

Moorgate Primary Academy

Year 4 Maths Long Term Overview



Year 4 – Autumn				
<u>Geometry – angles and 2D shapes</u>	<u>Place Value (I)</u>	<u>Place Value (II)</u>	<u>Addition and Subtraction</u>	<u>Area</u>
<p>Compare angles and identify acute, obtuse and right angles.</p> <p>Identify acute and obtuse angles, using what they already know about angles. They will compare the sizes of angles and use their comparisons to order them.</p> <p>Identify the three different types of triangles. They will understand the properties of scalene, isosceles and equilateral triangles in relation to their angles and the length of their sides.</p> <p>Name, describe and identify quadrilaterals, recognising their similarities and differences. They will use their knowledge to classify and compare quadrilaterals</p> <p>Recognise the similarities and differences between regular and irregular polygons. They will use this vocabulary to help</p>	<p>Count in 1,000s from 0 to 10,000, forwards and backwards and recognise multiples of 1,000 in different representations.</p> <p>Develop their understanding of place value by working with 4-digit numbers and understanding the place value of the 1,000s position</p> <p>Explore the value of each digit in a 4-digit number by partitioning into 1,000s, 100s, 10s and 1s.</p> <p>Explore partitioning 4-digit numbers in various ways, not necessarily just into 1,000s, 100s, 10s and 1s.</p> <p>Find 1,000 more or less than a given number, using their knowledge of place value to help them.</p>	<p>Locate and identify multiples of 1,000, 100 and 10 on number lines.</p> <p>Identify numbers in a range between two multiples of 1,000, 100 or 10. They also identify the previous and next multiple of 1,000, 100 or 10 that a given number lies between</p> <p>Make sensible estimates on a number line.</p> <p>Order 4-digit numbers, focusing on the value of the digits and using a place value grid to support understanding.</p> <p>Learn the Roman numerals for 1, 5, 10, 50 and 100 and use this knowledge to convert between modern-day numerals and Roman numerals.</p> <p>Round 3- and 4-digit numbers to the nearest 100.</p>	<p>Use their knowledge of place value to add and subtract 1, 10, 100 and 1,000 to and from 4-digit numbers.</p> <p>Add 4-digit numbers using the column method (without exchanging)</p> <p>Add 4-digit numbers using the column method with an exchange in one column.</p> <p>Add 4-digit numbers using the column method with exchanges across more than one column.</p> <p>Subtract 4-digit numbers using the column method where there are no exchanges.</p> <p>Subtract 4-digit numbers using the column method where an exchange is required.</p>	<p>-Know what area is to the concept of the area of a 2D shape</p> <p>- use squares as a standard unit of measuring the area of squares and rectangles.</p> <p>- find areas of more complex rectilinear shapes (including those drawn on squared grids) by counting squares.</p> <p>-Apply understanding of the concept of area by making shapes with given areas</p> <p>-Compare shapes according to their areas.</p>

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<p>inform their reasoning about 2D shapes.</p> <p>explore reflective symmetry. They will identify lines of symmetry within regular and irregular polygons.</p> <p>complete symmetric patterns when the lines of symmetry are given. They will reason about how shapes are affected by different lines of symmetry</p>		<p>Children are rounding to the nearest multiple of 10.</p> <p>Children will build on their knowledge of rounding to 1,000, 100 and 10, including working out numbers that round to a particular degree of accuracy.</p>	<p>Subtract 4-digit numbers using the column method where more than one exchange is required.</p> <p>Subtract 4-digit numbers using the column method with exchanges, when there is a zero in the column to be exchanged from.</p> <p>Consider different methods for solving calculations, thinking about how to work efficiently and accurately.</p> <p>Learn the equivalent difference method of subtraction.</p> <p>Learn to make choices about whether to round to the nearest 10, 100 or 1,000 and how to use that to decide if a calculation is accurate.</p> <p>Learn strategies for checking answers, using the inverse operation and estimating by rounding.</p>	
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			<p>Apply addition and subtraction strategies they have learnt previously to solve simple problems</p> <p>Apply addition and subtraction strategies that they have learnt previously, to solve two-step problems.</p>	
Year 4 – Spring				
<p>Multiplication and Division</p> <ul style="list-style-type: none"> -Name and find multiples of 3 and non-multiples of 3 -Learn what it means to multiply and divide by 6. They will use a range of strategies to support their understanding. -Learn their 6 times-table. Children should be able to recite it and also learn the associated multiplication and division facts. - Understand how they can multiply and divide a number by 9. Children will make links to the 3 and 6 times-tables. - Explore the relationship between multiples of 3, multiples of 6 and multiples of 9, and develop strategies to 	<p>Multiplication and Division</p> <p>Find and compare factor pairs of numbers and will show that they have found all the possible factor pairs of any given product.</p> <p>Explore multiplication and division by 10 and will identify what happens to the place value of the digits in a number when it is multiplied or divided by 10. Develop their understanding of place value to efficiently and accurately multiply and divide numbers by 100.</p> <p>Multiply by multiples of 10 and 100 using known facts and place value knowledge.</p>	<p>Length and Perimeter</p> <p>Convert between m and km</p> <ul style="list-style-type: none"> -Find the perimeter of rectilinear shapes where not all side measurements are given -Use knowledge about the properties of polygons to calculate perimeters efficiently 	<p>Fractions (1)</p> <ul style="list-style-type: none"> -Use mixed numbers to count beyond 1. Learn that a mixed number has a whole part and a fraction part -Partition mixed numbers into their whole part and fraction part -Count up in fractional steps and identify each whole and fraction parts in between. -Compare and order mixed numbers 	<p>Fractions (II)</p> <ul style="list-style-type: none"> -Add and subtract fractions with the same denominator, including those where the answer is greater than 1 -Add proper fraction to mixed numbers with the same denominator. Use fraction strips and number lines to help them to visualise what is happening. - Subtract proper fractions from mixed numbers with the same denominator by counting back with support from fraction strips and number lines.

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<p>improve their own times-tables knowledge.</p> <ul style="list-style-type: none"> - Learn what it means to multiply and divide by 7. They will apply their knowledge to finding solutions involving real-life contexts - Learn and recite the 7x table - Learn their 11 and 12x table. - Multiply 0 and 1 - Divide a number by 1 and itself - Use the commutative properties of multiplication to calculate 'in a different order', such as $2 \times 7 \times 5 = 7 \times 10$, to increase their ability to calculate mentally 	<p>Divide multiples of 10 and 100 using known facts and place value knowledge.</p> <p>Solve addition and multiplication problems. They will discover that multiplying a number by two numbers added together is the same as doing separate multiplications and then adding the answers (known as the distributive law).</p> <p>Multiply a 2 digit and 3 number by a 1 digit number using a formal written method. Including with exchanges.</p> <p>Solve a mixture of problems by using the formal written method. Bar models are used to reveal the structure of more complex problems.</p> <p>Divide a 2-digit number where the 10s digit and the 1s are divisible by the divisor (for example, 96 divided by 3, 48 divided by 4, 55 divided by 5).</p> <p>Solve division problems that leave a remainder.</p>		<ul style="list-style-type: none"> -Identify the total number of fraction parts in a mixed number and apply this as they start to write mixed numbers as improper fractions -Convert improper fractions to mixed numbers -Use fraction walls and fraction strips to identify equivalent fractions -Simplify fractions with the aid of images and then with abstract fractions 	<ul style="list-style-type: none"> - Subtract fractions from a whole number and explore different methods. -Apply their understanding of adding and subtracting fractions to solve problems -Calculate a fraction of an amount. They will use fraction strips to help them visualise the concept and then use their knowledge of finding a unit fraction of an amount to find non-unit fractions of an amount. -Solve multi-step problem-solving questions involving finding a fraction of an amount and finding the whole.
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	<p>Divide a 2-digit number by a 1-digit number using flexible partitioning and by focusing on mental methods.</p> <p>Use partitioning to divide a 3-digit number by a 1-digit number.</p> <p>Solve more complex correspondence problems, working out how n objects relate to m objects, finding all solutions and noticing how to use multiplication to solve these problems.</p> <p>Simplify multiplications by finding factor pairs of 2-digit numbers and then using commutativity to help them to perform mental calculations.</p>		
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Year 4 - Summer

<u>Decimals (I)</u>	<u>Decimals (II)</u>	<u>Money</u>	<u>Time</u>	<u>Statistics</u>	<u>Geometry – Position and Direction</u>
- Children will learn how to recognise tenths and	- Given a number of tenths or hundredths	-Record amounts of money in pounds and pence	-Find the equivalences between years, months,	- Extend their knowledge of bar charts, tables and	Describe relative positions on a map,

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<p>represent them as fractions.</p> <ul style="list-style-type: none"> - Children will be introduced to the decimal point and how it can be used to write tenths as decimals. Children also count in tenths and record these as decimals. - Children will build on their understanding of tenths and extend this to numbers greater than 1. They will explore the place value of numbers with one decimal place, using a place value grid. - Learn how to place decimal numbers with tenths between two whole numbers on a number line. - Represent tenths as fractions and decimals on a number line extending beyond 1 and will count on and count back in tenths to solve 	<p>they can make the number bond up to 1.</p> <ul style="list-style-type: none"> -Learn that a number with up to two decimal places can be made up of some 10s, 1s, tenths and hundredths. - Find a range of different ways to partition a given decimal number. - Children will compare decimal numbers by looking at the largest place value and then moving to the next largest place value. - Order numbers with up to two decimal places. -Round a decimal to the nearest whole number by looking at the tenths digit. They will place decimal numbers on a number line. 	<ul style="list-style-type: none"> -Add pence, crossing the pounds and pence boundary -Compare and put in order the most and least expensive amounts of money -Make estimates with money. Look at differences between prices and work out how much money remains. -Solve problems involving pounds and pence. Solve addition and subtraction problems and work out change. -Use previous learnt strategies and methods to solve multi-step problems. 	<p>weeks and days applying their knowledge to convert between units of times</p> <ul style="list-style-type: none"> -Convert between hours, minutes and seconds -Convert between analogue and digital times -Convert between 12-hour and 24-hour times. - Apply their knowledge of units of time to problem-solving contexts. 	<p>pictograms to interpret data with larger numbers and a wider range of scales</p> <ul style="list-style-type: none"> Use their knowledge of bar charts, tables and pictograms to answer increasingly complex problems, including those that involve differences and totals. Apply their data interpretation and analysis skills to a range of increasingly challenging problems. read values from a line graph. Explore line graphs, and will make statements and comparisons based on data presented in line graphs. Draw their own line graphs from given information. 	<p>initially without a grid and then with a grid.</p> <ul style="list-style-type: none"> Use coordinates in the first quadrant to describe positions on a grid, using the conventional order and notation. Use the properties of shapes and points to help them make constructions on the coordinate grid. Carry out simple translations on a coordinate grid, following instructions given in the form 'left/right, up/down'. Work out the translations (expressed in the form 'right/left, up/down') that are needed to move from one position on the coordinate grid to another.
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<p>problems in the context of measurement and length.</p> <p>- Divide a 1-digit number by 10, making connections with tenths during this process.</p> <p>Divide 2-digit numbers by 10.</p> <p>Understand that a hundredth as a fraction is $1/100$ and will use a hundredths grid to make the connection between hundredths and tenths</p> <p>Write hundredths as decimals and count on and back in hundredths from a given number.</p> <p>Build on their understanding and recognise that a number with two decimal places has a number of tenths plus some hundredths. They will use counters on a place value grid to represent this.</p>	<p>-Represent fractions and decimals using a number line and a hundredths grid. Learn the decimal equivalents for $\frac{1}{2}$ $\frac{1}{4}$ and $\frac{3}{4}$</p>				
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Divide 1- and 2-digit numbers by 100, building on their understanding of dividing by 10. Divide numbers by 10 and 100 and see the connection between dividing by 10 and then 10 again and dividing by 100.					
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