Key Stage 2 Maths Overview

		HT1 Number and Place Value Angles	HT2 Addition and Subtraction Time	HT3 Multiplication and Division Area	HT4 Number and Place Value Statistics	HT5 Addition and Subtraction Money	HT6 Multiplication and Division Length and perimeter
Learning outcomes/composite knowledge: Pupils will be able to…		- Included in every Maths lesson: Recall multiplication and division facts up to 12×12 and recognise products in multiplication tables as multiples of the corresponding number. - To work out factors of numbers to understand the relationship between different times tables					
		- LO1 Recognise the place value of each digit in four-digit numbers and compose and decompose four-digit numbers using standard and non-standard partitioning. - LO2 Know that 10 hundreds are equivalent to 1 thousand, and that 1,000 is 10 times the size of 100; apply this to identify and work out how many 100s there are in other four-digit multiples of 100. - LO3 Reason about the location of any four-digit number in the linear number system, including identifying the previous and next multiple of 1,000 and 100, and rounding to the nearest of each. - LO4 To measure, categorise, and compare angles of shapes	- LO1 Calculate complements to 100 - LO2 Manipulate the additive relationship: Understand the inverse relationship between addition and subtraction, and how both relate to the part–part–whole structure. - LO3 Understand and use the commutative property of addition and understand the related property for subtraction. - LO4 Add and subtract up to four-digit numbers using columnar methods. - LO5 To tell the time to the nearest minute on digital and analogue clocks	- LO1 Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a number 10 or 100 times the size. - LO2 Manipulate multiplication and division equations and understand and apply the commutative property of multiplication. - LO3 Use column methods to multiply and divide + - LO3 Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders. - LO4 To find the area of rectangles and rectilinear shapes.	- LO1 Recognise the place value of each digit in six-digit numbers and compose and decompose six-digit numbers using standard and non-standard partitioning. - LO2 Know that 10 thousands are equivalent to 10,000, and that 10,000 is 10 times the size of 1,000. Know that 10 ten-thousands are equivalent to 100,000 and that 100,000 is 10 times the size of 10,000. - LO3 Reason about the location of any six-digit number in the linear number system, including identifying the previous and next multiple of 100,000 and 10,000, and rounding to the nearest of each. - LO4 To interpret data from charts	- LO1 To mentally add and subtract numbers up to six digits. - LO2 Manipulate the additive relationship: Understand the inverse relationship between addition and subtraction, and how both relate to the part–part–whole structure. - LO3 Understand and use the commutative property of addition and understand the related property for subtraction. - LO4 Add and subtract up to six-digit numbers using columnar methods. - LO5 Addition and subtraction of money	- LO1 Multiply and divide numbers by 10 and 100; understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size. - LO2 Multiply any whole number with up to 4 digits by a one- or two-digit number using a formal written method. - LO3 Divide a number with up to 4 digits by a one-digit number using a formal written method and interpret remainders appropriately for the context. - LO4 To measure and compare length and perimeter
Knowledge Components	Substantive Knowledge	- I know the place value of digits in the ones, tens, hundreds, and thousands column. - I know that 10 hundred are equivalent to 1,000. - I know the order of numbers from 0 to 1,000. - I know the angles of obtuse, acute, and right angles.	- I know what 2 numbers add to make 100 - I know that parts add up to make the whole and that the whole subtract a part makes a part - I know that 10 lots of a place value can be exchanged for 1 lot of the next highest place value and vice versa - I know the meaning of each hand on an analogue clock - I know the AM and PM refer to morning and afternoon/evening	- I know that place value increases by 10 as the digit moves one position to the left and decreases by 10 as the digit moves one position to the right - I know that multiplication is commutative - To know that area is the amount of space taken up by a closed 2D shape - To know that a rectilinear shape is a 2D shape with all sides meeting at right-angles	- I know the place value of digits in the ones, tens, hundreds, thousands, ten-thousands, and hundred-thousand column. - I know that 10 thousands are equivalent to 10,000 and ten 10,000s are equivalent to 100,000 - I know the order of numbers from 0 to 100,000. - To know that the height of the bar on a chart represents a numerical value - To know that categories go along the x axis and numerical values on the y axis on a bar chart	- I know that parts add up to make the whole and that the whole subtract a part makes a part - I know that 10 lots of a place value can be exchanged for 1 lot of the next highest place value and vice versa - I know that 10 lots of a place value can be exchanged for 1 lot of the next highest place value and vice versa - To know that 100 pence is equivalent to £1 - I know that pounds and pence can be represented using a decimal system with tenths representing 10 pence and hundredths representing 1 pence	- I know that place value increases by 10 as the digit moves one position to the left and decreases by 10 as the digit moves one position to the right - I know that multiplication is commutative - I know notation for length (mm, cm, m, km) - I know 1 cm = 1 mm, 1 m = 100 cm, and 1 km = 1,000 m - I know that perimeter is the outside length around a closed 2D shape.
	Disciplinary Knowledge	- I can read and write numbers to 10,000. - I can partition numbers by their place value. - I can order and compare numbers to a 10,000. - I can round numbers to the nearest 10, 100, or 1,000. - I can measure angles using a protractor. - I can compare the size of angles	- I can use the column method to add and subtract up to 2 four-digit numbers with exchange. - I know when to appropriately use mental and written strategies to add and subtract - I can use the minute and hour hand on an analogue clock to tell the time - I can convert between 24- and 12-hour digital clocks to tell the time	- I can use the column method to multiply up to three-digit numbers by a one-digit number - I can use the column method to divide up to three-digit numbers by a one-digit number - I can use mental methods to efficiently multiply and divide - I can calculate the area of a shape by counting squares - I can calculate the area of a shape from knowing the side lengths.	- I can read and write numbers to 1,000,000. - I can partition numbers by their place value. - I can order and compare numbers to a 1,000,000. - I can round numbers to the nearest 10, 100, 1,000, 10,000 and 100,000 - I can interpret a bar chart - I can draw a bar chart - To can collect data to produce a bar chart	- I can use the column method to add and subtract up to 2 six-digit numbers with exchange. - I know when to appropriately use mental and written strategies to add and subtract - I can add and subtract values of money mentally, with resources, an/or column method	- I can use the column method to multiply up to four-digit numbers by a one-digit number - I can use the column method to divide up to three-digit numbers by a one-digit number - I can use mental methods to efficiently multiply and divide - I can measure length using a ruler - I can convert between units of length - I can calculate perimeter by adding side lengths of a shape
National Curriculum reference		Link to Mathematics programme of study: key stages 1 and 2 – National curriculum in England: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/335158/PRIMARY_national_curriculum_-_Mathematics_220714.pdf					
Common misconceptions		When forming numbers with counters, students might think the number with more counters is the greater number, and not look at the place values.	- Students may not line up the numbers correctly when attempting the column method - Students may add 12 to every hour value when converting from 12- to 24-hour clocks	- Students may not line up the numbers correctly when attempting the column method - Students may confuse perimeter and area	When forming numbers with counters, students might think the number with more counters is the greater number, and not look at the place values.	- Students may not line up the numbers correctly when attempting the column method - Students may use incorrect decimal places for pence	- Students may not line up the numbers correctly when attempting the column method - Students may confuse perimeter and area

	HT1 **Number and Place Value** **Angles**	HT2 **Addition and Subtraction** **Time**	HT3 **Multiplication and Division** **Area**	HT4 **Number and Place Value** **Statistics**	HT5 **Addition and Subtraction** **Money**	HT6 **Multiplication and Division** **Length and perimeter**
			• Students might calculate the area of rectilinear shapes the same way as calculating rectangles.		• Students may not convert between pounds and pence correctly when solving problems	• Students may not convert correctly between units of length (eg thinking that 1 cm = 10 mm so 1 m = 10 cm)