Year 7	Term 1				
Unit Title	Sequences	Algebraic notation	Equality and equivalence	Place value and ordering	Fractions, decimals and percentages
Approximate Number of Lessons	6	6	6	6	6
Curriculum Content	• Describe and continue sequences • Represent in tables and graphs • Continue linear and non-linear sequences • Explain term-to-term rules • Find missing numbers within sequences • Use the terms arithmetic and geometric confidently	• Inputs and outputs • Function machines • Use inverse operations in function machines • Find function machines given an expression • Substitution • Generate sequences • Represent sequences graphically • Understand the difference between linear and non-linear expressions and how they look on a graph	• Understand the meaning of equality • Use fact families for finding equivalent equations • Solve linear equations involving any operation • Understand and simplify algebraic expressions by collecting like terms • Confidently use bar models to represent equations and to assist in solving • Recognise equivalent expressions when one is factorised	• Recognise the place value of any number up to one billion, including decimals • Write integers in words and figures • Use a number line to position integers and decimals • Round integers to the nearest power of ten • Compare two numbers using inequality signs • Order numbers up to one billion • Find the median and range • Round to one significant figure • Write 10, 100, 1000 etc as a power of ten • Investigate negative powers of ten • Write positive integers and decimals in the form $A \times 10^n$	• Represent tenths and hundredths as diagrams and on number lines • Represent percentages on a hundred square • Convert fluently between fractions, decimals and percentages • Use and interpret pie charts • Represent any fraction on a diagram or number line • Identify and use equivalent fractions • Understand fractions as division • Convert eighths and thousandths to decimals • Convert decimal percentages to decimals and fractions e.g. 42.7% • Explore fractions above one, decimals and percentages
Links to prior learning	• Sequences of evens, odds and multiples	• Letters used to represent unknown values • Four operations	• Use of the equals sign • Factors • Forming expressions	• Round to 10, 100 and 1000 • Compare and order numbers	• Understand place value • Represent fractions as diagrams
Cultural Capital Opportunities	Patterns in Fibonacci	What is the point of algebra?	Where do maths symbols come from?	The History of Zero	Maths at home
Assessment Focus	Formative assessment on the half term's content covering a full variety of fluency, application and problem-solving questions, lasting approximately 45 minutes.			Whiterose end of term assessment on the full term's content, lasting approximately 45 minutes-90 minutes depending on Maths set.	
Knowledge Organiser	Unit-01---Sequences-KO.pdf	Unit-02---Algebraic-manipulation-KO.pdf	Unit-03---Equality-and-equivalence-KO.pdf	Unit-04---Integers-and-Decimals-KO.pdf	Unit-05---FDP-equivalence.pdf

Year 7	Term 2				
Unit Title	Solving problems with addition and subtraction	Solving problems with multiplication and division	Fractions and percentages of amounts	Directed number	Addition and subtraction of fractions
Approximate Number of Lessons	6	9	3	9	9
Curriculum Content	• Explore properties of addition and subtraction • Use mental strategies for calculating • Use formal methods for addition and subtraction of integers and decimals • Choosing an appropriate method, be it mental, formal or calculator • Solve perimeter problems • Solve financial maths problems • Solve problems in tables, timetables and frequency trees • Use bar charts and line graphs • Add and subtract numbers given in standard form	• Explore properties of multiplication and division • Understand and use factors and multiples • Multiply and divide integers and decimals by powers of 10 • Convert metric units • Use formal methods for multiplying and dividing integers and decimals • Understand and use order of operations • Solve problems using the area of rectangles, parallelograms and triangles • Solve problems using the mean • Multiply by 0.1 and 0.01 • Calculate the area of trapezia • Explore multiplication and division in algebraic expressions	• Find a fraction of a given amount • Use a given fraction to find the whole or other fractions • Find a percentage of a given amount using mental methods or a calculator • Solve problems with fractions greater than 1 and percentages greater than 100%	• Understand and use representations of directed numbers • Order directed numbers using lines and symbols • Perform calculations that cross zero • Add, subtract, multiply and divide directed numbers • Use a calculator for directed number calculations • Evaluate algebraic expressions with directed number • Solve two-step linear equations • Use order of operations with directed number • Calculate the roots of positive numbers • Explore higher powers and roots	• Understand representations of fractions • Convert between mixed numbers and fractions • Add and subtract fractions with the same and different denominators • Understand and use equivalent fractions • Add and subtract improper fractions and mixed numbers • Use fractions in algebraic contexts • Use equivalence to add and subtract decimals and fractions • Add and subtract simple algebraic fractions
Links to prior learning	• Formal written methods for addition and subtraction	• Area of basic shapes • Recalling multiples • Units of measure	• Fractions as a form of division • Calculating one percent	• Counting across zero • Examples of negatives in real life e.g. temperature	• Addition of simple fractions
Cultural Capital Opportunities	Maths in the Victorian classroom	Can you divide by zero?	Would you rather?	Different number systems	How close can you get to 1?
Assessment Focus	Formative assessment on the half term's content covering a full variety of fluency, application and problem-solving questions, lasting approximately 45 minutes.			Whiterose end of term assessment on the full term's content, lasting approximately 45 minutes-90 minutes depending on Maths set.	
Knowledge Organiser	Unit-06---Solving-problems-with-addition	Unit-07---Solving-problems-with-multiplic	Unit-08---Fractions-and-percentages-of-an	Unit-09---Operations-with-directed-numbe	Unit-10---Addition-and-subtraction-of-frac

Year 7	Term 3				
Unit Title	Constructing, measuring and geometry notation	Developing geometric reasoning	Developing number sense	Sets and probability	Prime numbers and proof
Approximate Number of Lessons	9	9	6	6	6
Curriculum Content	• Understand and use letter and labelling conventions • Draw and measure line segments • Understand angles as a measure of turn • Classify, measure and draw angles up to 360° • Identify parallel and perpendicular lines • Recognise types of triangles and quadrilaterals • Identify polygons up to a decagon • Construct triangles using SSS, SAS and ASA • Interpret pie charts using proportion and a protractor • Draw pie charts • Complete the table given a pie chart • Construct complex polygons	• Understand and use the sum of angles at a point • Understand and use the sum of angles on a straight line • Know and use the equality of vertically opposite angles • Know and apply the sum of angles in a triangle • Know and apply the sum of angles in a quadrilateral • Solve angle problems using properties of triangles and quadrilaterals • Solve complete angle problems • Use algebraic expressions to form equations and find the size of angles • Find and use the angle sum of polygons • Understand and use parallel line angle rules • Use known facts to obtain simple proofs	• Know and use mental addition, subtraction, multiplication and division strategies for integers and decimals • Use factors to simplify calculations • Use estimation as a method for checking mental calculations • Use known number and algebraic facts to derive other facts • Know when to use a mental strategy, formal written method or a calculator • Understand when to use estimation and how this relates to significant figures • Distinguish between an expression and an equation	• Identify and represent sets • Interpret and create Venn diagrams • Understand and use the intersection and union of sets • Know and use the vocabulary of probability • Generate sample spaces for single events • Calculate the probability of a single event • Understand the probability scale and the sum of possible outcomes sum to one • Understand and use the complement of a set • Use a combination of complements and unions/intersections to determine the elements in a set	• Find and use multiples • Identify factors of numbers and expressions • Recognise and identify prime, square and cube numbers • Find common factors and multiples • Find HCF and LCM • Write a number as a product of its prime factors • Make and test conjectures • Use counterexamples to disprove a conjecture • Use a Venn diagram to calculate the HCF and LCM • Understand why the product of two numbers is a multiple of the numbers
Links to prior learning	• Names of polygons • Read pie charts split into equal parts	• Basic angle facts • Vertically opposite angles	• Estimate by rounding to nearest whole number	• Probability terms in common parlance e.g. likely, certain, impossible	• Multiples and factors • Venn diagrams
Cultural Capital Opportunities	Construction ASA Construction SAS Construction SSS	Angle properties song	Significant figures Approximation	Find out about formal set notation	Venn diagrams.pdf
Assessment Focus	Formative assessment on the half term's content covering a full variety of fluency, application and problem-solving questions, lasting approximately 45 minutes.			Whiterose end of year assessment on the full term's content, lasting approximately 45 minutes-90 minutes depending on Maths set.	
Knowledge Organiser	Unit-11---Constructing--Measuring-and-u	Unit-12---Geometric-Reasoning-KO.pdf	Unit-13---Number-Sense-KO.pdf	Unit-14---Sets-and-Probability-KO.pdf	Unit-15---Prime-numbers-and-proof-KO.pc