



Year 5 Mathematics Curriculum – 7 lessons per week	
AUTUMN	<p>1 - Place Value: Numbers to 1 million</p> <p>In this first topic, pupils will be looking at numbers and their place value to 1,000,000. We begin by learning how to read and write numbers to 1,000,000. Time is spent using concrete materials to represent such numbers, including number discs and place-value grids. Pupils then compare numbers to 1,000,000 and complete the topic by making number patterns and rounding numbers to the nearest 10, 100, 1000, 10,000 and 100,000.</p>
	<p>2 – Calculation: Addition and Subtraction</p> <p>In this next unit, pupils will be exploring addition and subtraction of numbers to 1,000,000. They will begin the unit by using simple strategies to add and subtract, such as counting on and counting back. They will then focus on adding within 1,000,000 and subtracting within 1,000,000. Pupils will use multiple methods, such as the column method and number bonds to add and subtract numbers. Pupils will have access to concrete materials throughout the unit, improving their visualisation and mental skills. The unit ends with consolidation activities with number cards.</p>
	<p>3 – Whole Numbers: Multiplication and Division</p> <p>In this topic, pupils are multiplying and dividing 3- and 4-digit numbers by single- and double-digit numbers. The unit begins by finding and defining multiples and factors and common factors. Pupils begin to work with prime numbers and determine what makes a number prime or composite. After this, they work with square and cube numbers before moving on to multiplying by 10, 100 and 1000. When multiplying, pupils are encouraged to use a variety of methods, including: number bonds, column methods and the grid method. Number bonds are used to represent multiplicative word problems. Pupils then move on to multiply by 2-digit numbers before beginning to divide by 10, 100 and 1000. The unit ends as pupils learn to divide, using multiple methods, including: number bonds, long/short division. They also learn how to deal with remainders.</p>
	<p>4 – Whole Numbers: Word Problems</p> <p>In this next stage, pupils are solving word problems that involve multiple steps and a variety of operations. Pupils begin the unit by simply choosing the correct operation before moving onto representing the key information using bar models. Applying the strategies learned in previous units is key to solving the challenges, even when complex representations of numbers and advanced bar models are needed.</p>
	<p>5 - Graphs</p> <p>In this topic, pupils read and interpret information in tables and line graphs. To begin with, pupils will be required to read and interpret information presented in a table showing flight details. In the next lesson, they are required to use the data to answer questions, however the data has restrictions and must be sorted. The final lesson on tables leaves out key information, such as omitting a train time to indicate the train does not stop at a specific station. Then there are four lessons on line graphs, beginning with a single line to represent a given set of data, followed by constructing line graphs that have more than one data set to represent.</p>
SPRING	<p>6 - Fractions</p> <p>This unit develops pupils' ability to handle more diverse problems involving fractions, including dividing and multiplying fractions by whole numbers. To begin the unit, pupils divide whole numbers by whole numbers, giving rise to fractions. Pupils then show improper fractions and mixed numbers using pictures. As they progress, they find equivalent fractions, compare and order fractions and utilise the number bond strategy, known as number pairs, in their work with fractions. Next, pupils review adding fractions, with a focus on fractions with different denominators and fractions that create improper fractions and mixed numbers. Then they subtract fractions that are different, finding common denominators and subtracting mixed numbers and improper fractions. At the end of the unit, pupils begin to multiply fractions by whole numbers and multiply mixed numbers by whole numbers. The final lesson involves solving word problems that require multiple steps and bar model representations.</p>
	<p>7 - Decimals</p> <p>In this unit, pupils explore decimals. To begin this unit, they learn to read and write decimal numbers. This is followed by comparing decimal numbers to find which is greater and smaller. Pupils then add and subtract decimals before turning decimals into fractions. The unit ends with pupils rounding decimals to the nearest whole number and decimal position.</p>
	<p>8 – Percentage</p> <p>This unit begins with comparing quantities and exposing percentage as an amount out of 100. The unit finishes by having pupils convert fractions to hundredths, both by expanding fractions and by simplifying them.</p>
	<p>9 - Geometry</p> <p>In this unit, pupils explore angles: measuring angles, the investigation of angles on a line/point and drawing angles, before moving onto using angles as a descriptor for common shapes. The unit ends with pupils solving problems involving angles and investigating angles inside regular polygons.</p>
SUMMER	<p>10 – Position and Movement</p> <p>In this unit, pupils are exploring position and movement. In the first lesson, they are naming and plotting points on a grid before moving onto the translation of a shape in the second lesson. They are then required to describe the movement of a shape on a grid as the first step in describing reflections. The unit ends with pupils looking at and describing reflections across a mirror line.</p>
	<p>11 – Measurements</p> <p>In this unit, pupils are exploring the measurement of mass, temperature, time and length. To start, pupils will be converting units of length from millimetres to centimetres and from centimetres to metres. They then move on to converting metres to kilometres before looking at converting imperial measures to metric measures. Pupils explore converting units of mass in the same manner, finishing with imperial and metric conversions. They look at units of time in days, weeks, months and years, then in seconds, minutes and hours. The last lessons looks at temperature and how to use a vertical number line (thermometer).</p>
	<p>12 – Area and Perimeter</p> <p>In this unit, pupils will be extending their knowledge of perimeter and area. It begins with pupils finding the perimeter of a polygon constructed from other polygons. They then look at constructing shapes with the same perimeter but a different area. Pupils begin to explore scale diagrams to determine the perimeter of shapes before moving onto exploring area using concrete materials. When they are familiar with the concept of area, they begin looking at area on square grids. Pupils will be using their understanding of polygons to calculate the area of those that are not 'regular polygons'. As the unit progresses, they measure area in a variety of ways, determining the area of shapes from familiar shapes and using estimation to support their understanding.</p>
	<p>13 - Volume</p> <p>In this units, pupils are exploring volume. In the first lesson, they learn about the volume of solids and how to use cubes to determine volume. Then they look at the volume of specific shapes such as rectangular boxes. The term 'capacity' is revisited in a lesson in the middle of this unit, which helps pupils differentiate between 'volume' and 'capacity'. Next, they learn to convert between different metric units and then between metric and imperial units. The unit ends with pupils solving increasingly challenging word problems related to volume.</p>
	<p>14 – Roman Numerals</p> <p>In this short unit, pupils are identifying and using Roman numerals. In the first lesson, pupils learn to write Roman numerals to 1000, determining rules to apply to the written number. In the second lesson, pupils learn how to write years above 1000. The unit ends with applying knowledge of Roman numerals to real-life scenarios</p>



Year 6 Mathematics Curriculum – 7 lessons per week	
AUTUMN	<p>1 - Place Value: Numbers to 10 million</p> <p>In this first unit of Year 6, pupils are refining their knowledge of place value, working with numbers between 1 000 000 and 10 000 000. They begin the unit reading and writing numbers to 10 000 000 using number discs, numerals and words. An additional lesson using an abacus is provided to deepen and extend their sense of number and place value. Pupils are then asked to round and compare numbers to 10 000 000, followed by placing them in order from smallest to greatest. The unit ends with pupils rounding numbers to various values and determining when it is appropriate to round numbers.</p>
	<p>2 – Calculation: Four Operations on Whole Numbers</p> <p>In this unit, pupils will be exploring the four operations, in combination and in isolation. The unit begins with lessons on creating and solving expressions involving brackets, exponents, multiplication, division, addition and subtraction. Pupils are then multiplying 3- and 4-digit numbers by 2-digit numbers using number bonds and column multiplication as the key methods. After this, they are estimating the product of multiplication sentences before moving on to division. Pupils are dividing 3- and 4-digit numbers by 2-digit numbers using a variety of methods, including number bonds and long division. Pupils then begin solving more complex word problems involving multiple operations, including multiplication and division, with bar models being a main heuristic in addition to other pictorial methods. Pupils are then challenged by finding common multiples and common factors before ending the unit exploring prime numbers.</p>
	<p>3 - Fractions</p> <p>This is a unit on adding, subtracting, multiplying and dividing fractions. The unit begins with pupils simplifying fractions and moves on to comparing and ordering fractions. Pupils are working with basic fractions and mixed numbers. They then begin to add and subtract fractions with different denominators, including mixed numbers. Bar model diagrams are incorporated to support pupils' understanding before moving on to multiplication and division. Pupils will be required to divide fractions by whole numbers and will explore different methods.</p>
	<p>4 - Decimals</p> <p>To begin with, pupils will read and write decimals using Base 10 materials before moving on to dividing and multiplying decimals by 1-digit numbers with no regrouping or renaming. Pupils will then be asked to write fractions as decimals using division and pictorial methods before looking at multiplying fractions which involve some regrouping and renaming by 1-digit numbers. Pupils will look at dividing decimals again, this time when regrouping and renaming with 1-digit numbers is required. They then move on to multiplying and dividing decimals by 2-digit numbers, which involves regrouping and renaming, using a variety of methods and strategies, including: number bonds, the worded method (writing down a problem in words and numbers), long division and the column method.</p>
	<p>5 - Measurement</p> <p>Next, the focus turns to converting units of measurement using fractions and decimals. Pupils begin by converting units of length and distance followed by exploring units of mass, volume and time. While most of the unit considers metric conversions, time is challenging as it does not follow multiples of 10, 100 or 1000.</p>
	<p>6 – Word Problems</p> <p>In this unit, pupils solve complex word problems using the four operations and bar model diagrams. To start the unit, pupils learn that making bar models of the same size can be helpful, but that one must remember to change the information in the problem to match. The second lesson reinforces the idea that models of the same size can make solving word problems simpler. In the third lesson, pupils find common representations in each diagram and add or subtract time to solve for a unit's value. The fourth lesson is slightly different in that a traditional bar model will not be helpful. The In Focus task requires high-order reasoning and picture drawing. In the last two lessons, pupils create and solve word problems.</p>
SPRING	<p>7 – Percentage</p> <p>In this unit, pupils will be exploring how to calculate percentage of numbers and quantities. They will be learning about how to solve for percentage change and use percentage to compare amounts. In the first lesson, pupils will be finding the percentage of a whole number. This will involve both division and multiplication skills. They will then move on to finding the percentage of a quantity, measured in amounts such as litres and millilitres. In the third lesson, pupils will be looking at difference and percentage change before finally moving on to using percentage as a way to compare numbers and amounts.</p>
	<p>8 - Ratio</p> <p>In this unit, pupils will be comparing quantities, including numbers, objects, fractions and mass before moving on to solving word problems. In the first six lessons, pupils will use bar models and concrete materials to compare amounts. They will be using both pictorial and abstract multiplication and division to support their learning while simplifying and comparing ratios. In the final three lessons, pupils will be solving word problems involving ratio by constructing bar models to support their understanding.</p>
	<p>9 - Algebra</p> <p>In this unit, pupils will learn some of the conventions of algebra in the context of patterns and real-life problems. The unit begins with lessons describing patterns and using a letter to denote a variable. Pupils then move on to write expressions using the four operations and fractions, while continuing to look for patterns and determine rules. Throughout the unit, the expressions become more complex, including more than one variable with multiple steps. Pupils write and evaluate algebraic expressions and use formulae to solve problems in real-life contexts. The unit ends with pupils using word problems to write equations with two unknown values solving a range of equations.</p>
	<p>10 – Area and Perimeter</p> <p>In this unit, pupils will be exploring how to calculate the area of rectangles, triangles and parallelograms. The unit begins with a review of perimeter and area of rectangles, and progresses by consolidating pupils' knowledge of the area of a rectangle to develop their understanding to calculate the area of a parallelogram. This is followed by finding multiple methods for calculating the area of a triangle. The unit ends with finding the area for a parallelogram using the triangle method.</p>
	<p>11 - Volume</p> <p>In this unit, pupils will be developing their understanding of volume as it relates to cubes and cuboids. It begins with pupils working with concrete materials to expose the meaning of volume thoroughly. Next, pupils are determining the formula for the volume of cubes and cuboids, estimating volumes and calculating total volumes with a formula. By the end of the unit, pupils are solving multi-step word problems related to volume, using division and multiplication.</p>
	<p>12 - Geometry</p> <p>Pupils will be investigating angles on their own, in word problems and in shapes. The unit begins with pupils looking at vertically opposite angles before solving word problems involving angles. They will then be looking at angles in triangles and quadrilaterals, using that information to complete a lesson on word problems. Next, pupils will be investigating the parts of a circle before solving word problems about angles in a circle. They will spend some time drawing quadrilaterals before moving onto triangles. At the end of the unit, pupils will be required to draw the nets of 3-D shape</p>
	<p>13 – Position and Movement</p> <p>In this unit, pupils work with polygons on coordinate grids. They differentiate between translation and reflection before moving on to express movement using algebra. To begin, pupils review negative numbers on horizontal and vertical axes. They then learn to describe the position of objects in relation to a common starting point. Pupils begin to use a coordinates grid from different starting points and recode the coordinates of the points. The coordinate grids become more complex as the unit progresses, using all four quadrants and translating and reflecting objects. The unit ends by describing movement (translation and reflection) on a grid using algebra.</p>



SUMMER	<p>14 – Graphs and Averages</p> <p>In this unit, pupils will learn to present and interpret information in different ways. It begins with lessons exploring the mean, but also briefly looking at other ways of showing averages. Pupils calculate mean in different situations and use the mean to find other information. They then move on to showing information on different types of graph. They revise bar graphs, pictograms and tables, then spend several lessons drawing, reading and interpreting pie charts. Pupils begin with pie charts split into sections of equal size, then quickly move on to pie charts with different fractions of different denominators. They use fractions, percentages, angles and algebra during these lessons. Next, they focus on line graphs; drawing, reading and interpreting the information in them. Pupils begin with distance/time, then explore a variety of uses for line graphs, including converting units of measurement and currency. The unit ends with a Mind Workout that uses pupils' understanding of average.</p>
	<p>15 – Negative Numbers</p> <p>This is a short chapter on adding and subtracting negative numbers. The first lesson involves recognising patterns that arise when adding and subtracting negative numbers on a number line. The second lesson has pupils developing number stories for equations involving a negative number</p>
	<p>16 - Revision</p> <p>Following on from completing the above units, the children will revise key areas of the curriculum in preparation for the SATs test that they will sit in May. This revision series of lessons usually takes in the region of 3 weeks and helps to prepare children for the tests themselves. They will look over key knowledge from earlier in the year as well as test techniques.</p>
	<p>17 - SATs</p> <p>Children in year 6 are required to sit nationally administered SATs. In maths, the children have three tests they are required to sit:</p> <ul style="list-style-type: none"> - Paper 1 is the arithmetic paper which will last for 30 minutes. It will contain fixed response questions where children have to give the correct answers to calculations. - Papers 2 and 3 will involve a wider range of question types including multiple choice, true or false and reasoning based. Both papers will last 40 minutes each. <p>At present, the dates for the assessments are as follows: Monday 10th May 2020 – Thursday 13th May 2020</p>
	<p>18 – Post SATs</p> <p>Once SATs are finished, children begin to undertake longer projects, having to demonstrate that they can use the knowledge they have acquired over the course of the year in a variety of real-life contexts. Likewise, we begin to think about reinforcing key lessons such that we are confident the children will be as they can be for year 7,</p>



Year 7 Mathematics Curriculum – 5 lessons per week	
AUTUMN	<p>1 - Sequences</p> <p>Year 7 begins with a series of units to aid thinking in abstract terms – algebra forms a key component of KS3 maths (and beyond) and so substantial work is done to aid this understanding. In the build up to work done on finding rules for the n^{th} term, pupils will consolidate their knowledge of sequences both visually and in the abstract. Children will begin to understand the difference between linear and non-linear sequences and how those in turn link to the patterns previously explored. Towards the unit of the unit, the sequences will be treated more formally and calculators are used throughout.</p>
	<p>2 – Understand and Use Algebraic Notation</p> <p>Algebra is a concept children have been dealing with since the very beginning of their time at school. It is only really at this stage however, that algebraic forms and notation really begin to be explored in depth. Function machines are used alongside bar models and letter notation with time invested in links to inverse operations. Children will then be more easily able to see the link between input/output terminology of function machines and these can be substituted into short abstract expressions.</p>
	<p>3 – Linear Equations (Equality and Equivalence)</p> <p>In this section, students are introduced to forming and solving one-step linear equations, building on their study of inverse operations. The equations met will mainly require the use of a calculator, both to develop their skills and to ensure understanding of how to solve equations rather than spotting solutions. This work will be developed further when two-steps equations are met before finishing with consideration of equivalence and the difference between this and equality, illustrated through collecting like terms.</p>
	<p>4 – Place Value, Ordering, Rounding</p> <p>Having spent a good deal of time on algebra, the students will now revisit prior learning and extend this through exploring integers up to one billion and decimals to hundredths. Standard index form may also be introduced if the pupils are deemed ready for it. Rounding to the nearest given power of ten is developed, alongside rounding to one significant figure.</p>
	<p>5 – FDP Equivalence</p> <p>Building on prior work done on decimals, the focus for this segment is for students to gain an even deeper understanding of the links between fractions, decimals and percentages so that they can convert fluently between those most commonly seen in real-life. This will lead to more complex conversions. While looking at percentages, pie charts will be introduced. In addition, various representations of any fraction will be studied, focusing on equivalence. The main focus will be on understanding of common fractions under 1, but fractions above one will also be touched upon.</p>
SPRING	<p>6 – Solving Problems with Addition and Subtraction</p> <p>The focus for this unit is to ensure that pupils are fully up to speed with the formal methods developed at KS2. All students will look at this in the context of interpreting and solving problems and for those for whom these skills are already secure, this problem solving element will have an even greater emphasis. Problems could be drawn from contexts such as perimeter, money, interpreting bar charts and tables and looking at frequency trees. Calculators will begin to be used in order to check/support calculations, with significant figures and equations also explicitly revisited.</p>
	<p>7 – Solving Problems with Multiplication and Division</p> <p>Another key unit, where children will revisit their formal methods. They will also begin to study the forming and solving of two-step equations both with and without a calculator. Unit conversions will be the main context for multiplication and division by 10,100 and 1000 and simple finding fractions and percentages of an amount will be explored (providing a foundation for further study later in the term). As well as distinguishing between multiples and factors, substitution and simplification may also be revised and extended. Again, the emphasis will be on solving problem, particularly involving area of common shapes and the mean. Choosing the correct operation to solve a problem will also be a focus. There will also be some exploration of the order of operations which will be reinforced again later on in the year.</p>
	<p>8 – Fractions and Percentages of Amounts</p> <p>This short block focuses on the key concept of working out fractions and percentages of quantities and the links between the two. Inverses will also be visited here.</p>
	<p>9 – Operations and equations with directed number</p> <p>Students will only have a limited experience of directed number at primary school, so this block is designed to extend and deepen their understanding of this. Multiple representations and contexts will be used to enable students to appreciate the meaning behind operations with negative integers rather than relying on a serious potentially confusing ‘rules’. As well as exploring directed number in its own right, this block provides valuable opportunities for revising and extending earlier topics, notably some algebraic areas such as substitution and the solution of equations.</p>
	<p>10 – Addition and Subtraction of Fractions</p> <p>This block builds on the autumn term study of ‘key’ fractions, decimals and percentages. It will provide more experience of equivalent fractions with any denominators, and to build upon the children’s knowledge of adding and subtracting fractions, which children should be able to do with both mixed and improper fractions.</p>
SUMMER	<p>11 – Constructing, Measuring and Using Geometric Notation</p> <p>At KS2, children often find working with protractors and other measuring equipment difficult. We will revisit this in the context of construct and measure increasingly complex diagrams and using correct mathematical notation. This will include three letter notation for angles, the use of hatchmarks to indicate equality and the use of arrows to indicate parallel lines. Pie charts will again be studied here to gain further practise of drawing and measuring angles.</p>
	<p>12 – Developing Geometric Reasoning</p> <p>This block covers basic geometric language, names and properties of types of triangles and quadrilateral and the names of other polygons. Angles rules will be introduced and used to form short chains of reasoning, including with parallel line rules.</p>
	<p>13 – Developing Number Sense</p> <p>In this unit, pupils will review and extend their mental strategies with a focus on using a known fact to find other facts. Strategies for simplifying complex calculations will also be explored. The skills gained in working with number facts will be extended to known algebraic facts.</p>
	<p>14 – Sets and Probability</p> <p>FDP equivalence will be revisited in the study of probability, where students will also learn about sets/set notation and systematic listing strategies.</p>
	<p>15 – Prime Numbers and Proof</p> <p>If there is sufficient time, we will revisit factors and multiples to look at the concept of prime numbers. Odd, even, prime, square and triangular numbers will be used as the basis of forming and testing conjectures. The use of counterexamples may also be addressed.</p>



Year 8 Mathematics Curriculum – 5 lessons per week	
AUTUMN	1 – Revisiting Core Skills + - x ÷ To begin the year, and especially in light of the time that pupils have been out of school, we will start by revisiting the core skills of + - x ÷. We will review mental methods for addition and subtraction, looking at how formal methods are often not necessary, with mental methods being more appropriate in many situations. This will be followed by reviewing formal methods for addition, subtraction, multiplication and division (incorporating both integers and decimals). Alongside demonstrating that they are on top of all these formal methods, pupils will be challenged with harder problems that require them to reason and problem solve. They will have to know which methods and approaches to use in order to solve the problems in an efficient manner. The unit ends with an assessment to ensure that the knowledge is fully ingrained.
	2 – Fractions The unit will begin by reviewing the pupil’s prior knowledge for how to add, subtract, multiply and divide with fractions. We will ensure that they can add and subtract fractions in a variety of contexts as well as multiply fractions by fractions and by integers. Likewise, they should be confident when dividing fractions by fractions and integers by fractions. They will need to know a range of efficient methods for doing this, including how to use the reciprocal for changing a division problem into a multiplication one. To build on this, children will learn how to do all of the above with improper fractions and mixed numbers, and will then learn how their knowledge about these processes can be represented algebraically. Problem solving and reasoning elements will be incorporated throughout all of the lessons.
	3 – Proportional Reasoning – Ratio and Scale This unit focuses initially on ensuring that the children have a secure conceptual understanding of what is meant by the term ‘ratio’ and how various models can be used to represent ratio. Based on this understanding, it moves on to sharing in a ratio given the whole or one of the parts and how to use methods such as bar modelling to ensure the correct approach to solving a problem is taken. After this, we look at simplifying ratios and using previous answers to deepen the understanding of equivalent ratio rather than ‘cancelling’ purely as a procedure. We also explore the links between ratio and fraction and to understand π as the ratio of the circumference of a circle to its diameter. We may also look at the concept of gradient in relation to ratio in this unit.
	4 – Multiplicative Change Students now turn to doing some work on the link between ratio and scaling, including the idea of direct proportion, linking various forms including graphs where for example they may have to convert between currencies. This provides rich opportunities for problem solving. This work on conversion graphs will help prepare the pupils for more formal graphical work later in the term. Links are also made with maps and scales, and with the use of scale factors to find missing lengths in pairs of similar shapes.
	5 – Working in the Cartesian Plane Building on their knowledge of coordinates from KS2, students will look formally at algebraic rules for straight line, starting with lines parallel to the axes and moving on to the more general form. They may explore notions of gradient and intercepts, but the main focus will be on using equations to produce lines. Doing this should also highlight to the children the similarities and differences between sequences, lists of coordinates and lines. We may also explore non-linear graphs and mid-points of line segments.
SPRING	6 – Representing Data Students are introduced formally to bivariate data and the idea of linear correlation. They extend their knowledge of graphs and charts from KS2 to deal with both discrete and continuous data. Appropriate graphical representation for different data types will for a key part of the unit.
	7 – Tables and Probability We revisit the concept of probability in this brief unit, in particular looking at sample spaces and the use of tables to represent these.
	8 – Brackets, Equations and Inequalities Building on their understanding of equivalence from KS2 and year 7, students will explore expanding over a single bracket and factorising by taking out common factors. We may also look at expanding two binomials. A core part of this unit will also involve students revisiting and extending their knowledge of solving equation, including where brackets are involved and potentially also when there are unknowns on both sides. Bar models will be used as a tool to help students make sense of the underlying concepts. Students will also learn to solve formal inequalities, learning the meaning of a solution set and exploring similarities and differences compared to solving equations. Emphasis will be placed on both forming and solving solutions rather than just looking at procedural methods of finding solutions.
	9 - Sequences This short block builds upon pupils’ prior learning, extending this to look at sequences with more complex algebraic rules now that students are more familiar with a wider range of notation. The higher strand includes finding a rule for the n^{th} term for a linear sequence, using objects and images as necessary to understand the meaning of the rule.
	10 – Indices Before exploring the ideas behind the addition and subtraction laws of indices (which will be revisited when standard form is studied next term), the groundwork is laid by making sure students are comfortable with expressions involving powers, simplifying eg. $3x^2y \times 5xy^3$. We will also look at finding powers of powers.
SUMMER	11 – FDP This block focuses on the relationship between fractions and percentages, including decimal equivalents, and using these to work out percentage increase and decrease. Students also explore expressing one number as a fraction and percentage of another. We will also look at finding the original value given a percentage or after a percentage change. Both calculator and non-calculator methods will be developed throughout to support students in choosing efficient methods. Financial maths may be developed in this unit through looking at concepts such as profit/loss/interest.
	12 – Standard Index Form This unit builds on the work on indices from the previous term. The use of context is important to help students make sense of the need for the notation and its uses. Negative and fractional indices will also be introduced.
	13 – Number Sense If needed, we will take this time to revisit a range of basic skills in a wide variety of contexts: estimation, mental strategies, metric conversion with x and ÷ by 10, 100, 1000 in context. We could also look at solving problems using time and calendars. We may also look at the use of error notation and the conversion of area and volume units.
	14 – Angles in Parallel Lines and Polygons The children build on their understanding of angle notation and relationships. They will explore angles in parallel lines and thus solve increasingly complex missing angle problems. Links are then made to the closely connected properties of polygons and quadrilaterals. Pupils will also begin to develop their understanding of the idea of proof and will explore constructions with rulers and pairs of compasses.



15 – Area of Trapezia and Circles

Children will learn about formulae for working out the area of a trapezium and a circle. A key aspect of the unit is building confidence with regards to choosing the correct formula for the correct shape. The process of doing this will reinforce shape knowledge such as their properties and names.

16 – Line Symmetry and Reflection

The teaching of reflection is split from that of rotation and translation to try and ensure students attain a deeper understanding and avoid mixing up the two concepts. There is comparatively little content in this unit, but it can be useful revisiting in order to build confidence with shapes and lines in all different orientations and key vocabulary such as object/image/congruent. The teaching of this unit may be dependent upon the time we have remaining to cover other units.

17 – The Data Handling Cycle

This unit is a continuation of much that has been visited previously and the children should be familiar already with the charts and graphs being used. A particular focus then will be on exploring when graphs may be misleading (something that is becoming ever more important as a life skill). Another key focus will be on comparing charts with different distributions. If there is time, collection of data may be covered, including designing and criticising questionnaires and this could be covered through an extended project so students become aware of the pitfalls and difficulties of data collection and interpretation as well as the procedural production of graphs and charts.

18 – Measure of Location

Students will have already come across the concepts of mean and median, and we will revisit this alongside the mode so that children will be able to more confidently know when and why each average should be used. Pupils will look at the mean from grouped and ungrouped frequency tables. Children will have the opportunity to compare distributions, use these averages and the range. We will also consider outliers, considering what effect these have on all the measures studied and whether or not they should be included in our calculations.