

The John Ball Curriculum

Mathematics



JOHN BALL
PRIMARY SCHOOL



A vision for Mathematics at John Ball School

We aim that all pupils:

- Become fluent in the fundamentals of mathematics so that they develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- Can solve problems by applying their mathematics to a variety of problems with increasing sophistication, including in unfamiliar contexts and to model real-life scenarios.
- Can reason mathematically by following a line of enquiry and develop and present a justification, argument or proof using mathematical language.
- Our beliefs: We believe that ability within Mathematics is not fixed. We are developing the mindsets of children and adults alike to develop a Growth Mindset and a 'We Can' attitude to Mathematics. We believe that through quality first teaching and intelligent practice, children learning together and immediate intervention that all children have the potential to 'go deeper' and broaden their understanding of mathematical concepts.

Our definition of Mastery: At John Ball School we have a core set of principles and beliefs for achieving mastery in mathematics. This includes a belief that all pupils are capable of understanding and doing mathematics. Pupils are neither 'born with the maths gene' or 'just no good at math.' With good teaching, appropriate resources, effort and a 'can do' attitude all children can achieve and enjoy mathematics..

Mastery is not just being able to memorise key facts and procedures and to answer test questions accurately and quickly. Mastery involves knowing why as well as knowing that and knowing how. It means being able to use one's knowledge appropriately, flexibly and creatively and to apply it in new and unfamiliar situations.

For all maths concepts teachers need to ensure that children are "challenged through being offered rich and sophisticated problems." After developing fluency, children need to show that they can apply their knowledge in mathematics and then move on even further to prove they have mastered the concept.

Our maths lead is Conrad Ash and he can be contacted on cash50.209@lgflmail.org

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John Ball Curriculum
2020/2021

Mathematics OVERVIEW	Key Stage 1		Lower KS2		Upper KS2	
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Autumn 1	Number: Place Value (within 10)	Number: Place value (3) Number: Addition and Subtraction (5)	Number – Place Value (3) Number – Addition and Subtraction (5)	Number – Place Value(4) Number- Addition and Subtraction (3)	Number – Place Value(3) Number – Addition and Subtraction(2)	Number- Place Value(2) Number- Addition, Subtraction, Multiplication and Division(4)
Autumn 2	Number: Addition and Subtraction (within 10) Geometry: Shape Number: Place Value (within 20)	(cont'd - Number: Addition and Subtraction Measurement: Money (2) Number: Multiplication and Division(2)	Cont'd Number – Addition and Subtraction Number – Multiplication and Division (3) Consolidation (1)	Cont'd - Number- Addition and Subtraction Measurement- Length and Perimeter (1) Number- Multiplication and Division (3) Consolidation (1)	Statistics(2) Number – Multiplication and Division(2) Perimeter and Area(2) Consolidation(1)	Fractions(4) Geometry- Position and Direction(1) Consolidation(1)
Spring 1	Number: Addition and Subtraction (within 20) Number: Place Value (within 50) (Multiples of 2, 5 and 10 to be included)	Number: Multiplication and Division (2) Statistics (2) Geometry: Properties of Shape (3)	Number - Multiplication and Division (3) Measurement: Money (1) Statistics (2)	Number- Multiplication and Division (3) Measurement- Area(1) Fractions (4)	Number – Multiplication and Division(3) Number – Fractions(6)	Number- Decimals(2) Number- Percentages(2) Number- Algebra(2)
Spring 2	Cont'd - Number: Place Value (within 50) (Multiples of 2, 5 and 10 to be included) Measurement: Length and Height Measurement: Weight and Volume	Number: Fractions (3) Measurement: length and height (1) Consolidation (1)	Measurement: length and perimeter (3) Number – Fractions (2) Consolidation (1)	Cont'd Fractions Decimals(3) Consolidation(1)	Contd - Fractions Number – Decimals & Percentages (2) Consolidation (1)	Measurement Converting units(1) Measurement Perimeter, Area and Volume(2) Number- Ratio Consolidation (1)

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<p>Summer 1</p>	<p>Number: Multiplication and Division (Reinforce multiples of 2, 5 and 10 to be included) (3)</p> <p>Number: Fractions (2)</p> <p>Geometry: position and direction (1)</p>	<p>Position and direction (3)</p> <p>Problem solving and efficient methods (2)</p> <p>Measurement: Time (2)</p>	<p>Number – fractions (3)</p> <p>Measurement: Time (3)</p>	<p>Decimals(2)</p> <p>Measurement- Money(2)</p> <p>Time(1)</p> <p>Statistics(2)</p>	<p>Number – Decimals(4)</p> <p>Geometry- Properties of Shapes(3)</p>	<p>Geometry- Properties of Shapes(2)</p> <p>Problem solving(3)</p>
<p>Summer 2</p>	<p>Number: Place Value (within 100) (2)</p> <p>Measurement: money (1)</p> <p>Time (2)</p>	<p>Measurement: Mass, Capacity and Temperature (3)</p> <p>Investigations (2)</p>	<p>Geometry – Properties of Shapes (2)</p> <p>Measurement: Mass and Capacity (3)</p> <p>Consolidation (1)</p>	<p>Geometry- Properties of Shape(3)</p> <p>Geometry- Position and Direction(1)</p> <p>Consolidation(1)</p>	<p>Geometry- Position and Direction(1)</p> <p>Measurement- Converting Units(2)</p> <p>Measures Volume(1)</p> <p>Consolidation(1)</p>	<p>Statistics(2)</p> <p>Investigations(3)</p> <p>Consolidation(1)</p>

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Addition – whole school

Half term	Learning intentions
Year 1	<ul style="list-style-type: none">• I know my number facts to 20. This includes number bonds to 10 and 20 as well as combinations needed to make other numbers.• I can add in ones by counting and adding objects
Year 2	<ul style="list-style-type: none">• I can partition 2 numbers into tens and ones and add without crossing into the next 10.• I can add 10 or 100 to any number and can add in multiples of 10• I can add 3 one digit numbers• I can recall and use addition facts to 20 and derive and use related fact to 100• I can partition a number to add using number bonds to 20 e.g. $8 + 7$ is $8 + 2 +$• I can add 2 digit numbers under 100.
Year 3	<ul style="list-style-type: none">• I can add 2 digit numbers and 3 digit numbers using formal written methods including money.
Year 4	<ul style="list-style-type: none">• I can add 4 digit numbers with up to two decimal places (including money) using formal column method.
Year 5	<ul style="list-style-type: none">• I can add numbers that are large and/or have different numbers of decimal places using column addition• I can add numbers mentally using increasingly large numbers e.g. $12462 + 2300 = 14762$• I can estimate and check answers to calculations
Year 6	

Half term	Learning intentions
Year 1	
Year 2	
Year 3	
Year 4	
Year 5	
Year 6	<ul style="list-style-type: none">• I can solve a variety of number problems using formulae and algebraic equations.• I can make up and describe linear number sequences and make generalisations about number patterns and express them algebraically. This will help me to predict the nth.• I can express missing number problems using algebra.• I can find pairs of numbers that satisfy an equation with two unknowns.

Decimals and percentages – whole school

Half term	Learning intentions
Year 1	
Year 2	
Year 3	<ul style="list-style-type: none"> I can recognise and write the decimal equivalent of a tenth using a place value board e.g. $1/10 = 0.1$
Year 4	<ul style="list-style-type: none"> I can recognise and write the decimal equivalent of tenths, hundredths and common fractions ($1/2$, $1/4$, $3/4$) in a variety of contexts e.g. money and measures I can round a decimal with one decimal place to a whole number
Year 5	<ul style="list-style-type: none"> I can associate a fraction with division and calculate decimal and percentage equivalents of common fractions such as halves, quarters and fifths I can recognise and use thousandths and relate them to tenths and hundredths I can round decimals (with 2 decimal places) to the nearest whole number or the nearest tenth. I can read and write decimal numbers as fractions and percentages e.g. $0.71 = 71/100 = 71\%$
Year 6	<ul style="list-style-type: none"> I can calculate more complex decimal equivalents such as $3/8 = 0.375$ using my understanding of the equivalence between fractions and decimals I can calculate percentages of amounts I can explain percentage comparisons between two amounts e.g. 1% of a total is greater or less than 1% of a smaller amount

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Division – whole school

Half term	Learning intentions
Year 1	<ul style="list-style-type: none"> I can divide using objects or drawing pictures (sharing arrays) with the support of the teacher.
Year 2	<ul style="list-style-type: none"> I know that division of one number by another can not be done in any order (non-commutative or non-reversible). I can recall division facts for the 2, 5 and 10 times tables. I can divide using concrete objects, pictorial representations (using arrays or Singapore method) and repeated subtraction
Year 3	<ul style="list-style-type: none"> I understand the effect of dividing by 1 I can divide 2 digit numbers by another number using my knowledge of times tables that I have been taught (inverse knowledge).
Year 4	<ul style="list-style-type: none"> I can divide numbers mentally, drawing upon known number facts e.g $21 \div 7 = 3$ so $2100 \div 3 = 300$ I can divide 2 digit numbers by a single digit number using a written method
Year 5	<ul style="list-style-type: none"> I can divide numbers with up to 2 decimal places by 10, 100 and 1000 I can represent a remainder as a fraction or decimal. I can solve 2 step word problems involving division including with remainders and round the answer appropriately (up or down) depending on the context I can divide 4 digit and 3 digit numbers by one digit using short division
Year 6	<ul style="list-style-type: none"> When solving division problems, I can write remainders as whole number remainders, fractions, or by rounding, interpreting remainders according to the context of the problem I can use written division methods (bus stop includes working beyond the decimal point rather than remainder) where the answer has 2 decimal places. I can divide numbers up to 4 digits by a 2 digit whole number using short division

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Fractions – whole school

Half term	Learning intentions
Year 1	<ul style="list-style-type: none"> I can recognise, find and name a quarter of an object, shape or number by finding a half and then halving again. I can recognise, find and name a half of an object, shape or number.
Year 2	<ul style="list-style-type: none"> I can count in halves and quarters up to 10 recognising that fractions are numbers between whole numbers, using an unstructured number line and chanting as a class. I can recognise simple equivalent fractions of $\frac{1}{2}$ e.g. $\frac{2}{4}$, $\frac{4}{8}$, $\frac{3}{6}$. I can recognise, find, name and write fractions $\frac{1}{3}$ $\frac{1}{4}$ $\frac{1}{2}$ and $\frac{2}{4}$ of a length, shape, set of objects or quantity.
Year 3	<ul style="list-style-type: none"> I can compare and order unit fractions e.g. $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$ I can add and subtract fractions with the same denominator and recognise a whole as a fraction e.g. $\frac{2}{5} + \frac{1}{5} = \frac{3}{5}$ I can compare and order fractions with the same denominator and recognise simple equivalent fractions I can count forwards and backwards in halves, quarters, tenths, hundredths and thirds past one whole e.g two quarters, three quarters, one whole, one and one quarter, one and a half I can work out fractions of shapes and amounts for common fractions e.g. $\frac{1}{2}$, $\frac{1}{4}$, $\frac{3}{4}$ and $\frac{1}{5}$ of a set of objects
Year 4	<ul style="list-style-type: none"> I can recognise and work out fractions of amounts and measurements e.g. $\frac{3}{4}$ of a metre, or $\frac{1}{2}$ of a kg or $\frac{1}{5}$ of a km. I can add and subtract fractions where the denominator is the same beyond a whole I can recognise and show equivalent fractions in a family of fractions Key Performance Indicator
Year 5	<ul style="list-style-type: none"> I can multiply proper fractions and mixed numbers by a whole number using diagrams and objects to explain my reasoning. I can compare and order fractions where denominators are all multiples of the same number e.g $\frac{2}{3}$ and $\frac{7}{9}$ I can add and subtract fractions with denominators that are multiples of the same number. I can recognise and convert improper fractions to mixed number fractions and vice versa.
Year 6	<ul style="list-style-type: none"> I can simplify fractions using common factors and use common multiples to express fractions in the same denomination I can compare and order any set of fractions, including proper and improper, mixed fractions and those with different denominators I can add and subtract fractions and mixed numbers with different denominators by using equivalent fractions I can multiply pairs of unit fractions and write the answer in its simplest form e.g. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$ I can divide proper fractions by a whole number e.g. $\frac{1}{3}$ divided by 2 = $\frac{1}{6}$

Measure – whole school

Half term	Learning intentions
Year 1	<ul style="list-style-type: none"> I know the value of different coins and notes (£ and p) I can explore and describe weight and mass and record findings I can explore and describe capacity and volume using language such as full/empty, more than/less than, quarter. I can measure and compare length and height using language such as long/short, longer/shorter, tall/short, double/half
Year 2	<ul style="list-style-type: none"> I can compare and order measures using the signs < > and = I can find different combinations of coins that equal the same amount. (E.g. how many 2 pence coins to make 20p? How many 5 pence coins make 50p? How many £2 coins equal a £20 note?) I can recognise and use symbols for £ and p I can read scales in divisions of ones, twos, fives and tens in a practical situation where all numbers on the scale are given. I can measure using appropriate equipment e.g ruler, weighing scales, measuring jug
Year 3	<ul style="list-style-type: none"> I can read measures in mixed units and can convert simple whole units of measure e.g. 5m = 500cm I can solve problems involving measures including simple problems for scale e.g. twice as high I can read measuring instruments accurately: length (m/cm/mm), mass (kg/g), volume/capacity (l/ml)
Year 4	<ul style="list-style-type: none"> I can estimate, compare and calculate measures in a variety of contexts I can convert between units of measure (g/kg, mm/cm and ml/cl/l) with the support of measuring instruments and where appropriate record with decimal notation I can use both £ and p in context and recognise equivalence e.g. 306p = £3.06
Year 5	<ul style="list-style-type: none"> I can understand and use approximate equivalences between metric units and common imperial units (inches, pounds, pints) I can estimate volume and capacity and explore these concepts using practical materials I can convert between different units of measure (k/m, cm/m, cm/mm, g/km, l/ml) using my understanding of multiplying and dividing by 10, 100 and 1000
Year 6	<ul style="list-style-type: none"> I can solve problems involving the calculation and conversion of units of measure using decimal notation up to three decimal places I can calculate, estimate and compare the volume of cubes and cuboids using standard units e.g. cm³ I can recognise when it is possible to use formulae to calculate either the area or volume of a shape I can convert between miles and km using the scaling up or down method based on 5 miles = 8km

Multiplication – whole school

Half term	Learning intentions
Year 1	<ul style="list-style-type: none">• I can solve multiplication and division 1 step word problems using objects (2, 5 and 10 x tables only)• I can count in 2s, 5s and 10s from 0.• I can double numbers from 1-10 and half even numbers to 20• I can multiply using objects, or drawing pictures (grouping in arrays) with the support of the teacher.
Year 2	<ul style="list-style-type: none">• I can write calculations using the multiplication (x) and equal (=) signs• I know that multiplication can be done in any order (commutative/reversible like addition).• I can multiply using objects, pictorial representations (using arrays) and repeated addition.
Year 3	<ul style="list-style-type: none">• I can partition a number into 10's and units to multiply (distributive law)• I can use related facts to multiply multiples of 10 e.g. $2 \times 3 = 6$ and $2 \times 30 = 60$
Year 4	<ul style="list-style-type: none">• I can multiply 3 numbers, combining them in different ways and using my knowledge of number facts to make this easier e.g. $2 \times 6 \times 5 = 10 \times 6$• I can use a formal written method to multiply TU and HTU by U.• I can use related facts to multiply multiples of 10 and 100 e.g. $2 \times 3 = 6$, $2 \times 30 = 60$, $2 \times 300 = 600$
Year 5	<ul style="list-style-type: none">• I can multiply numbers with up to two decimal places by 10, 100 and 1000• I can multiply a 2 digit number by a 2 digit number using formal column method• Key Performance Indicator
Year 6	<ul style="list-style-type: none">• I can multiply 3 or 4 digit numbers by 2 digit numbers using formal column method• I can multiply numbers with up to 2 decimal places by whole numbers in the context of money and measures

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Perimeter and Area – whole school

Half term	Learning intentions
Year 1	
Year 2	
Year 3	<ul style="list-style-type: none">• I can measure using cm and mm the perimeter of simple 2D shapes using a ruler
Year 4	<ul style="list-style-type: none">• I can calculate the area of rectangles by counting squares and by using multiplication• I can calculate the perimeter of rectangles including squares
Year 5	<ul style="list-style-type: none">• I can find unknown lengths on compound shapes using my understanding of shape, perimeter and area• I can estimate the area of irregular shapes• I can measure and calculate the area and perimeter of shapes that need to be divided into rectangles (compound shapes) in cm² and m²
Year 6	<ul style="list-style-type: none">• I can investigate relationships between area and perimeter e.g. shapes with the same area can have different perimeters and vice versa• I can calculate the area of parallelograms and triangles using formulae when necessary.

Place Value – whole school

Half term	Learning intentions
Year 1	<ul style="list-style-type: none"> • I can identify and represent numbers using objects, pictorial representations and on a number line • I can identify odd and even numbers up to 20 • I can count on and back in ones from any given number to 100 • I can read and write numbers in words from one to twenty • I can read and write numbers as numerals from 1 to 100 • I can read and write numbers from 1 to 20 forwards and back
Year 2	<ul style="list-style-type: none"> • I can understand the value of each digit in a 2-digit number by partitioning two-digit numbers into different combinations of tens and ones. This may include using apparatus. (e.g. 23 is the same as 2 tens and 3 ones which is the same as 1 ten and 13 ones). • I can compare and order numbers from 0 up to 100 using $>$ $<$ and $=$ signs
Year 3	<ul style="list-style-type: none"> • I can count in 10s, 25s, 50s and 100s and can add or subtract 10 or 100 from any given number up to 1000 • I can compare and order numbers up to 1000 • I can read and write numbers up to 1000 in numerals and words • I can understand the value of each digit in a 3 digit number • Key Performance Indicator
Year 4	<ul style="list-style-type: none"> • I can count forwards and backwards in steps of powers of 10 for any given number up to 1,000,000, including small negative numbers • I can read Roman numerals to 100 • I can round any whole number to the nearest 10, 100 or 1000 • I can read, write, order and compare numbers up to and beyond 1000. • Key Performance Indicator
Year 5	<ul style="list-style-type: none"> • I can interpret negative numbers in a real life context and read whole numbers from -1000 to 1000, counting on and back through 0 • I can read Roman numerals to 1000 and recognise years. • I can round any number up to 1,000,000 to the nearest 10, 100, 1000, 10,000 and 100,000 • I can read, write, order and compare numbers to 1,000,000 (1 million) and determine the value of each digit
Year 6	<ul style="list-style-type: none"> • I can read, write, order and compare numbers up to 10,000,000 and with up to 3 decimal places to determine the value of each digit • I can calculate intervals between positive and negative numbers, including across zero

Position and Direction – whole school

Half term	Learning intentions
Year 1	<ul style="list-style-type: none">I can describe position, direction and movement including whole, half, quarter and three quarter turns - link to fractional language e.g turn half a circle or colour in half a circle
Year 2	<ul style="list-style-type: none">I can order and arrange combinations of mathematical objects in patterns and sequencesI can use mathematical vocabulary to describe position, direction and movement including movement in a straight lineI can distinguish between rotation as a turn and in terms of right angles for quarter, half and three quarter turns and clockwise and anti-clockwise
Year 3	
Year 4	<ul style="list-style-type: none">I can describe positions of the vertices of a 2D shape in the first quadrant of a grid using coordinates.I can use co-ordinates to plot a shape on a grid (1st quarter)I can identify, describe and draw the position of shapes on a grid after translation using left/right, up/down
Year 5	<ul style="list-style-type: none">I can label the axes of a grid in all 4 quadrants and describe a coordinate position on the gridI can complete polygons by giving a missing coordinate.
Year 6	<ul style="list-style-type: none">I can translate and reflect simple shapes on a 4 quadrant grid, including explaining why they have not changed.I can predict missing co-ordinates using the properties of shapes

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Problem solving – whole school

Half term	Learning intentions
Year 1	
Year 2	
Year 3	<ul style="list-style-type: none"> • I can solve simple scaling problems (e.g. twice as long) • I can use Year 3 objectives to solve one-step problems, including those with missing numbers. • I can use Year 3 objectives to solve word problems.
Year 4	<ul style="list-style-type: none"> • I can use my fractions and decimal knowledge to solve simple measure and money problems. • I can solve scaling problems (e.g. 8 times as high) • I can use Year 4 objectives to solve 2 step problems, presenting them clearly.
Year 5	<ul style="list-style-type: none"> • I can use Year 5 objectives to solve complex and multi-step problems including measure (with length, mass, volume and money) and scaling • I can solve division problems by interpreting remainders in context and adjusting the answer appropriately
Year 6	<ul style="list-style-type: none"> • I can solve multi-step problems and investigations involving all KS2 objectives in a large range of contexts

Properties of number – whole school

Half term	Learning intentions
Year 1	
Year 2	
Year 3	
Year 4	<ul style="list-style-type: none"> I can use the = sign to write equality statements for addition, subtraction and multiplication e.g $8 \times 11 = 176 \div 2$ or $7 + 9 = 2 \times 8$ I can recognise factor pairs of a number e.g 12 has a factor pairs 1x12, 2x6, 3x4.
Year 5	<ul style="list-style-type: none"> I know and can use the vocabulary of squared and cubed numbers and use the correct notation (symbols to represent these) I can recognise and describe linear number sequences including those involving fractions and decimals and find the term to term rule e.g. add half I have quick recall of all the prime numbers to 19 I know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers to describe numbers up to 100 I can identify multiples and factors including finding all factor pairs of a number and common factors of two numbers
Year 6	<ul style="list-style-type: none"> I can solve calculations that require me to understand the order of operations: BODMAS/BIDMAS I can find common factors and common multiples of increasingly large numbers

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Scaling and proportion – whole school

Half term	Learning intentions
Year 1	
Year 2	
Year 3	
Year 4	
Year 5	
Year 6	<ul style="list-style-type: none">• I can solve problems involving the relative size of two quantities where missing values can be found by using integer multiplication and division facts• I can identify that a problem can be written as a ratio and solve problems using this relationship by recognising what needs to be scaled up or down in line with the given ratio• I can divide or multiply a quantity in a given ratio (recognising the proportional increase or decrease)

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Shape – whole school

Half term	Learning intentions
Year 1	<ul style="list-style-type: none"> • I can name 3D shapes e.g. cuboid, cube, pyramid, sphere • I can name 2D shapes e.g. rectangle, circle, square, triangle
Year 2	<ul style="list-style-type: none"> • I can identify, describe and sort 3D shapes by talking about the number of faces, edges and vertices • I can identify 2D shapes on the surface of 3D shapes e.g. a circle on a cylinder • I can describe properties of 2-D and 3-D shapes
Year 3	<ul style="list-style-type: none"> • I can identify horizontal and vertical lines and pairs of perpendicular and parallel lines. • I can identify right angles (in shapes as well as lines) and describe how right angles can make up $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ and a whole turn. • I can draw 2D shapes and describe them using my knowledge of sides and angles. • I can recognise and make 3D shapes using modelling materials and name and describe their properties
Year 4	<ul style="list-style-type: none"> • I can identify, name, compare and order acute and obtuse angles • I can name, describe and sort a variety of quadrilaterals and triangles based on their properties • I can complete shapes and patterns with respect to a specific line of symmetry • I can identify lines of symmetry in 2D shapes presented in different orientations
Year 5	<ul style="list-style-type: none"> • I can recognise, describe and build simple 3D shapes including making nets • I can identify and compare acute, obtuse and reflex angles. • I can use the properties of rectangles, triangles and circles to deduce related facts and find missing lengths and angles. • I can draw and measure given angles in degrees • I can identify regular and irregular shapes using my knowledge of length of sides and angles • I can recognise and describe simple 3D shapes (including from 2D representations) • I can calculate missing angles on a straight line (180 degrees), or at a point (360 degrees), or within a right angle (90 degrees)

Year 6	<ul style="list-style-type: none">• I can solve problems involving similar shapes where the scale factor is known or can be found• I can accurately draw 2D shapes using given angles and dimensions on a square grid using a protractor/ ruler etc• I can compare and classify geometric shapes based on their size and properties and can find unknown angles in any triangle, quadrilateral or regular polygon• I can illustrate and name parts of a circle including radius, diameter and circumference and know that diameter is twice the radius• I can recognise vertically opposite angles and use this to calculate missing angles
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Half term	Learning intentions
Year 1	
Year 2	<ul style="list-style-type: none"> • I can interpret and construct simple tally charts, tables and bar charts. • I can interpret and construct simple pictograms and block diagrams
Year 3	<ul style="list-style-type: none"> • I can interpret and present data in charts and graphs including reading a scale of 2, 5 and 10 • I can solve 2 step problems using the information presented in charts and graphs e.g. how many more/fewer?
Year 4	<ul style="list-style-type: none"> • I can interpret data presented in range of graphical representations with a greater range of scales. • I can present discrete data using appropriate graphical methods • I can present continuous data in the form of time (line) graphs recognising that it is recording a change over time • I can solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs
Year 5	<ul style="list-style-type: none"> • I can solve comparison, sum and difference problems using information presented in line graphs • I can complete, read and interpret information presented in tables, timetables and other graphical representations
Year 6	<ul style="list-style-type: none"> • I can link % to calculating simple angles in a pie chart (e.g. recognise that 50% is 180 degrees) • I can solve problems using the data from line graphs (including conversion graphs) and pie charts • I can draw or complete a pie chart, showing my understanding of a pie chart being 360° and using my knowledge of fractions or percentages to work out angles required on a pie chart • I can use my knowledge of finding mean to work backwards to find out a missing number from a set of data when the mean is given

Subtraction – whole school

Half term	Learning intentions
Year 1	<ul style="list-style-type: none"> I know all the subtraction facts to 20 (to be explored by linking opposite - beginning of inverse - of addition 4) I can mentally subtract in tens and ones I can subtract two digit numbers I can subtract one digit numbers including zero
Year 2	<ul style="list-style-type: none"> I can use estimation to check that my answers to a calculation are reasonable (e.g. knowing that $48 + 35$ will be less than 100). I can recognise the inverse relationships between addition and subtraction and use this to check calculations and work out missing number problems (e.g. $\Delta - 14 = 28$) I can subtract using partitioning on a number line for numbers up to 100 I can subtract mentally a two-digit number from another two-digit number when there is no regrouping required (e.g. $74 - 33$).
Year 3	<ul style="list-style-type: none"> I can subtract money using both £ and p to give change in practical contexts I can subtract 2 and 3 digit numbers using an appropriate method.
Year 4	<ul style="list-style-type: none"> I can subtract 3 and 4 digit numbers with up to 2 decimal places (including money) using formal column methods
Year 5	<ul style="list-style-type: none"> I can subtract numbers that are large and/or have different numbers of decimal places using formal column subtraction I can subtract numbers mentally using increasingly larger numbers e.g. $12462 - 2300 = 10162$
Year 6	

Time – whole school

Half term	Learning intentions
Year 1	<ul style="list-style-type: none"> • I can read and draw hands on a clock to tell the time on an analogue clock for o'clock and half past • I show an understanding of hours, minutes, seconds (and can compare them) and also use language such as quicker, slower, earlier, later • I can use language about time including days of the week, months and the term 'year'. • I can sequence events in chronological order using before, after, today, tomorrow etc.
Year 2	<ul style="list-style-type: none"> • I can tell and write the time to 5 minutes and draw the hands on a clock face to show these times • I can read and write the time on an analogue clock for quarter past and quarter to • I can compare and sequence intervals of time • I can read the time on the clock to the nearest 15 minutes.
Year 3	<ul style="list-style-type: none"> • I can use vocabulary such as 'o'clock, am/pm, morning, afternoon, evening, noon and midnight • I can read the time on both a 12 hour and 24 hour digital clock and compare this to times on an analogue clock • I can calculate and compare simple time durations • I can read and write the time to the nearest minute on an analogue clock (also on clocks with Roman numerals) • I can record time in seconds, minutes and hours and can compare lengths of time (e.g. which is longer) • I know the number of seconds in a minute, days in each month, year and leap year • Key Performance Indicator
Year 4	<ul style="list-style-type: none"> • I can convert hours to minutes, minutes to seconds, years to months or weeks to days • I can read, write and convert time between analogue and digital 12 and 24 hour clocks
Year 5	<ul style="list-style-type: none"> • I can solve problems involving time including reading simple timetables or time charts • I can solve problems involving calculating lengths of time and recognising when to cross into the next hour
Year 6	

Multiplication tables – whole school

Half term	Learning intentions
Year 1	
Year 2	<ul style="list-style-type: none">• I can remember and use multiplication and division facts for 2, 5 and 10 times tables• I can count in 3's from zero. 0 3 6 9 12 etc.
Year 3	<ul style="list-style-type: none">• I can recall and use the multiplication and division facts for the 4 and 8 times tables.• I can recall and use the multiplication and division facts for the 3 and 6 times tables
Year 4	<ul style="list-style-type: none">• I can recall and use the multiplication and division facts for all tables up to 12 x 12
Year 5	
Year 6	