

## Mathematics Curriculum Progression Map



Year group	Key skills and knowledge	Key vocabulary	Links to faith & Values  Islamic Mathematician Values Quran
<b>Mathematics – Counting and Counting in Multiples</b>			
<b>Year 1</b>	<ul style="list-style-type: none"> <li>I can count to and across 100 forwards and backwards beginning with 0 or 1 or from any given number</li> <li>I can count numbers to 100 in numerals</li> <li>I can count in multiples of twos, five and ten</li> </ul>	Ten more/less, digit, , size, value, between, halfway between, above, below, tens, ones	
<b>Year 2</b>	<ul style="list-style-type: none"> <li>I can count on a number line, identifying missing numbers</li> <li>I can confidently count to 100 and beyond.</li> <li>I can count in 2, 3, 5 and 10 from any number on and back</li> </ul>	Skip counting, new ten, more less, fewer	Tasbeeh on your fingers - Tasbeeh is made of 99 beads 33+33+33. You can do it on your fingers because each finger as 3 parts. Link this to counting in 3s on your fingers.
<b>Year 3</b>	<ul style="list-style-type: none"> <li>I can count from 0 in multiples of 4, 8, 50 and 100;</li> <li>I can find 10 or 100 more or less than a given number</li> </ul>	Multiples, more, less	
<b>Year 4</b>	<ul style="list-style-type: none"> <li>I can count backwards through zero to include negative numbers</li> <li>I can count in multiples of 6, 7, 9, 25 and 1 000</li> <li>I can find 1000 more or less than a given number</li> </ul>	Positive/negative, multiples, more/less,	
<b>Year 5</b>	<ul style="list-style-type: none"> <li>I can interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero</li> <li>I can count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000</li> </ul>	Positive, negative, powers of 10, increase, decrease, minus, consecutive,	
<b>Year 6</b>	<ul style="list-style-type: none"> <li>I can use negative numbers in context, and calculate intervals across zero</li> </ul>		
<b>Mathematics – Counting on and back</b>			
<b>Year 1</b>	<ul style="list-style-type: none"> <li>Given a number, identify one more (numbers to 100)</li> <li>Given a number, identify one less (numbers to 100)</li> </ul>	Ten more/less, digit, , size, value, between, halfway between, above, below, tens, ones	

<b>Year 2</b>	<ul style="list-style-type: none"> <li>I can count forwards and backwards in 2's, 3's, 5's and 10's from any given number</li> </ul>	Skip counting on back forwards backwards pattern digits	<p>Tasbeeh on your fingers</p> <ul style="list-style-type: none"> <li>Tasbeeh is made of 99 beads 33+33+33. You can do it on your fingers because each finger as 3 parts. Link this to counting in 3s on your fingers.</li> </ul> <p>Salaah is prayed 5 times a day. This can be used in word problems about Salah (e.g. How many times would Muhammad have prayed in 7 days? = <math>7 \times 5 = 35</math>).</p>
<b>Year 3</b>	<ul style="list-style-type: none"> <li>I can count from 0 in multiples of 4, 8, 50 and 100;</li> <li>I can find 10 or 100 more or less than a given number</li> </ul>	Multiples, more, less	
<b>Year 4</b>	<ul style="list-style-type: none"> <li>I can count backwards through zero to include negative numbers</li> <li>I can count in multiples of 6, 7, 9, 25 and 1 000</li> <li>I can find 1000 more or less than a given number</li> </ul>	Positive/negative, multiples, more/less,	
<b>Year 5</b>	<ul style="list-style-type: none"> <li>I can interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero</li> <li>I can count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000</li> </ul>	Positive, negative, powers of 10, increase, decrease, minus	
<b>Year 6</b>	<ul style="list-style-type: none"> <li>I can use negative numbers in context, and calculate intervals across zero</li> </ul>	Positive, negative, powers of 10, increase, decrease, minus, overdraft, money, account	
<b>Mathematics – Comparing Numbers</b>			
<b>Year 1</b>	<ul style="list-style-type: none"> <li>Use the language of equal to, more than, less than (fewer), most least</li> </ul>	Equal more than less than fewer most least	
<b>Year 2</b>	<ul style="list-style-type: none"> <li>I can compare and order numbers 0 to 100 using &gt;, &lt; and =</li> </ul>	Greater than Less than Equal to fewer	
<b>Year 3</b>	<ul style="list-style-type: none"> <li>I can compare and order numbers up to 1 000</li> </ul>	Compare, order, greater than, less than, equals to, ascending, descending, ones, tens, hundreds, one thousand, place value	

<b>Year 4</b>	<ul style="list-style-type: none"> <li>I can order and compare numbers beyond 1 000</li> <li>I can compare numbers with the same number of decimal places up to two decimal places (copied from Fractions)</li> </ul>	Compare, order, ascending/descending, place value, hundredths, tenths, ones tens, hundreds, thousands, decimal point, equivalent, digit,	
<b>Year 5</b>	<ul style="list-style-type: none"> <li>I can read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit</li> </ul>	ten thousand, hundred thousand, million, digit, inequality, greater than or equals to, less than or equals to, ascending/ descending order	
<b>Year 6</b>	<ul style="list-style-type: none"> <li>I can read, write, order and compare numbers up to 10 000 000 and determine the value of each digit</li> </ul>	next, consecutive > greater than < less than ten thousand, hundred thousand, million, digit, inequality, equals to, ascending/ descending order	
<b>Mathematics – Estimating, Identifying and Representing</b>			
<b>Year 1</b>	<ul style="list-style-type: none"> <li>Identify and represent numbers using different representations</li> </ul>	Sensible estimate guess	
<b>Year 2</b>	<ul style="list-style-type: none"> <li>I can represent numbers using concrete apparatus including: place value counters and base 10 apparatus</li> <li>I can identify and estimate the missing number on a number line or scale</li> <li>I can partition two digit numbers in different ways I understand the values of both digits in a two-digit number</li> </ul>	Place value Missing number Number line Scale Value digit partition recombine	
<b>Year 3</b>	<ul style="list-style-type: none"> <li>I can identify, represent and estimate numbers using different representations</li> </ul>	Identify, represent, estimate, digits, place value, Base 10	

<p><b>Year 4</b></p>	<ul style="list-style-type: none"> <li><i>I can identify, represent and estimate numbers using different representations</i></li> </ul>	<p><i>Identify, represent, estimate, digits, place value, Base 10, part-whole, bar model, rounding, to the nearest <math>\frac{1}{2}</math>, visual representation, numerical representation, approximate</i></p>	
<p><b>Year 5 and Year 6</b></p>	<ul style="list-style-type: none"> <li><i>I can identify, represent and estimate numbers using different representations</i></li> </ul>	<p><i>guess how many ...? estimate nearly roughly close to approximate, approximately about the same as just over, just under exact, exactly too many, too few enough, not enough round, nearest, round to the nearest ten, hundred, thousand, ten thousand round up, round down</i></p>	

## Mathematics – Reading Numbers

<b>Year 1</b>	<ul style="list-style-type: none"> <li>I can read numbers 1-100 in numerals.</li> <li>I can read numbers 1-20 and tens numbers in words.</li> </ul>	Tens ones	
<b>Year 2</b>	<ul style="list-style-type: none"> <li>I can read numbers to 100 and beyond in numerals</li> <li>I can read numbers to 100 in words</li> </ul>	place value digit hundreds tens ones units place holder	
<b>Year 3</b>	<ul style="list-style-type: none"> <li>I can read and write numbers up to 1 000 in numerals and in words</li> <li>I can tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks (copied from Measurement)</li> </ul>	Numerals, digits, ones, tens, hundreds, one thousand, time, analogue, digital, Roman numerals, clock, 12-hour, 24-hour a.m., p.m., o'clock, quarter past, half past, quarter to, minutes past, minutes to, minute, hour, I, II, III, IV, V, VI, VII, VIII, IX, X, XI, XII	
<b>Year 4</b>	<ul style="list-style-type: none"> <li>I can 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.</li> </ul>	Numerals, (Roman numerals I-C), place value, zero, representation.	
<b>Year 5</b>	<ul style="list-style-type: none"> <li>I can read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit (appears also in Comparing Numbers)</li> <li>I can read Roman numerals to 1000 (M) and recognise years written in Roman numerals.</li> </ul>	ten thousand, hundred thousand, million, digit, inequality D = 500 M = 1000	

<p><b>Year 6</b></p>	<ul style="list-style-type: none"> <li>I can read, write, order and compare numbers up to 10 000 000 and determine the value of each digit (appears also in Understanding Place Value)</li> </ul>	<p>ones tens, hundreds digit one-, two- or three- digit number place, place value stands for, represents exchange the same number as, as many as more, larger, bigger, greater fewer, smaller, less fewest, smallest, least most, biggest, largest, greatest one more, ten more, one hundred more, one thousand more one less, ten less, one hundred less, one thousand less equal to compare order size first, second, third ... twentieth twenty-first, twenty- second ... last, last but one before, after next between</p>	
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<p><b>Mathematics – Writing Numbers in Numerals and Words</b></p>			
<p><b>Year 1</b></p>	<ul style="list-style-type: none"> <li>Write numbers from 1 to 100 in numerals</li> <li>Write numbers from 1 to 20 in words and the tens numbers</li> </ul>	<p>Digit tens ones zero</p>	<p>Continuous provision- Maths area role play English</p>
<p><b>Year 2</b></p>	<ul style="list-style-type: none"> <li>I can write numbers to at least 100 in numerals, understanding how to write 3 digit numbers from 100 to 200</li> <li>I can write numbers to 100 in words</li> </ul>	<p>place value digit hundreds tens ones units place holder</p>	<p>Continuous provision – maths area</p>

<b>Year 3</b>	<ul style="list-style-type: none"> <li><i>I can read and write numbers up to 1 000 in numerals and in words</i></li> <li><i>I can tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks (copied from Measurement)</i></li> </ul>	Numerals, digits, ones, tens, hundreds, one thousand, time, analogue, digital, Roman numerals, clock, 12-hour, 24-hour a.m., p.m., o'clock, quarter past, half past, quarter to, minutes past, minutes to, minute, hour, I, II, III, IV, V, VI, VII, VIII, IX, X, XI, XII	
<b>Year 4</b>	<ul style="list-style-type: none"> <li><i>I can 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.</i></li> </ul>	Numerals, (Roman numerals I-C), place value, zero, representation.	
<b>Year 5</b>	<ul style="list-style-type: none"> <li><i>I can read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit (appears also in Comparing Numbers)</i></li> <li><i>I can read Roman numerals to 1000 (M) and recognise years written in Roman numerals.</i></li> </ul>	ten thousand, hundred thousand, million, digit, inequality $D = 500$ $M = 1000$	
<b>Year 6</b>	<ul style="list-style-type: none"> <li><i>I can read, write, order and compare numbers up to 10 000 000 and determine the value of each digit (appears also in Understanding Place Value)</i></li> </ul>	See previous	
<b>Mathematics – Addition and Subtraction</b>			
<b>Year 1</b>	<ul style="list-style-type: none"> <li><i>Derive and recall addition facts for totals up to 10</i></li> <li><i>Represent and use number bonds and related subtraction facts within 20</i></li> <li><i>Addition doubles for all numbers to at least 10</i></li> <li><i>Add one-digit and two-digit numbers to 20, including zero</i></li> <li><i>Subtract one-digit and two-digit-numbers to 20, including zero</i></li> <li><i>Add a multiple of 10 to a one-digit number</i></li> <li><i>Add near doubles</i></li> <li><i>Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs</i></li> </ul>	Number bonds, number line, add, more, plus, make, sum, total, altogether, double, near double, equals, is the same as = difference between, subtract, take away, minus How many more to make ...?, How many more is ... than ... ?, How much more is ... ?, How many -fewer is ... than ... ?, How much less is ... ?	

<p><b>Year 2</b></p>	<ul style="list-style-type: none"> <li>Recall and use addition and subtraction facts within 20</li> <li>Derive and use number facts to 100</li> <li>Use concrete objects to <ul style="list-style-type: none"> <li>Add and subtract two digit number and ones</li> <li>Add and subtract two digit number and tens</li> <li>Add and subtract two two digit numbers</li> </ul> </li> <li>Use pictorial representations to: <ul style="list-style-type: none"> <li>Add and subtract two digit number and ones</li> <li>Add and subtract two digit number and tens</li> <li>Add and subtract two two digit numbers</li> </ul> </li> <li>Use mental strategies to <ul style="list-style-type: none"> <li>Add and subtract two digit number and ones</li> <li>Add and subtract two digit number and tens</li> </ul> </li> <li>I can add three one-digit numbers</li> <li>I know that addition can be done in any order (commutative) and subtraction cannot</li> <li>I know that addition and subtraction are inverses</li> <li>I can use the inverse operation to find missing numbers.</li> <li>I can use written methods involving partitioning for addition.</li> <li>I can use formal written methods for addition and subtractions (column method)</li> </ul>	<p>Concrete Pictorial Mental Representation Ones Tens Commutative Inverse operation addition plus subtraction minus less fewer more total altogether jottings calculation</p>	
<p><b>Year 3</b></p>	<ul style="list-style-type: none"> <li>I can add and subtract numbers mentally, including: <ul style="list-style-type: none"> <li>a three-digit number and ones</li> <li>a three-digit number and tens</li> <li>a three-digit number and hundreds</li> </ul> </li> <li>WRITTEN METHODS</li> <li>I can add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction</li> <li>INVERSE OPERATIONS, ESTIMATING AND CHECKING ANSWERS</li> <li>I can estimate the answer to a calculation and use inverse operations to check answers</li> </ul>	<p>Add, plus, more, less, Subtract, take away, fewer, find the difference, total, answer, equals, part-whole, partition, count on, count back, number line, commutative, ones, tens, hundreds, column method, place value, exchange, inverse operation, estimate, check</p>	
<p><b>Year 4</b></p>	<ul style="list-style-type: none"> <li>WRITTEN METHODS</li> <li>I can add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate</li> <li>INVERSE OPERATIONS, ESTIMATING AND CHECKING ANSWERS</li> <li>I can estimate and use inverse operations to check answers to a calculation</li> <li></li> </ul>	<p>Addition, subtraction, method, operation, more, less, column, place value, exchange, inverse, efficient strategy/method, estimate, rounding, check, commutative, sum, difference</p>	



<p><b>Year 5</b></p>	<ul style="list-style-type: none"> <li><i>I can add and subtract numbers mentally with increasingly large numbers</i></li> <li><b>WRITTEN METHODS</b></li> <li><i>I can add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)</i></li> <li><b>INVERSE OPERATIONS, ESTIMATING AND CHECKING ANSWERS</b></li> <li><i>I can use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy</i></li> </ul>	<p><i>round, nearest, round to the nearest ten, hundred, thousand, ten thousand context, accuracy, accurate,</i></p>	
<p><b>Year 6</b></p>	<ul style="list-style-type: none"> <li><i>I can perform mental calculations, including with mixed operations and large numbers</i></li> <li><i>I can use my knowledge of the order of operations to carry out calculations involving the four operations</i></li> <li><b>INVERSE OPERATIONS, ESTIMATING AND CHECKING ANSWERS</b></li> <li><i>I can use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.</i></li> </ul>	<p><i>addition add, more, and make, sum, total altogether double near double half, halve one more, two more ... ten more ... one hundred more how many more to make ...? how many more is ... than ...? how much more is ...? subtract take away how many are left/left over? how many have gone? one less, two less, ten less ... one hundred less how many fewer is ... than ...? how much less is ...?</i></p>	
<p><b>Mathematics – Multiplication and Division</b></p>			
<p><b>Year 1</b></p>	<ul style="list-style-type: none"> <li><i>Solve one-step problems involving multiplication and division using concrete objects, pictorial representations and arrays with the support of the teacher</i></li> </ul>	<p><i>Share group arrange array lots of how many how much</i></p>	

<p><b>Year 2</b></p>	<ul style="list-style-type: none"> <li>• Recall and use multiplication and division facts for the 2 times tables</li> <li>• Recall and use multiplication and division facts for the 5 times tables</li> <li>• Recall and use multiplication and division facts for the 10 times tables</li> <li>• I can recognise if a number is odd or even and explain how I know.</li> <li>• I recognise and can use the symbols <math>\times</math>, <math>\div</math> and <math>=</math></li> <li>• I know that multiplication is commutative and division is not</li> <li>• I can use an array to represent and support me to solve multiplication and division problems</li> <li>• I know that multiplication is the same as repeated addition</li> </ul>	<p>Multiplication Divide Times tables Multiply Multiple Commutative Repeated addition Lots of</p>	
<p><b>Year 3</b></p>	<ul style="list-style-type: none"> <li>• count from 0 in multiples of 4, 8, 50 and 100 (copied from Number and Place Value)</li> <li>• recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables</li> <li>• write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods</li> <li>• write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods</li> <li>• estimate the answer to a calculation and use inverse operations to check answers</li> <li>• solve problems, including missing number problems, involving multiplication and division, including positive</li> <li>• integer scaling problems and correspondence problems in which <math>n</math> objects are connected to <math>m</math> objects</li> </ul>	<p>Multiple, multiplication, multiply, times, divide, division, lots of, groups of, equal groups, times table, commutative, column method, inverse, scaling</p>	
<p><b>Year 4</b></p>	<ul style="list-style-type: none"> <li>• count in multiples of 6, 7, 9, 25 and 1000</li> <li>• recall multiplication and division facts for multiplication tables up to <math>12 \times 12</math></li> <li>• 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</li> <li>• recognise and use factor pairs and commutativity in mental calculations</li> <li>• multiply two-digit and three-digit numbers by a one-digit number using formal written layout</li> <li>• estimate and use inverse operations to check answers to a calculation</li> <li>• 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 <math>n</math> objects are connected to <math>m</math> objects</li> </ul>	<p>Multiple, multiplication, times table, division facts, place value, column, expanded/short, multiplication/division, inverse, check, estimate, remainder, factors, factor pairs, t-model/chart, scaling, correspondence, product, quotient</p>	

<p><b>Year 5</b></p>	<ul style="list-style-type: none"> <li>• count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000</li> <li>• multiply and divide numbers mentally drawing upon known facts</li> <li>• multiply and divide whole numbers and those involving decimals by 10, 100 and 1000</li> <li>• multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers</li> <li>• divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context</li> <li>• identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.</li> <li>• know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers</li> <li>• establish whether a number up to 100 is prime and recall prime numbers up to 19</li> <li>• recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)</li> <li>• solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes</li> <li>• solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign</li> </ul> <p>solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates</p>	<p>Bust stop method, prime, composite, common factors, highest common factor, lowest common factor, prime factor, multiple, common multiples, decimal point, tenth, hundredth, thousandth, remainder, squared, cubed, equals</p>	
<p><b>Year 6</b></p>	<ul style="list-style-type: none"> <li>• perform mental calculations, including with mixed operations and large numbers</li> <li>• associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. 3/8)</li> <li>• (copied from Fractions)</li> <li>• multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication</li> <li>• divide numbers up to 4-digits by a two-digit whole number using the formal written method of short division where appropriate for the context divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context</li> <li>• use written division methods in cases where the answer has up to two decimal places</li> <li>• identify common factors, common multiples and prime numbers</li> </ul>	<p>multiplication multiply multiplied by multiple, factor groups of times product once, twice, three times ... ten times repeated addition division</p>	

	<ul style="list-style-type: none"> <li>• use common factors to simplify fractions; use common multiples to express fractions in the same denomination (copied from Fractions)</li> <li>• calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm<sup>3</sup>) and cubic metres (m<sup>3</sup>), and extending to other units such as mm<sup>3</sup> and km<sup>3</sup> (copied from Measures)</li> <li>• use their knowledge of the order of operations to carry out calculations involving the four operations</li> <li>• use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy</li> <li>• solve problems involving addition, subtraction, multiplication and division</li> </ul> <p>solve problems involving similar shapes where the scale factor is known or can be found (copied from Ratio and Proportion)</p>	<div>dividing, divide, divided by, divided into</div> <div>left, left over, remainder</div> <div>grouping</div> <div>sharing, share, share equally equal groups of</div> <div>doubling</div> <div>halving</div> <div>array</div> <div>row, column</div> <div>number patterns</div> <div>multiplication table</div> <div>multiplication fact, division fact</div> <div>inverse</div> <div>square, squared</div> <div>cube, cubed</div>	
<b>Mathematics – Problem Solving with Number and Place Value</b>			
<b>Year 1</b>	<ul style="list-style-type: none"> <li>• Solve one-step problems that involve addition and subtraction (using Year 1 number content)</li> </ul>	<div>Number facts, number line, number track, number square how much how many what if</div>	
<b>Year 2</b>	<ul style="list-style-type: none"> <li>• I can use place value to solve problems</li> <li>• I can use addition and subtraction to solve problems. These problems could involve quantities, measures and numbers.</li> <li>• I can use my knowledge of number facts and the inverse to solve missing number problems</li> <li>• I can use my multiplication and division knowledge to solve problems in context.</li> </ul>	<div>Partition recombine digit inverse operation calculation</div>	
<b>Year 3</b>	<ul style="list-style-type: none"> <li>• recognise the place value of each digit in a three-digit number (hundreds, tens, ones)</li> <li>• solve number problems and practical problems involving these ideas.</li> </ul>	<div>Place value, ones, tens, hundreds, digit, partition, problem, solve, calculate</div>	

<b>Year 4</b>	<ul style="list-style-type: none"> <li>recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)</li> <li>round any number to the nearest 10, 100 or 1 000</li> <li>solve number and practical problems that involve all of the above and with increasingly large positive numbers</li> </ul>	Place value up to thousands. Round to the nearest __, digit, round up/down, multiple	
<b>Year 5</b>	<ul style="list-style-type: none"> <li>read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit (appears also in Reading and Writing Numbers)</li> <li>recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents (copied from Fractions)</li> <li>round any number up to 1 000 000 to the nearest 10, 100, 1 000, 10 000 and 100 000</li> <li>solve number problems and practical problems that involve all of the above</li> </ul>	round, nearest, round to the nearest ten, hundred, thousand, ten thousand round up, round down	
<b>Year 6</b>	<ul style="list-style-type: none"> <li>read, write, order and compare numbers up to 10 000 000 and determine the value of each digit (appears also in Reading and Writing Numbers)</li> <li>identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1 000 where the answers are up to three decimal places (copied from Fractions)</li> <li>round any whole number to a required degree of accuracy</li> <li>solve problems which require answers to be rounded to specified degrees of accuracy (copied from Fractions)</li> <li>solve number and practical problems that involve all of the above</li> </ul>		
<b>Mathematics – Fractions including decimals and percentages</b>			
<b>Year 1</b>	<ul style="list-style-type: none"> <li>I can recognise and name a half as one of two equal parts of an object or small quantity.</li> <li>I can recognise and name a quarter as one of four equal parts of an object, shape or quantity.</li> </ul>	half quarter equal the same share out Whole, equal parts, four equal parts, one half, two halves, a quarter, two quarters	
<b>Year 2</b>	<ul style="list-style-type: none"> <li>I can recognise and find <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{2}{4}</math> and <math>\frac{1}{3}</math> of a shape</li> <li>I can recognise and find <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{2}{4}</math> and <math>\frac{1}{3}</math> of a number or set of objects</li> <li>I can write simple fractions <math>\frac{1}{2}</math> of <math>6=3</math></li> <li>I know that <math>\frac{2}{4}</math> is equivalent to <math>\frac{1}{2}</math></li> <li>I know <math>\frac{1}{2}</math> is called half</li> <li>I know <math>\frac{1}{3}</math> is called third</li> <li>I know <math>\frac{1}{4}</math> is called quarter, <math>\frac{2}{4}</math> is two quarters, <math>\frac{3}{4}</math> is three quarters</li> <li>I know that these fractions <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{1}{3}</math> are unit fractions</li> <li>I know that these fractions <math>\frac{2}{4}</math>, <math>\frac{3}{4}</math>, <math>\frac{2}{3}</math> are non-unit fractions</li> <li>I know that <math>\frac{2}{2}</math>, <math>\frac{3}{3}</math> and <math>\frac{4}{4}</math> are a whole</li> </ul>	Fraction Half whole Quarter Third Equivalent Unit fraction Non-unit fraction Three quarters, one third, a third, equivalence, equivalent two quarters	

<p><b>Year 3</b></p>	<ul style="list-style-type: none"> <li>• <i>count up and down in tenths</i></li> <li>• <i>recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators</i></li> <li>• <i>recognise that tenths arise from dividing an object into 10 equal parts and in dividing one – digit numbers or quantities by 10.</i></li> <li>• <i>recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators</i></li> <li>• <i>compare and order unit fractions, and fractions with the same denominators</i></li> <li>• <i>recognise and show, using diagrams, equivalent fractions with small denominators</i></li> <li>• <i>add and subtract fractions with the same denominator within one whole (e.g. <math>5/7 + 1/7 = 6/7</math>)</i></li> <li>• <i>solve problems that involve all of the above</i></li> </ul>	<p><i>Fraction, half, whole, Quarter, third, Equivalent, unit fraction, non-unit fraction, three quarters, one third, a third, equivalence, equivalent, two quarters, numerator, denominator, tenths, equal parts, compare, order, greater than, less than, equal to</i></p>	
<p><b>Year 4</b></p>	<ul style="list-style-type: none"> <li>• <i>count up and down in hundredths</i></li> <li>• <i>recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten</i></li> <li>• <i>compare numbers with the same number of decimal places up to two decimal places</i></li> <li>• <i>round decimals with one decimal place to the nearest whole number</i></li> <li>• <i>recognise and show, using diagrams, families of common equivalent fractions</i></li> <li>• <i>recognise and write decimal equivalents of any number of tenths or hundredths</i></li> <li>• <i>recognise and write decimal equivalents to <math>1/4</math>; <math>1/2</math>; <math>3/4</math></i></li> <li>• <i>add and subtract fractions with the same denominator</i></li> <li>• <i>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</i></li> <li>• <i>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</i></li> <li>• <i>solve simple measure and money problems involving fractions and decimals to two decimal places.</i></li> </ul>	<p><i>Hundredths, tenths, count up/down, divide, greater/less than, digit, equivalent, decimal, decimal place, decimal point, round up/down, round to the nearest whole number/integer, diagram, decimal equivalent, equivalent fraction, halves, quarters, numerator, denominator, column, money, pounds, pence, proper/improper fractions, unit/non unit fractions, mixed fractions.</i></p>	

<p><b>Year 5</b></p>	<ul style="list-style-type: none"> <li>recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents (appears also in Equivalence)</li> <li>compare and order fractions whose denominators are all multiples of the same number</li> <li>read, write, order and compare numbers with up to three decimal places</li> <li>round decimals with two decimal places to the nearest whole number and to one decimal place</li> <li>identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths</li> <li>read and write decimal numbers as fractions (e.g. <math>0.71 = 71/100</math>)</li> <li>recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents</li> <li>recognise the per cent symbol (%) and understand that per cent relates to "number of parts per hundred", and write percentages as a fraction with denominator 100 as a decimal fraction</li> <li>add and subtract fractions with the same denominator and multiples of the same number</li> <li>recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements <math>&gt; 1</math> as a mixed number (e.g. <math>2/5 + 4/5 = 6/5 = 11/5</math>)</li> <li>multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams</li> <li>solve problems involving numbers up to three decimal places</li> <li>solve problems which require knowing percentage and decimal equivalents of <math>1/2</math>, <math>1/4</math>, <math>1/5</math>, <math>2/5</math>, <math>4/5</math> and those with a denominator of a multiple of 10 or 25.</li> </ul>	<p>proper/improper fraction, equivalent, reduced to, simplify, convert, cancel, thousandths, in every, for every percentage, per cent, %, decimal, decimal fraction, decimal point, decimal place, decimal equivalent</p>	
<p><b>Year 6</b></p>	<ul style="list-style-type: none"> <li>compare and order fractions, including fractions <math>&gt; 1</math></li> <li>identify the value of each digit in numbers given to three decimal places</li> <li>solve problems which require answers to be rounded to specified degrees of accuracy</li> <li>use common factors to simplify fractions; use common multiples to express fractions in the same denomination</li> <li>associate a fraction with division and calculate decimal fraction equivalents (e.g. <math>0.375</math>) for a simple fraction (e.g. <math>3/8</math>)</li> </ul>	<p>fraction, proper/improper fraction equivalent fraction mixed number numerator, denominator</p>	<p><b>Multiplying by 10</b>  6:160 "Whoever brings a good (Deed) he shall have ten times its like, and whoever brings vice, he shall not be recompensed but with its like, and they shall not be dealt with unjustly."  <ul style="list-style-type: none"> <li>SHINE links: Inspire, Excellence (Values : excellence, integrity)</li> </ul> </p>

	<ul style="list-style-type: none"> <li>recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.</li> <li>add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions</li> <li>multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. <math>1/4 \times 1/2 = 1/8</math>)</li> <li>multiply one-digit numbers with up to two decimal places by whole numbers</li> <li>divide proper fractions by whole numbers (e.g. <math>1/3 \div 2 = 1/6</math>)</li> <li>multiply one-digit numbers with up to two decimal places by whole numbers</li> <li>multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places</li> <li>identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places</li> <li>associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. <math>3/8</math>)</li> <li>use written division methods in cases where the answer has up to two decimal places</li> </ul>	<p>equivalent, reduced to, cancel equal part equal grouping equal sharing parts of a whole half, two halves one of two equal parts quarter, two quarters, three quarters one of four equal parts one third, two thirds one of three equal parts sixths, sevenths, eighths, tenths ... hundredths, thousandths decimal, decimal fraction, decimal point, decimal place, decimal equivalent proportion, in every, for every ratio percentage, per cent, %</p>	
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**Mathematics – Measurement**

	<p><b>Length and Height</b></p> <ul style="list-style-type: none"> <li>Measure and begin to record lengths and heights</li> <li>Compare, describe and solve practical problems, moving from non-standard to standard units of length and height</li> </ul> <p><b>Weight</b></p> <ul style="list-style-type: none"> <li>Measure and begin to record mass / weight</li> <li>Compare, describe and solve practical problems, moving from non-standard to standard units of mass and weight</li> </ul> <p><b>Time</b></p> <ul style="list-style-type: none"> <li>Recognise and use language relating to dates days of the week, weeks, months and years</li> <li>Compare, describe and solve practical problems, using standard units of time</li> </ul> <p><b>Money</b></p> <ul style="list-style-type: none"> <li>Recognise and know the value of different denominations of coins and notes</li> <li>1p, 2p, 5p, 10p, 20p, 50p, £1, £2, £5, £10, £20, £50</li> </ul> <p><b>Capacity and Volume</b></p> <ul style="list-style-type: none"> <li>Measure and begin to record capacity and volume</li> <li>Compare, describe and solve practical problems moving from non-standard to standard units of</li> </ul>	<p>Time, seasons, day, week, month, year, weekend, birthday, holiday, morning, afternoon, evening, night, bedtime, dinnertime, playtime, today, yesterday, tomorrow Before, after, next, last, now, soon,</p> <p>Takes longer, takes less time, hour, o'clock, half past, clock,</p>	<p><b>Time</b></p> <ul style="list-style-type: none"> <li>Time – Surah Asr <ul style="list-style-type: none"> <li><a href="https://www.youtube.com/watch?v=seBasihg-ys">https://www.youtube.com/watch?v=seBasihg-ys</a></li> <li>meaning /explanation: <a href="https://www.youtube.com/watch?v=pFriGA3HqZs">https://www.youtube.com/watch?v=pFriGA3HqZs</a></li> </ul> </li> <li>The word 'Sahr' meaning 'month' is mentioned 12 times in the Quran and there are 12 months in a year.</li> <li>Islamic months song: <a href="https://www.youtube.c">https://www.youtube.c</a></li> </ul>
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<p><b>Year 1</b></p>	<p>capacity and volume</p>	<p>watch, hands, how long ago?, How long will it be to ... ?, estimate, close to, about the same as, Length, width, height, depth, long, longer, longest, short, shorter shortest, tall, taller, tallest, high, higher, highest, Low, wide, narrow, deep, shallow, thick, thin, far, near, close, metre, ruler, metre stick How much?, How many?, money,</p>	<p><a href="https://www.youtube.com/watch?v=X57vJGCYurM">om/watch?v=X57vJGCYurM</a></p> <p><b>Money</b></p> <ul style="list-style-type: none"> <li>• 2:274 "Those who spend their wealth (in the way of Allah) night and day, secretly and openly, they have their reward with their Lord, and there is no fear for them, nor shall they grieve."</li> <li>• 17:26 "And give to the near of kin his due, and (to) the needy, and the wayfarer; and do not squander wastefully."</li> <li>• 25:67 "And those who when they spend, are neither extravagant nor niggardly, and are stationed between the two (extremes)."</li> <li>• SHINE links: Share, Helping each other (Service, gratitude for what we have, compassion for those with less, integrity – doing right with our money)</li> </ul>
		<p>coin, penny, pence, pound, price, cost, buy, sell, costs more, costs less, cheaper, costs the same as, total</p>	
	<p><b>Length and Height</b></p> <ul style="list-style-type: none"> <li>• I know that meter (m), centimetre (cm) and millimetre(mm) are units for measuring length and height</li> <li>• I can measure the length or height in any direction using a ruler, tape measure or meter stick.</li> <li>• I can read the scale on the ruler, tape measure or meter stick.</li> <li>• I can compare and order length and height using &lt;, &gt; and =</li> </ul>	<p><b>Unit</b></p> <p>Centimetre Meter Millimetre Ruler Tape measure</p>	<p><b>Time</b></p> <ul style="list-style-type: none"> <li>• Time – Surah Asr <ul style="list-style-type: none"> <li>◦ <a href="https://www.youtube.com/watch?v=s_eBasihg-vs">https://www.youtube.com/watch?v=s_eBasihg-vs</a></li> <li>◦ meaning</li> </ul> </li> </ul>

## Year 2

- I know that 10mm= 1cm
  - I know that 100cm= 1m
- Weight/mass
- I know that gram (g), kilogram(kg) are units for measuring weight and mass
  - I can measure the weight or mass using scales.
  - I can read the scale on the scales.
  - I can compare and order weight and mass using <, > and =
  - 1000g=1kg
- Time
- I can compare events saying which one is longer or shorter
  - I can sequence events that happen over a period of time identifying which came first, second, last
  - I can read the time in 15 minute intervals, o'clock, half past, quarter past and quarter to.
  - I can write the time in words to match a clock that shows o'clock, half past, quarter past and quarter to
  - I can draw the hands on a clock to show o'clock, half past, quarter past and quarter to.
  - I can tell and write the time to 5 minutes.
  - I know that there are 60 minutes in 1 hour
  - I know that there are 24 hours in 1 day
- Money
- I know that £ is used for pounds
  - I know that p is used for pence
  - I can use a range of coins to make an amount
  - I can find different combinations of coins to make the same amount
  - I can add and subtract money in the same unit to solve problems
  - I can give change in one unit
- Capacity and Volume
- I know that millilitres (ml), litres (l) are units for measuring capacity and volume
  - I can measure the capacity or volume using measuring jugs and cylinders.
  - I can read the scale on the measuring jug and cylinder.
  - I can compare and order capacity and volume using <, > and =
  - I know that 1000ml=1l
- Temperature
- I know that degrees Celsius (°C) is the unit for measuring temperature
  - I can measure the temperature using a thermometer.
  - I can read the scale on the thermometer.
  - I can compare and order temperature using <, > and =

Compare  
Order  
Greater than  
Less than  
Equal to  
Equivalent  
Grams  
Kilograms  
Scales  
Sequence  
Period  
Quarter past  
Quarter to  
Interval  
Minute hand  
Hour hand  
Clock face  
Minutes  
Hours  
pounds  
pence  
combination  
change  
millilitre  
litre  
Celsius  
Thermometer  
Degrees

/explanation:  
<https://www.youtube.com/watch?v=pFrIGA3HgZs>

- The word 'Sahr' meaning 'month' is mentioned 12 times in the Quran and there are 12 months in a year.
- Islamic months song: <https://www.youtube.com/watch?v=X57vJGCYurM>

### Money

- 2:274 "Those who spend their wealth (in the way of Allah) night and day, secretly and openly, they have their reward with their Lord, and there is no fear for them, nor shall they grieve."
- 17:26 "And give to the near of kin his due, and (to) the needy, and the wayfarer; and do not squander wastefully."
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- (Service, gratitude for what we have, compassion for those with less, integrity – doing right with our money)

### Year 3

- compare durations of events, for example to calculate the time taken by particular events or tasks
- estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight (appears also in Telling the Time)
- measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)
- measure the perimeter of simple 2-D shapes
- add and subtract amounts of money to give change, using both £ and p in practical contexts
- tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks
- estimate and read
- time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight
- know the number of seconds in a minute and the number of days in each month, year and leap year

Compare, duration, estimate, second, morning, afternoon, noon, midnight, time, analogue, digital, Roman numerals, clock, 12-hour, 24-hour a.m., p.m., o'clock, quarter past, half past, quarter to, minutes past, minutes to, minute, hour, I, II, III, IV, V, VI, VII, VIII, IX, X, XI, XII, measure, metre, centimetre, millimetre, length, gram, kilogram, mass, litre, millilitre, volume, capacity, perimeter, money, pound, pence, change, coin, note, month, year, leap year

#### Time

- Time – Surah Asr
  - [https://www.youtube.com/watch?v=s\\_eBasihg-ys](https://www.youtube.com/watch?v=s_eBasihg-ys)
  - meaning /explanation: [https://www.youtube.com/watch?v=p\\_FriGA3HqZs](https://www.youtube.com/watch?v=p_FriGA3HqZs)

#### Money

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- (Service, gratitude for what we have, compassion for those with less, integrity – doing right with our money)

<p><b>Year 4</b></p>	<ul style="list-style-type: none"> <li>estimate, compare and calculate different measures, including money in pounds and pence</li> <li>measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres</li> <li>find the area of rectilinear shapes by counting squares</li> <li>read, write and convert time between analogue and digital 12 and 24-hour clocks (appears also in Converting)</li> <li>solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days</li> <li>convert between different units of measure (e.g. kilometre to metre; hour to minute)</li> <li>read, write and convert time between analogue and digital 12 and 24-hour clocks</li> </ul>	<p>Estimate, compare, round, greater/less than, money, pounds, pence, litres, millilitres, grams, kilograms, perimeter, measure, centimetres, metres (squared), rectilinear, area, scale/not to scale, time, minutes, hours, seconds, days, weeks, months, years, analogue, digital, 12 hour, 24 hour, units of measure,</p>	<p><b>Time</b></p> <ul style="list-style-type: none"> <li>Time – Surah Asr <ul style="list-style-type: none"> <li><a href="https://www.youtube.com/watch?v=s_eBasihg-ys">https://www.youtube.com/watch?v=s_eBasihg-ys</a></li> <li>meaning /explanation: <a href="https://www.youtube.com/watch?v=p_FriGA3HqZs">https://www.youtube.com/watch?v=p_FriGA3HqZs</a></li> </ul> </li> </ul> <p><b>Money</b></p> <ul style="list-style-type: none"> <li>2:274 "Those who spend their wealth (in the way of Allah) night and day, secretly and openly, they have their reward with their Lord, and there is no fear for them, nor shall they grieve."</li> <li>17:26 "And give to the near of kin his due, and (to) the needy, and the wayfarer; and do not squander wastefully."</li> <li>25:67 "And those who when they spend, are neither extravagant nor niggardly, and are stationed between the two (extremes)."</li> <li>(Service, gratitude for what we have, compassion for those with less, integrity – doing right with our money)</li> </ul>
<p><b>Year 5</b></p>	<ul style="list-style-type: none"> <li>calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm<sup>2</sup>) and square metres (m<sup>2</sup>) and estimate the area of irregular shapes</li> </ul>	<p>metric unit, imperial unit, approximately, square centimetre</p>	<p><b>Time</b></p> <ul style="list-style-type: none"> <li>Time – Surah Asr <ul style="list-style-type: none"> <li><a href="https://www.youtube.com/watch?v=s_eBasihg-ys">https://www.youtube.com/watch?v=s_eBasihg-ys</a></li> <li>meaning /explanation: <a href="https://www.youtube.com/watch?v=p_FriGA3HqZs">https://www.youtube.com/watch?v=p_FriGA3HqZs</a></li> </ul> </li> </ul>

[FrIGA3HqZs](#)

- Muslim inspirational personality – Al Jazari – inventor of the clock
  - <https://science4fun.info/al-jazari/>
  - <https://www.youtube.com/watch?v=18Zt7b9EYzw>

**Money**

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(Service, gratitude for what we have, compassion for those with less, integrity – doing right with our money)

- estimate volume (e.g. using 1 cm<sup>3</sup> blocks to build cubes and cuboids) and capacity (e.g. using water)
- use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling.
- measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres
- calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm<sup>2</sup>) and square metres (m<sup>2</sup>) and estimate the area of irregular shapes
- recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)
- solve problems involving converting between units of time
- convert between different units of metric measure (e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)
- solve problems involving converting between units of time
- understand and use equivalences between metric units and common imperial units such as inches, pounds and pints

(cm<sup>2</sup>), square metre (m<sup>2</sup>), square millimetre (mm<sup>2</sup>), millimetre, centimetre, metre, kilometre, mile length, height, width, depth, breadth, pint, gallon

#### Time

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  - <https://www.youtube.com/watch?v=18Zt7b9EYzw>
  - SHINE links: Share, Inspire, Never Give Up, Excellence (Values: Serving others by inventing useful item, Excellence)

#### Money

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			<p>stationed between the two (extremes).”</p> <ul style="list-style-type: none"> <li>(Service, gratitude for what we have, compassion for those with less, integrity – doing right with our money)</li> </ul>
<p><b>Year 6</b></p>	<ul style="list-style-type: none"> <li>calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm<sup>3</sup>) and cubic metres (m<sup>3</sup>), and extending to other units such as mm<sup>3</sup> and km<sup>3</sup>.</li> <li>solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate</li> <li>recognise that shapes with the same areas can have different perimeters and vice versa</li> <li>calculate the area of parallelograms and triangles</li> <li>calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm<sup>3</sup>) and cubic metres (m<sup>3</sup>), and extending to other units [e.g. mm<sup>3</sup> and km<sup>3</sup>].</li> <li>recognise when it is possible to use formulae for area and volume of shapes</li> <li>use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places</li> <li>solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate</li> <li>convert between miles and kilometres</li> </ul>	<p>Length centimetre, metre, millimetre, kilometre, mile, yard, foot, feet, inch, inches length, height, width, depth, breadth long, short, tall high, low wide, narrow thick, thin longer, shorter, taller, higher ... and so on longest, shortest, tallest, highest ... and so on far, further, furthest, near, close distance apart ... between ... to ... from edge, perimeter, circumference area, covers square centimetre (cm<sup>2</sup> ) , square metre (m<sup>2</sup> ) , square millimetre (mm<sup>2</sup> ) ruler</p>	

		<p><i>metre stick, tape measure</i></p> <p><i>Weight</i></p> <p><i>mass: big, bigger, small, smaller</i></p> <p><i>weight: heavy/light, heavier/lighter, heaviest/lightest</i></p> <p><i>tonne, kilogram, half kilogram, gram, pound, ounce</i></p> <p><i>weigh, weighs, balances</i></p> <p><i>heavy, light</i></p> <p><i>heavier than, lighter than</i></p> <p><i>heaviest, lightest scales</i></p> <p><i>Capacity and volume</i></p> <p><i>litre, half litre, millilitre, centilitre</i></p> <p><i>cubic</i></p> <p><i>centimetres(cm<sup>3</sup>), cubic metres (m<sup>3</sup>), cubic millimetres (mm<sup>3</sup>), cubic kilometres (km<sup>3</sup>)</i></p> <p><i>capacity</i></p> <p><i>volume</i></p>	
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**Mathematics – Properties of Shapes, Geometry**

<b>Year 1</b>	<ul style="list-style-type: none"> <li><i>I can recognise and name common 2-D shapes.</i></li> <li><i>I can recognise and name common 3-D shapes.</i></li> </ul>	<p><i>Corner (point, pointed), face, side, edge, make, build, draw</i></p>	
<b>Year 2</b>	<ul style="list-style-type: none"> <li><i>I can recognise and name 2D shapes- i.e. circle, semi-circle, triangle, square, rectangle, kite, pentagon, hexagon, heptagon, octagon</i></li> <li><i>I can recognise and name 3D shapes- sphere, cylinder, cone, cube, cuboid. triangular prism, square based pyramid, triangular based pyramid</i></li> <li><i>I can identify shapes with a right angle</i></li> <li><i>I can identify the properties of 2D shapes (number of sides and corners)</i></li> <li><i>I can identify the properties of 3D shapes (number of faces, vertices, edges)</i></li> <li><i>I can identify the faces on a 3D shapes with 2D shapes (e.g. circle on a cylinder, triangle on a pyramid)</i></li> <li><i>I can identify lines of symmetry on 2D shapes</i></li> <li><i>I can compare and sort 2 and 3D shapes</i></li> <li><i>I can name the shapes of some everyday objects (e.g. can is a cylinder)</i></li> </ul>	<p><i>Vertices</i></p> <p><i>Line of symmetry</i></p> <p><i>Right angle</i></p> <p><i>symmetrical</i></p>	



<p><b>Year 3</b></p>	<ul style="list-style-type: none"> <li>draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them</li> <li>recognise angles as a property of shape or a description of a turn</li> <li>identify right angles,</li> <li>recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle</li> <li>identify horizontal and vertical lines and pairs of perpendicular and parallel lines</li> </ul>	<p>2-D, 3-D, face, edge, vertices, angles, right angle, turn, quarter turn, half turn, three quarter turn, complete turn, clockwise, anti-clockwise, greater than, less than, horizontal, vertical, perpendicular, parallel</p>	
<p><b>Year 4</b></p>	<ul style="list-style-type: none"> <li>identify lines of symmetry in 2-D shapes presented in different orientations</li> <li>complete a simple symmetric figure with respect to a specific line of symmetry</li> <li>compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes</li> <li>identify acute and obtuse angles and compare and order angles up to two right angles by size</li> </ul>	<p>2D/3D, line of symmetry, symmetrical/non-symmetrical, grid, quadrilaterals, triangles, properties, size, parallel, horizontal, vertical, diagonal, acute, obtuse, degrees, greater than/less than, regular, irregular,</p>	
<p><b>Year 5</b></p>	<ul style="list-style-type: none"> <li>identify 3-D shapes, including cubes and other cuboids, from 2-D representations</li> <li>draw given angles, and measure them in degrees (o)</li> <li>use the properties of rectangles to deduce related facts and find missing lengths and angles</li> <li>distinguish between regular and irregular polygons based on reasoning about equal sides and angles</li> <li>know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles</li> <li>identify:</li> <li>angles at a point and one whole turn (total 360o)</li> <li>angles at a point on a straight line and ½ a turn (total 180o)</li> <li>other multiples of 90o</li> </ul>	<p>radius, diameter, congruent, axis of symmetry, reflective symmetry, x-axis, y-axis, quadrant, octahedron, regular, irregular,</p>	

<p><b>Year 6</b></p>	<ul style="list-style-type: none"> <li>• recognise, describe and build simple 3-D shapes, including making nets</li> <li>• illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius</li> <li>• draw 2-D shapes using given dimensions and angles</li> <li>• compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons</li> <li>• recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles</li> </ul>	<p>curved, straight round hollow, solid sort make, build, construct, draw, sketch perimeter centre, radius, diameter circumference, concentric, arc net, open, closed surface angle, right-angled congruent intersecting, intersection plane base, square-based size bigger, larger, smaller symmetry, symmetrical, symmetrical pattern line symmetry reflect, reflection axis of symmetry, reflective symmetry pattern, repeating pattern match regular, irregular</p>	
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**Mathematics – Position and Direction**

<p><b>Year 1</b></p>	<ul style="list-style-type: none"> <li>• I can describe position and direction e.g. left and right; top, middle and bottom; on top of, below; in front of, behind; above, below; between, around, near, close and far, up and down, forwards and backwards, inside and outside.</li> <li>• I can describe and make movements e.g. half, quarter, three-quarter and whole turns.</li> <li>• I can link turning clockwise and anti-clockwise with movement on a clock face.</li> </ul>	<p>Before, after, beside, next to, opposite, apart, between, middle, left, right, up, down, forwards, backwards, sideways, across, close, far, near, along, through, to, from, towards, away from, whole turn, half turn,</p>	
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<p><b>Year 2</b></p>	<ul style="list-style-type: none"> <li>• I can create and continue patterns using mathematical objects</li> <li>• I can use language to describe the position of an object</li> <li>• I can explain how a shape has been rotated</li> <li>• I can use terms like right angle, clock wise and anti-clockwise to describe a turn.</li> </ul>	<p>Rotation left right quarter turn half turn three quarter turn clock wise ant clockwise</p>	<p>Children to create an Islamic art piece using reflection and rotation and describing the position of shapes.</p>
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<b>Mathematics – Statistics</b>			
<b>Year 1</b>	<ul style="list-style-type: none"> <li>• <i>With guidance from their teacher children can create a tally chart to record their observations</i></li> <li>• <i>With guidance from their teacher children can create pictograms</i></li> </ul>	Tally Table graph Record Observe pictogram	
<b>Year 2</b>	<ul style="list-style-type: none"> <li>• <i>I can create and use tally charts to gather data</i></li> <li>• <i>I can create a pictogram or block diagram to show the data I have collated</i></li> <li>• <i>I can ask and answer questions about the categories of data. i.e. a graph about pets. How many children had a dog?</i></li> <li>• <i>I can ask and answer questions that include totalling data. i.e. 4 children ate pizza, 3 children ate pasta- 7 children ate pizza or pasta</i></li> <li>• <i>I can ask and answer questions that include comparing the categories in my data. 9 children had a dog 2 had a fish. 7 more children had a dog.</i></li> </ul>	Data Compare Total Block diagram categories Graph Bar chart Intersection Carroll diagram vote, block graph, represent, group, set, list, table, label, title, most popular, most common, least popular, least common	
<b>Year 3</b>	<ul style="list-style-type: none"> <li>• <i>interpret and present data using bar charts, pictograms and tables</i></li> <li>• <i>solve one-step and two-step questions [e.g. 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.</i></li> </ul>	Interpret, represent, data, bar chart, pictogram, table, key, axis, label, most, least, find the difference, how many more, how many less	

<p><b>Year 4</b></p>	<ul style="list-style-type: none"> <li>interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs</li> <li>solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.</li> </ul>	<p>Interpret, present, discrete, continuous, data, bar chart, time graph, line graph, difference, greater than/less than, compare, sum, pictogram, multiple, table, x axis, y axis, scale, origin, multiple</p>	
<p><b>Year 5</b></p>	<ul style="list-style-type: none"> <li>complete, read and interpret information in tables, including timetables</li> <li>solve comparison, sum and difference problems using information presented in a line graph</li> </ul>	<p>Database, frequency table, bar line chart, line graph, axis, least common maximum/minimum value, outcome</p>	
<p><b>Year 6</b></p>	<ul style="list-style-type: none"> <li>interpret and construct pie charts and line graphs and use these to solve problems calculate and interpret the mean as an average</li> </ul>	<p>count, tally, sort, vote survey, questionnaire, data, database graph, block graph, pictogram represent group, set, list, table, chart, bar chart, frequency table, bar line chart Carroll diagram, Venn diagram line graph pie chart label, title, axis, axes diagram most popular, most common least popular, least common maximum/minimum value outcome, mean</p>	
<p><b>Algebra</b></p>			

<p><b>Year 1</b></p>	<ul style="list-style-type: none"> <li>• solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as <math>7 = * - 9</math></li> <li>• represent and use number bonds and related subtraction facts within 20</li> <li>• sequence events in chronological order using language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening</li> </ul>	<p>Concrete, pictorial, representation, missing number, number bonds, fact families, sequence, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening</p>	
<p><b>Year 2</b></p>	<ul style="list-style-type: none"> <li>• recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems.</li> <li>• recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100</li> <li>• compare and sequence intervals of time</li> <li>• order and arrange combinations of mathematical objects in patterns</li> </ul>		
<p><b>Year 3</b></p>	<ul style="list-style-type: none"> <li>• solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.</li> <li>• solve problems, including missing number problems, involving multiplication and division, including integer scaling</li> </ul>	<p>Problem, missing number, number fact, number bonds, digit, place value, add, plus, more, less, Subtract, take away, fewer, find the difference, total, answer, equals multiplication, multiply, times, divide, division, lots of, groups of, equal groups, inverse operation</p>	
<p><b>Year 4</b></p>	<ul style="list-style-type: none"> <li>• Perimeter can be expressed algebraically as <math>2(a + b)</math> where <math>a</math> and <math>b</math> are the dimensions in the same unit.</li> </ul>	<p>Algebra, represent, equivalent, length, perimeter.</p>	
<p><b>Year 5</b></p>	<ul style="list-style-type: none"> <li>• use the properties of rectangles to deduce related facts and find missing lengths and angles</li> </ul>		
<p><b>Year 6</b></p>	<ul style="list-style-type: none"> <li>• express missing number problems algebraically</li> <li>• find pairs of numbers that satisfy number sentences involving two unknowns</li> <li>• enumerate all possibilities of combinations of two variables</li> <li>• use simple formulae</li> <li>• recognise when it is possible to use formulae for area and volume of shapes</li> <li>• generate and describe linear number sequences</li> </ul>	<p>formula, formulae equation unknown variable</p>	<p>Muslim Heroes – Al-Khwarizmi – inventor of Algebra</p> <ul style="list-style-type: none"> <li>• <a href="https://kids.britannica.com/kids/article/Al-Khwarizmi/399905">https://kids.britannica.com/kids/article/Al-Khwarizmi/399905</a></li> <li>• <a href="https://www.youtube.com/watch?v=2lxKeDpPUVw">https://www.youtube.com/watch?v=2lxKeDpPUVw</a></li> <li>• <a href="https://www.youtube.com/watch?v=s_Z3fbDw838">https://www.youtube.com/watch?v=s_Z3fbDw838</a></li> <li>• SHINE links: Share, Inspire, Never Give Up, Excellence (Values: Serving</li> </ul>

others by inventing useful item, Excellence)

## Ratio and Proportion

### Year 6

- solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts
- solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison
- solve problems involving similar shapes where the scale factor is known or can be found
- solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.

Scale,  
Scale factor

### Percentages - calculating zakaat

- Zakaat means giving charity to the poor.
- Muslims give zakat of 2.5% of what they have every year. – give children an opportunity to calculate
- 2:110 "And keep up the prayer and pay zakat (The poor rates); whatever good you shall forward for yourselves, you shall find it with Allah; surely Allah sees what you do."
- Some believe that this zakat is payable on everything you own and others believe it is payable on certain property (e.g. silver and gold coins, crops, camel, cattle, sheep, goats, revenue from trade)
- Links to SHINE – Share, Help each other (values: service, compassion, respect, integrity)