Tower Hill Primary School Mathematics Progression Framework – Year 4

Y4	Number and Place Value	Addition and Subtraction	Multiplication and Division	Fractions	Measurement	Geometry		Statistics
						Properties of Shape	Position and Direction	
Problem Solving	Solve number and practical problems that involve all of the above and with increasingly large positive numbers.	Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.	Solve problems involving multiplying and adding	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.				solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs
Year 4, Phase 1 – Sept - Nov	**Pupils should be taught to:** ***recognise the place value of each digit in a four digit number (thousands, hundreds, tens and ones)** ***identify, represent and estimate numbers using different representations** ***round any number to the nearest 10, 100 or 1000.**	**Pupils should be taught to:** ***estimate and use inverse operations to check answers to a calculation.**	**Pupils should be taught to:** *use place value, known and derived facts to multiply and divide mentally	**Pupils should be taught to:** ***recognise and show, using diagrams.** ***add and subtract fractions with the same denominator.** ***find the effect of dividing a one or two digit number by 10 and 100,** ***round decimals with one decimal place to the nearest whole number.**	**Pupils should be taught to:** ***measure and calculate the perimeter of a rectilinear figure (including squares) in cm and m** ***estimate, compare and calculate different measures including money in pounds and pence.**	**Pupils should be taught to:** ***compare and classify geometric shapes** ***identify acute and obtuse angles** ***complete a simple symmetric figure with respect to specific line of symmetry.**	**Pupils should be taught to:** ***describe positions on a 2D grid as coordinates in the first quadrant**	**Pupils should be taught to:** ***interpret an present discrete data and continuous data using appropriate graphical methods, including bar charts and time graphs.**

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Problem Solving	Solve number and practical problems that involve all of the above and with increasingly large positive numbers.	Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.	Solve problems involving multiplying and adding	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.				solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs
Year 4, Phase 2 – Nov - Feb	**Pupils should be taught to:** ***count in multiples of 6, 25 and 1000** ***find 1000 more or less than a given number** ***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** ***identify, represent and estimate numbers using different representations** ***round any number to the nearest 10, 100 or 1000.**	**Pupils should be taught to:** *add and subtract numbers with up to 4 ***estimate and use inverse operations to check answers to a calculation.**	**Pupils should be taught to:** *recall 2/3/4/5/6/8 multiplication and division facts for multiplication tables *use place value, known and derived facts to multiply and divide mentally, including multiplying by 0 and 1, *multiply two digit and three digit numbers by a one digit number	**Pupils should be taught to:** ***recognise and show, using diagrams, families of common equivalent fractions.** ***recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten.** ***add and subtract fractions with the same denominator.** ***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.** ***solve simple measure and money problems involving fractions.**	**Pupils should be taught to:** ***convert between different units of measure eg: kilometre to metre and hour to minute.** ***measure and calculate the perimeter of a rectilinear figure (including squares) in cm and m** ***find the area of rectilinear shapes by counting squares** ***estimate, compare and calculate different measures including money in pounds and pence.** ***read, write and convert time between analogue and digital 12 and 24 hour clocks.** .	**Pupils should be taught to:** ***compare and classify geometric shapes including quadrilaterals based on their properties and sizes.** ***identify acute and obtuse angles** ***identify lines of symmetry in 2D shapes presented in different orientations.** ***complete a simple symmetric figure with respect to specific line of symmetry.**	**Pupils should be taught to:** ***describe positions on a 2D grid as coordinates in the first quadrant** ***describe movements between positions as translations of a given unit to the left/right and up/down.**	**Pupils should be taught to:** ***interpret an present discrete data and continuous data using appropriate graphical methods, including bar charts and time graphs.**

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Problem Solving	Solve number and practical problems that involve all of the above and with increasingly large positive numbers.	Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.	Solve problems involving multiplying and adding	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.				solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs
Year 4, Phase 3 – Feb – Apr	**Pupils should be taught to:** ***count in multiples of 6, 7, 9, 25 and 1000** ***find 1000 more or less than a given number** ***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** ***identify, represent and estimate numbers using different representations** ***round any number to the nearest 10, 100 or 1000.** ***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.**	**Pupils should be taught to:** *add and subtract numbers with up to 4 digits using the formal written methods of column addition and subtraction. ***estimate and use inverse operations to check answers to a calculation.**	**Pupils should be taught to:** *recall 2/3/4/5/6/8 multiplication and division facts for multiplication tables up to 12x12 *use place value, known and derived facts to multiply and divide mentally, including multiplying by 0 and 1, dividing by 1, multiplying together three numbers. *recognise and use factor pairs and commutativity in mental calculations *multiply two digit and 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.	**Pupils should be taught to:** ***recognise and show, using diagrams, families of common equivalent fractions.** ***count up and down in hundredths; recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten.** ***add and subtract fractions with the same denominator.** ***recognise and write decimal equivalents of any number of tenths or hundredths** ***recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$** ***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 fractions and decimals to two decimal places.**	**Pupils should be taught to:** ***convert between different units of measure eg: kilometre to metre and hour to minute.** ***measure and calculate the perimeter of a rectilinear figure (including squares) in cm and m** ***find the area of rectilinear shapes by counting squares** ***estimate, compare and calculate different measures including money in pounds and pence.** ***read, write and convert time between analogue and digital 12 and 24 hour clocks.** ***solve problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days.**	**Pupils should be taught to:** ***compare and classify geometric shapes including quadrilaterals and triangles based on their properties and sizes.** ***identify acute and obtuse angles and compare and order angles up to two right angles by size.** ***identify lines of symmetry in 2D shapes presented in different orientations.** ***complete a simple symmetric figure with respect to specific line of symmetry.**	**Pupils should be taught to:** ***describe positions on a 2D 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.**	**Pupils should be taught to:** ***interpret an present discrete data and continuous data using appropriate graphical methods, including bar charts and time graphs.**