Thatto Heath Community Primary School
READY RESPECTFUL SAFE

Medium Term Plans Year 4

NB- These plans are not static and will change year on year and sometimes within a year depending on cohort needs and knowledge and understanding needs.

Year 4 big ideas for mathematics

NUMBER AND PLACE VALUE

In our number system the position of a digit in a number determines its value, unlike many historic number systems

Numbers can be broken down in different ways, e.g. 532 into 500+30+2 or 400+130+2 (ten tens is equal to one hundred)

Quantities can be represented by a position on a number line, with larger numbers further right (including for negative numbers)

Rounding is used to show an approximate number, although how a number is rounded depends on the context

NUMBER ADDITION AND SUBTRACTION

= means 'the same as' e.g. 460=220+240 and 34+16=60-10

Number facts can be approximated or calculated by adjusting numbers, e.g. 398+195 using 400+200

The most appropriate method for calculation can differ depending on the numbers involved

Using estimates or different calculation strategies reduce the likelihood of errors

NUMBER MULTIPLICATION AND DIVISION

Multiplication facts can be derived in different ways e.g. the 12× table is double the 6× table; 6×5 + 3×5 = 9×5

Numbers can be partitioned in different ways to multiply, e.g. 28×5 = 20×5 + 8×5 **or** 25×5 + 3×5

Numbers can be adjusted to calculate or make approximations e.g. 28×5 = 14×10; 49×6 = 50×6 - 6

The best method for dividing can differ depending on the numbers involved e.g. sharing, grouping or using inverse-facts

NUMBER FRACTIONS

Fractions help us to solve problems where the answer lies between two whole numbers

Fractions are equal parts of a whole e.g. an area, a position on a number line or a quantity of an amount

The size of a unit fraction is inversely related to the size of the denominator

Fractions that are different in their symbolic notation can be equivalent - this also applies to fraction and decimal equivalence

MEASUREMENT

An object is equivalent to more of a smaller unit and less of a larger unit

Benchmark measures help when estimating e.g. I am 120cm tall so my brother is about… a bag of sugar is 1kg so…

Perimeter is a measurement of length whereas area is a measurement of space

Conversion between units of time are more difficult than conversions between metric units because of the number systems

GEOMETRY

Shapes have a range of different defining characteristics e.g. number of sides/angles, types of angles, symmetry

Only certain changes alter the characteristic of a shape e.g. the orientation and size of a shape doesn't alter it's characteristics

Angles are a measurement of turn which is not affected by the length of the lines

Shapes can belong to more than one classification e.g. a square is a rhombus and a rectangle

STATISTICS

Graphs and charts are used to communicate information effectively

The type of graph used will depend on the type of data being shown e.g. bar charts can be used for discrete data (information counted in set groups); line graphs can be used to show continuous data (information measured where 'in-between' values exist)

WEEK	AUTUMN	SPRING	SUMMER
1-3	find 1000 more or less than a given number • recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) • order and compare numbers beyond 1000 • identify, represent and estimate numbers using different representations solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why identify lines of symmetry in 2-D shapes presented in different orientations • complete a simple symmetric figure with respect to a specific line of symmetry	count backwards through zero to include negative numbers • recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) • order and compare numbers beyond 1000 • round any number to the nearest 10 or 100 • solve number and practical problems that involve all of the above and with increasingly large positive numbers subtract numbers with up to 4 digits using the formal written method of columnar subtraction where appropriate • estimate and use inverse operations to check answers to a calculation • solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why identify acute and obtuse angles and compare and order angles up to two right angles by size	count backwards through zero to include negative numbers • recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) • order and compare numbers beyond 1000 • round any number to the nearest 10, 100 or 1000 • solve number and practical problems that involve all of the above and with increasingly large positive numbers • read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate • estimate and use inverse operations to check answers to a calculation • solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why estimate, compare and calculate different measures, including money in pounds and pence compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes
4-6	recall multiplication and division facts for multiplication tables up to 12 × 12 • recognise and use factor pairs and commutativity in	multiply two-digit numbers by a one-digit number using formal written layout • solve problems involving multiplying and adding, including	multiply three-digit numbers by a one-digit number using formal written layout • solve problems involving multiplying and adding, including using the distributive law to multiply two digit

	mental calculations count in multiples of 6 and 9 recognise and show, using diagrams, families of common equivalent fractions describe positions on a 2-D grid as coordinates in the first quadrant • describe movements between positions as translations of a given unit to the left/right and up/down • plot specified points and draw sides to complete a given polygon	using the distributive law to multiply two-digit numbers by one-digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten • solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number convert between different units of measure [for example, kilometre to metre] • estimate, compare and calculate different measures	numbers by one-digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects recognise and show, using diagrams, families of common equivalent fractions • add and subtract fractions with the same denominator • solve simple measure and money problems involving Fractions convert between different units of measure • estimate, compare and calculate different measures
7-9	add numbers with up to 4 digits using the formal written method of columnar addition where appropriate • estimate answers to a calculation • solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why extend understanding of the number system and decimal place value to tenths * • recognise and write decimal equivalents of any number of tenths	• add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate • estimate and use inverse operations to check answers to a calculation • solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why	add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate • estimate and use inverse operations to check answers to a calculation • solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why estimate, compare and calculate different measures, including money in pounds and pence Recognise and write decimal equivalents of any number of tenths or hundredths.

	• round decimals with one decimal place to the nearest whole number • compare numbers with the same number of decimal places up to two decimal places • solve simple measure problems involving decimals to two decimal places convert between different units of measure • estimate, compare and calculate different measures	interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs • solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs	Recognise and write decimal equivalents to 1/4, 1/2, 3/4. find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths • round decimals with one decimal place to the nearest whole number • compare numbers with the same number of decimal places up to two decimal places • solve simple measure and money problems involving decimals to two decimal places describe positions on a 2-D grid as coordinates in the fi rst quadrant • plot specified points and draw sides to complete a given polygon
10-12	recall multiplication and division facts for multiplication tables up to 12 × 12 • use place value, known and derived facts to multiply mentally, including: multiplying by 0 and 1; multiplying together three numbers • recognise and use factor pairs and commutativity in mental calculations • multiply two-digit numbers by a one-digit number using formal written layout • solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one-digit count in multiples of 7 convert between different units of measure • read, write and convert time between analogue and	multiply three-digit numbers by a one-digit number using formal written layout • solve problems involving multiplying and adding, including using the distributive law to multiply two- digit numbers by one-digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects recognise and write decimal equivalents of any number of hundredths • find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths	solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by one-digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects use place value, known and derived facts to divide mentally, including dividing by 1 interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs • solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs

	digital 12- and 24-hour clocks • solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days	• compare numbers with the same number of decimal places up to two decimal places measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres	