MATHS PROGRAMME OF STUDY

NUMBERS

Apply knowledge to solve problems			-understand the concept of addition			GCSE Level Foundation Mastery
→						
Add a two digit number using formal written method	Adding two digit number that require carrying	Adding three digit numbers (including carrying)	Adding four digit numbers (including carrying)	Use addition to solve word problems in real life context		Carry out addition: formal written method to integers, decimals and simple fractions
Apply knowledge to solve problems			- understand the concept of subtraction			GCSE Level Foundation Mastery
→						
Subtract a two digit number using formal written method	Understand 0 as a place value and the effect within subtraction	Subtract two digit number that require carrying	Subtract three digit numbers (including carrying)	Subtract four digit numbers (including carrying)	Use subtraction to solve word problems in real life context	Carry out subtraction: formal written method to integers, decimals and simple fractions

Apply knowledge to solve problems using multiplication			-understand the concept of multiplication			GCSE Level Foundation Mastery
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Explain multiplication using concrete objects and different representations	Recall and derive multiplications facts for x2,x4,x8; x5 x10; x3,x6,x9	Fluent in all x tables up to 12	Multiply by 2 and 3 digit numbers using formal written layout	Multiply 4 digit numbers by 1 or 2 digit number using a formal written method	Solve multiplication problems using a real life context	Carry out multiplication: formal written method to integers, decimals and simple fractions

Apply numerical knowledge to solve problems related to division			-understand the concept of division			GCSE Level Foundation Mastery
Explain Division using objects and different representations	Divide 2 digits by 1 digit without remainders	Divide 3 digits by 1 digit without remainders	Divide 3 and 4 digits by 2 digit With/out remainders	Divide 3 and 4 digits by 2 digit with a decimal product	Solve multiplication problems using a real life context	Carry out Division : formal written method (Short and long division)to integers, decimals and simple fractions

Be able to make calculations using inverse calculation		-understand the concept of inverse			GCSE Level Foundation Mastery
Number bonds to 10 Addition and Subtraction facts	Number bonds to 20 Addition and Subtraction facts	Number bonds to 100 Addition and Subtraction facts	Use inverse operations to check calculations Addition and subtraction	Use inverse operations to check calculations Division and multiplication		Understanding the inverse relationship between operations (addition and subtraction/division and multiplication)

Complete a range of calculations using BODMAS as a tool		-how to carry out an accurate calculation without using a calculator			GCSE Level Foundation Mastery
Recognise the importance of completing calculations in the correct order	Understand the acronym BODMAS	Calculations using + - x ÷	Calculations using + - x ÷ brackets	Calculations using + - x ÷ brackets powers and routes		Use conventional notation for the priority of operations, including brackets, powers, roots and reciprocals

Apply knowledge of money to real life contexts			-understand the values of money and how it is presented			GCSE Level Foundation Mastery
Identify values of coins and notes, recognise symbols	Combine amounts to make values	Convert pence to pounds and pounds to pence	Use estimation to calculate	Solve problems involving money and calculation		To understand the value of money including decimals

TIME

To be able to read time and solve problems involving time change			To be confident with measurements of time		Entry Level 3
Read 12 hour digital and analogue clocks in hours	Read time displayed on analogue clocks in hours, half hours and quarter hours	Understand hours from a 24-hour digital clock Read, measure and record time using am and pm	Read time from analogue and 24 hour digital clocks in hours and minutes	Solve problems involving converting between units of time	Solve problems involving converting between units of time

To be able to answer time questions using timetables and calendars		To understand how to read calendars and timetables		Entry Level 3
Recognise and use language relating to dates, including days of the week, weeks, months and years	Compare and sequence intervals of time	Know the number of seconds in a minute and the number of days in each month, year and leap year, compare durations of events [for example to calculate the time taken by particular events or tasks]	Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.	Solve problems involving reading and interpreting timetables

GEOMETRY AND MEASURES

Solve problems relating to area and perimeter of polygons			-recall the formula for calculating the area and perimeter of polygons			GCSE Level Foundation Mastery
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Know the difference between area and perimeter	Calculate the perimeter of a rectangle	Find the area of a triangle	Solve problems involving compound shapes (area, perimeter, missing sides)	Find the area and sides of parallelograms, trapezia	Find the area and perimeter of a circle	Derive and apply formulae to calculate and solve problems involving: perimeter and area of quadrilaterals, triangles, parallelograms and trapezia.
Solve problems relating to volume of prisms			-be able to recall the formula for calculating the area for finding volume			GCSE Level Foundation Mastery
→						
Know the difference between area and perimeter and volume	Recap the formula for the area of polygons	Make 3D models of polygons	Apply a given formula to find the volume of cubes and cuboids	Apply a given formula to find the volume of other prisms		Calculate the volume of different prisms

Accurately measure, draw an angle			-identify angles			GCSE Level Foundation Mastery
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Measure m, cm, mm using a ruler	Be able to use a protractor to measure an angle accurately	Identify parallel and perpendicular lines	Identify a right angle, an acute, reflex, angle and obtuse angle.	Be able to use a protractor to draw and angle accurately		Draw and measure line segments and angles in geometric figures, describe points, parallel lines, perpendicular lines, right angles

Fractions and Ratios

Know that denominators make up the bottom number in equal parts and that the top part is the numerator			-be able to compare and order fractions			GCSE Level Foundation Mastery
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Knowing what a numerator and a denominator e.g. ¼ 4 parts equal a whole	Recogise find , name and write fractions 1/3 ¼ 2/4 and ¾ of a length, shape set of objects or a quantity	Order fractions with the same denominator	Recognise equivalent fractions	order fractions and compare fractions with different demoniators	Recognise mixed numbers and improper fractions, convert and calculate	Understand and manipulate fractions

That a fraction is a part of a whole			-be able to use fractions to sole solve calculations			GCSE Level Foundation Mastery
→						
Knowing what a numerator and a denominator e.g. ¼ 4 parts equal a whole	Add and subtract fractions with the name denominator within one whole	Adding and subtract fractions with different dominators	Multiply and divide fractions and simply writing the answer in its simplest form	Calculate a fraction of an amount	Express one quantity as a fraction of another where a fraction is less than one or greater than one.	Calculate fractions