

Curriculum Content Map			Subject: Maths Y7											
Units of Work	Month	Term 1				Term 2				Term 3				
		September	October	November	December	January	February	March	April	May	June	July		
		Sequences and Functions	Equations and Simplifying	Place Value	Fractions	Numbers and Represent Data	Integers and Fractions	Directed Numbers	Fractions	Ratio and Proportion and Rates	Mental Strategies	Algebraic Representation		
		ALGEBRA	ALGEBRA	NUMBER	ALGEBRA	NUMBER AND DATA	NUMBER	SHAPE	NUMBER	NUMBER	NUMBER	NUMBER		
National Curriculum area – KS3		Describe and continue a sequence given diagrammatically Predict and check the next term(s) of a sequence Represent sequences in tabular and graphical forms Recognise the difference between linear and non-linear sequences Continue numerical linear sequences Continue numerical non-linear sequences Explain the term-to-term rule of numerical sequences in words Find missing numbers within sequences Given a numerical input, find the output of a single function machine Use inverse operations to find the input given the output Use diagrams and letters to generalise number operations Use diagrams and letters with single function machines Find the function machine given a simple expression Substitute values into single operation expressions Find numerical inputs and outputs for a series of two function machines Use diagrams and letters with a series of two function machines Find the function machines given a two-step expression Substitute values into two-step expressions Generate sequences given an algebraic rule Represent one- and two-step functions graphically	Understand the meaning of equality Understand and use fact families, numerically and algebraically Solve one-step linear equations involving +/– using inverse operations Solve one-step linear equations involving ×/÷ using inverse operations Understand the meaning of like and unlike terms Understand the meaning of equivalence Simplify algebraic expressions by collecting like terms, using the δ symbol	Recognise the place value of any number in an integer up to one billion Work out intervals on a number line Position integers on a number line Round integers to the nearest power of ten Compare two numbers using $>$, $=$, $<$, \geq , \leq Order a list of integers Find the range of a set of numbers Find the median of a set of numbers Round integers to the nearest power of ten Position decimals on a number line Compare and order any number up to one billion Round a number to 1 significant figure Write 10, 100, 1000 etc. as powers of ten Write positive integers in the form $A \times 10^n$ Investigate negative powers of ten Write decimals in the form $A \times 10^n$	Represent tenths and hundredths as diagrams Interchange between fractional and decimal number lines Convert between fractions and decimals – tenths and hundredths Convert between fractions and decimals – fifths and quarters Convert between fractions and decimals – eighths and thousandths Understand the meaning of percentage using a hundred square Convert fluently between simple fractions, decimals and percentages Use and interpret pie charts Represent any fraction as a diagram Investigate negative powers of ten Identify and use simple equivalent fractions Understand fractions as division Convert fluently between fractions, decimals and percentages Explore fractions above one, decimals and percentages	Properties of addition and subtraction Mental strategies for addition and subtraction Use formal methods for addition of integers Use formal methods for subtraction of integers Use formal methods for subtraction of decimals Choose the most appropriate method: mental strategies, formal written or calculator Solve problems in the context of perimeter Solve financial maths problems Solve problems involving tables and timetables Solve problems with frequency trees Solve problems with bar charts and line charts Add and subtract numbers given in standard form	Properties of multiplication and division Understand and use factors Understand and use multiples Multiply and divide integers and decimals by powers of 10 Multiply by 0.1 and 0.01 Convert metric units Use formal methods to multiply integers Use formal methods to multiply decimals Use formal methods to divide integers Use formal methods to divide decimals Understand and use order of operations Solve problems using the area of rectangles and parallelograms Solve problems using the area of triangles Solve problems using the area of trapezia Solve two-step equations Use order of operations with directed numbers Explore multiplication and division in algebraic expressions Find a fraction of a given amount Use a given fraction to find the whole and/or other fractions Find a percentage of a given amount using mental methods Find a percentage of a given amount using 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 appropriate symbols Perform calculations that cross zero Add directed numbers Subtract directed numbers Multiplication and division of directed numbers Add and subtract fractions where denominators share a simple common multiple Add and subtract fractions with any denominator 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	Understand and use letter and labelling conventions including those for geometric figures Draw and measure line segments including geometric figures Understand angles as a measure of turn Measure angles up to 180° Draw angles up to 180° Draw and measure angles between 180° and 360° Identify perpendicular and parallel lines Recognise types of triangle Recognise types of quadrilateral Identify polygons up to a decagon Construct triangles using SSS, SAS and ASA Construct more complex polygons Interpret simple pie charts using proportion Interpret pie charts using a protractor Draw pie charts Understand and use the sum of angles at a point Understand and use the sum of angles on a straight line Understand 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 complex angle problems Find and use the angle sum of any polygon Investigate angles in parallel lines Understand and use parallel line angle rules Use known facts to obtain simple proofs.	Know and use mental addition and subtraction strategies for integers Know and use mental multiplication and division strategies for integers Know and use mental arithmetic strategies for decimals Know and use mental arithmetic strategies for fractions Use factors to simplify calculations Use estimation as a method for checking mental calculations Use known number facts to derive other facts Use known algebraic facts to derive other facts Know when to use a mental strategy, formal written method or a calculator Identify and represent sets Interpret and create Venn diagrams Understand and use the intersection of sets Understand and use the complement of a set Know and use the vocabulary of probability Generate sample spaces for single events Calculate the probability of a single event Understand and use the probability scale Know that the sum of probabilities of all possible outcomes is 1	Find and use multiples Identify factors of numbers and expressions Recognise square and triangular numbers Find common factors of a set of numbers including the HCF Find common multiples of a set of numbers including the LCM Write a number as a product of its prime factors Use a Venn diagram to calculate the HCF and LCM Make and test conjectures Use counterexamples to disprove a conjecture			
	Substantive Knowledge	The What!	Work with sequences. Use and complete function machines. Represent sequences graphically.	Solve one-step equations. Simplify algebraic expressions.	Use and apply place value in different contexts	Convert Fractions Decimals and Percentages. Explore mixed fractions	Add, subtract, multiply and divide integers. Solve problems involving data.	Use the four operations on fractions and decimals. Use area of shapes. Find fractions of amounts. Find percentage of amounts	Explore operations with directed numbers	Convert from mixed numbers to improper fractions and vice versa. Add and subtract fractions with same and any denominator as well as algebraic fractions.	Explore angles in different contexts	Use mental strategies to perform operations and find probabilities	How to find multiples and factors and then identify HCF and LCM.	
	Disciplinary Knowledge	The How!	Understanding sequences, function machines and graphs.	Understanding equations and algebraic expressions	Understand how to use place value	Understand how to convert FDP and work with fractions bigger than 1.	Understand how to add, subtract, multiply and divide integers and solve problems involving data.	Understand and use the four operations on fractions and decimals. Understand how to use area of shapes, find fractions of amounts and find percentage of amounts	Understand how to use the four operations with directed numbers	Understand how to convert from mixed numbers to improper fractions and vice versa. Understand how to add and subtract fractions with same and any denominator as well as algebraic fractions.	Understand angles that are missing and how to find them.	Understand how to use mental strategies and find probabilities	Understand methods to find HCF and LCM.	
	Sequencing (Flow)	Retrieval & Extension	Builds from KS2: Plotting graphs, using function machines Further develops in Y8: Geometric sequences	Builds from KS3: Introduction to algebra. Further develops in 8: Expand Brackets	Builds from KS3: Work with tens, hundreds, tenths etc Further develops in Y8: Order fractions	Builds from KS3: Fractions of amounts Further develops in 8: Continue to convert FDP	Builds from KS3: Add, subtract, multiply and divide Further develops in Y8: Four Operations with decimals	Builds from KS3: Use Fractions Further develops in Y8: Percentage increase	Builds from KS3: Mixed numbers Further develops in Y8: Fractions - negative	Builds from KS3: Mixed numbers Further develops in Y8: Properties of quadrilaterals	Builds from KS3: Shapes and angle facts Further develops in Y8: Properties of quadrilaterals	Builds from KS3: Number bonds Further develops in Y8: Probability from tables	Builds from KS3: Multiples Further develops in Y8: Product of prime factors	
	Summative Assessment		Deep Mark 1: Homework End of Topic Test - Sequences	Deep Mark 2: Homework End of Topic Test - Algebra	Deep Mark 1: AP1 Assessment - Whole School Data Collection End of Topic Test - Number	Deep Mark 2: Homework End of Topic Test - Fractions Decimals and Percentages	Deep Mark 1: Homework End of Topic Test - Number and solve data problems	Deep Mark 2: Homework End of Topic Test - FDP	Deep Mark 1: AP2 Assessment - Whole School Data Collection End of Topic Test - Directed numbers Homework	Deep Mark 2: Homework End of Topic Test - Fractions with mixed numbers	Deep Mark 1: Homework End of Topic Test - Angles	Deep Mark 2: AP3 Assessment - Whole School Data Collection End of Topic Test - Probability and mental strategies Homework	End of Topic Test - HCF and LCM	
Personal Empowerment	Virtue		Friendliness & Civility	Justice & Truthfulness	Courage	Generosity	Gratitude	Good Speech	Good Temper & Humour	Self-Mastery		Compassion	Good Sense	
	Link to Virtue	The opportunity to reflect, think deeply and critically about an issue.	Students will need to ensure they demonstrate friendliness and civility as they support each other in consolidating and extending their sequences knowledge.	Students will look at the truthfulness of equations. Students will also look at how algebra are used to hide the truth.	Students will need to demonstrate courage to extend their knowledge of place value and build upon this to tackle more difficult algebraic terms	Students will need to be generous with their time in terms of retrieval as this will need to be secure in order to convert FDP	Students will need to demonstrate their gratitude for the time spent securing their knowledge in number.	Students will need to demonstrate good speech as they explain their working and also explain how to find fractions and percentages of amounts	Students will need to demonstrate good temper and humour	Students have learned about fractions KS3 so this topic is about mastering these skills and developing them further.	Students have learned how to use angle facts, but will now be mastering these skills and learning to describe them.	Students will need to show compassion for each other as they help and support each other in tackling more difficult mental strategy skills.	Students will need to use good sense to ensure that their HCF and LCM make sense – and that they remember to check the answers!	
Preparation for Work	Skill	Transferable skills	Listening	Leadership	Problem-Solving	Creativity	Staying Positive	Speaking	Staying Positive	Aiming High		Speaking	Teamwork	
	Link to Skill		Students will need to listen to each other and be able to explain another students' opinion. Students will also need to be listen to the teacher to pull out consistency underlying themes or use of previous skills. This unit links to careers in design and graphics	Students will lead their learning to ensure they are secure in building on previous knowledge. This unit links to careers in nursing.	Students will need to use their problem-solving skills to be able to order decimals. This unit links to careers in research	Students will demonstrate creativity as they look at the different ways of explaining equivalence of FDP. This unit links to careers in interior design	Students will need to stay positive as they encounter data and ensure they feel secure in their knowledge. This unit links to careers in research and development	Students will need to use their speaking skills as they explain their working and also explain how to use percentages. This unit links to careers in retail	Students will need to stay positive as they encounter Operations in directed numbers for the first time and ensure they feel secure in their knowledge. This unit links to careers in science.	Students will need to stay positive as they extend their number knowledge to develop several different types of diagrams and how to interpret these. This unit continues to look at careers in design, construction and photography.	Students will need to aim high when using angle properties in problem solving. This unit links to careers in architecture	Students will need to use their speaking skills as they explain their working and also explain the mistakes others have made. This unit links to careers in Buyer Jobs	Students will work together and use teamwork to solve price problems in various forms. This unit links to careers in retail	
Preparation for Citizenship	SMSC & British Values	Developing opinions on current issues	Social	Social Moral	Social Moral	Social	Social Cultural	Social		Social Cultural	Social Cultural	Social	Social Moral	
	Link to SMSC & British Values		Mutual Respect Students will use their social skills during paired and group work, with a particular focus on the virtue of friendliness & civility as they interact. Mutual respect goes hand-in-hand with friendliness & civility so students will practice both the british value and virtue as they progress through this topic.	Rule of Law Students will look at the social skills they need in order to work together in pairs and grouped work. Students will look at the moral consequences of manipulation to hide information. Students will understand the 'rules of law' in terms of processes and methods linked to algebraic manipulation and solution.	Democracy Students will use social skills to work together in pairs and groups. Students will look at the moral repercussions of ethical science applications	Tolerance Students will need to demonstrate tolerance for each other and support each other rather than get frustrated when peers find work more difficult.	Rule of Law Students will need to use their social skills as they work together in group activities. Students will look at different cultures and their contribution to mathematics. Students will need to understand the rules and processes associated with using different methods for solving problems	Democracy Students will use their social skills as they work together in pairs and groups. Students will discuss, debate and make decisions in a democratic way in order to ensure they use the appropriate words to describe combinations of transformations and use Pythagoras.	Individual Liberty Students will use their social skills to investigate mixed numbers and improper fractions. Students will look at how different cultures use fractions and religion. Students will demonstrate individual liberty by developing the confidence in their freedom to select the correct denominator for the question.	Mutual Respect Students will need to use their social skills as they work together to understand angles. Students will look at how different cultures use angles and shapes. Students will need to show mutual respect as they help each other to make progress throughout this topic.	Rule of Law Students will understand the mental strategies and how to use them to solve problems in any context.	Individual Liberty Students will use their social skills as they demonstrate the skill of teamwork and find the correct way to find HCF and LCM in pairs and groups. Students will discuss the moral repercussions of assuming in terms of information gained from factors. Students will use their individual liberty to choose the appropriate method of finding the factors for each problem.		

Cultural Transmission