



Maths Medium Term Overview – Autumn Year 5 & 6

Year 5&6 – Autumn term		
Week & Focus	NC objectives to be covered. NB – Non-statutory guidance and small step changes in repeated objectives are in bold.	
	YEAR 5 OBJECTIVES	YEAR 6 OBJECTIVES
1 – Number & Place Value	- Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit (Use number in context, for example measurement. Extend and apply their understanding of the number system to the decimal numbers and fractions that they have met in previous years.) - Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 (Relate the numbers to their position on a number line.)	- Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit. Consolidation from Y5 : Count forwards or backwards in steps of powers of 10 for any given number – extend to new place value columns.
2 – Number & Place Value	- Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero. Use number in context, for example measurement. Count from any given number in <u>whole-number</u> steps extending beyond zero when counting backwards; relate the numbers to their position on a number line. - Recognise and describe linear number sequences, and find the term-to-term rule.	- Use negative numbers in context, and calculate intervals across zero. Consolidation from Y5 : Recognise and describe linear number sequences, and find the term-to-term rule – extend to new place value columns. - Solve number and practical problems that involve all of the above.



Maths Medium Term Overview – Autumn Year 5 & 6

	Solve number problems and practical problems related to the number and place value objectives taught so far.	
3 & 4- Addition & Subtraction	- Add numbers mentally with increasingly large numbers. Refer to mental calculation strategies booklet for guidance. - Add whole numbers with more than 4 digits, including using formal written methods (columnar addition) Refer to pgs 33-36 addition booklet. - Subtract numbers mentally with increasingly large numbers. Refer to mental calculation strategies booklet for guidance. - Subtract whole numbers with more than 4 digits, including using formal written methods (columnar subtraction) Refer to pgs 41-44 subtraction booklet. - Solve addition and subtraction problems (focus on single step) in contexts deciding which operations and methods to use and why. - Use inverse operation to check addition and subtraction.	Practise addition and subtraction for larger numbers, using the formal written methods of columnar addition and subtraction. Refer to pgs 41-43 addition booklet and pgs 49-51 of subtraction. - Perform mental calculations, including with mixed operations (addition and subtraction at this point) and large numbers. Refer to mental strategies booklet pgs 48-57. - Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy. - Solve problems involving addition and subtraction. - Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.



Maths Medium Term Overview – Autumn Year 5 & 6

5 - Multiplication	▪ Multiply numbers mentally drawing upon known facts. Rehearse multiplication facts and use these to derive division facts, to multiply multiples of 10 and 100. ▪ Recognise and use square numbers and cube numbers and the notation for squared ⁽²⁾ and cubed ⁽³⁾ ▪ Multiply numbers up to 4 digits by a <u>one-digit</u> number using a formal written method. Develop and refine written methods for multiplication. Secure and consolidate understanding of 2-digit and 3-digit by 1-digit short multiplication as appropriate before introducing 4-digit by 1-digit. (May need to re-visit expanded layouts (such as the grid method), moving towards a compact layout for HTU × U. (Short multiplication) Refer to pg 19 and top of pg 20 multiplication booklet. ▪ Multiply numbers up to <u>2 digits by a two-digit number</u> using a formal written method, Refer to pg 20 and top of pg 21 multiplication booklet. Introduce method with 2 digit numbers. ▪ Problem solving relating to the above objectives.	▪ Pupils continue to use all the multiplication tables to calculate mathematical statements, in order to maintain their fluency. ▪ Consolidation from Y5: recognise and use square numbers and cube numbers, and the notation for squared ⁽²⁾ and cubed ⁽³⁾ ▪ Perform mental calculations, including with mixed operations and large numbers. ▪ Practise multiplication for larger numbers, using the formal written method of short multiplication (including problem solving). Refer to pg 25 multiplication booklet. ▪ Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method for long multiplication. Refer to pg 26 multiplication booklet.
6 - Division	▪ Divide numbers mentally drawing upon known facts.	▪ Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according



Maths Medium Term Overview – Autumn Year 5 & 6

	- Divide numbers up to 4 digits by a one-digit number using the formal written method of short division. Develop and refine written methods for division. Secure and consolidate understanding of 2-digit and 3-digit by 1-digit short division as appropriate before introducing 4-digit by 1-digit. Refer to pg 21 division booklet. - Problem solving related to these objectives.	to the context (for dividing by 11 and 12, using knowledge of multiplication tables). Refer to pgs 25-26 division booklet. - 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. Refer to pgs 28-30 division booklet. - Solve problems involving multiplication and division.
7 - Fractions	Continue to develop understanding of fractions as numbers, measures and operators by finding fractions of numbers and quantities. Counting forwards and backwards in simple fractions. - Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths - Compare and order fractions whose denominators are all multiples of the same number	Consolidation from Y5: Conversion between mixed numbers and improper fractions. Consolidation from Y5: Equivalent fractions. - Compare and order fractions, including fractions >1 - Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.



Maths Medium Term Overview – Autumn Year 5 & 6

	- Add and subtract fractions with the same denominator and denominators that are multiples of the same number - Recognise mixed numbers and improper fractions and convert from one form to the other. Write mathematical statements >1 as a mixed number	
8 – Fractions & Decimals	- Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams. - Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. - Read, write, order and compare numbers with up to 3 decimal places. - Read and write decimal numbers as fractions. - Solve problems involving number up to 3 decimal places.	- Multiply simple pairs of proper fractions, writing the answer in its simplest form (for example, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$) - Identify the value of each digit in numbers given to three decimal places Consolidation from Y5: Order and compare decimals up to 3 decimal places.
9 – Length (Y5 & Y6) Algebra (Y6)	- Convert between different units of metric measure (for example, km and m; cm and m; cm and mm) - Understand and use approximate equivalences between metric units and common imperial units such as inches.	- Convert between miles and kilometres. - Use simple formula. - Express missing number problems algebraically.



Maths Medium Term Overview – Autumn Year 5 & 6

	Problem solving related to these.	- Find pairs of numbers that satisfy an equation with two unknowns - Enumerate possibilities of combinations of two variables.
10 – Area & Perimeter	- Measure and calculate the perimeter of a rectilinear figure (including squares) in cm and m (Revision of Y4 objective) - Measure and calculate the perimeter of composite rectilinear shapes in cm and m. - Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm^2) and square metres (m^2) - Compare areas and perimeters. Children need to know that the relationship between area and perimeter is not a simple one. Increasing or decreasing area does not necessarily mean the perimeter increases or decreases respectively, or vice versa.	Consolidation from Y5: Measure and calculate the perimeter of composite rectilinear shapes. Consolidation from Y5: Calculate and compare the area of rectangles. - Recognise that shapes with the same areas can have different perimeters and vice versa. - Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm^3) and cubic metres (m^3) and extending to other units (for examples, mm^3 and km^3). - Recognise when it is possible to use formulae for area and volume of shapes. - Calculate the area of parallelograms and triangles. (Link to algebra)
11 – Geometry – Properties of Shape	Identify 3-D shapes, including cubes and other cuboids, from 2D representations.	Recognise, describe and build simple 3-D shapes, including making nets.



Maths Medium Term Overview – Autumn Year 5 & 6

	- Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. - Draw given angles and measure them in degrees. ($^{\circ}$)	Consolidation from Y5: Estimate, compare and draw acute, obtuse and reflex angles – use of a protractor Consolidation from Y4: Classify quadrilaterals and triangles. - Draw 2D shapes using given dimensions and angles. - Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius. (These relationships might be expressed algebraically for example, $d = 2 \times r$)
12 – Statistics	- Interpreting, constructing and presenting data - Comparison, sum and difference problems using information presented in line graphs	Pupils connect conversion of miles to kilometres from earlier week to a graphical representation as preparation for understanding linear/proportional graphs. - Interpret and construct line graphs and use these to solve problems. - Calculate and interpret the mean as an average.
ADDITIONAL WEEKS FOR ASSESSMENT, REVISITING, CONSOLIDATION & THEMED WORK		