the full coordinate grid (all four quadrants) *can work with unknown coordinates and varying scales*	Recognises the relationship between points plotted in all 4 quadrants whether positive or negative. E.g. (2,3), (-2,3), (2,-3), (-2,-3). These all sit equal distance from the origin.
Draws and translate simple shapes on the coordinate plane in the first quadrant	Draws and translates simple shapes on the coordinate plane in the full coordinate grid and begin to reflect in horizontal and vertical axes.	Draws and translates simple shapes on the coordinate plane, and reflect them in the axes	Draws, translates, rotates and reflects increasingly complex shapes on the coordinate plane, and reflect them in the axes, justifying a solution through the use of correct mathematical vocabulary

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Year 6			
Beginning	**Developing**	**Secure**	**Greater Depth**
Statistics			
Interprets pie charts based on simple fractions. Using the knowledge of a circle being 360 degrees	constructs pie charts and line graphs and use these to solve problems	Interprets and constructs pie charts and line graphs and use these to solve problems	Compares sets of data presented in different formats and be able to justify my reasons when solving a problem
Understands the use of an average and why they are important in statistic. Can provide real life examples.	Recognises the formula for calculating the mean.	Calculates and interprets the mean as an average	Having calculated the mean uses this to justify decisions. (relate to science and geography) e.g. rainfall, climate, ingredients etc.

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