**Year 5 2018-19 Overview Maths**

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| **Autumn Term** |
| Week 1  | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 |  | Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 |
| 3rd Sep – 7th Sep | 10th Sep – 14 Sep | 17th - 21st Sep | 24th – 28th Sep | 1st – 5th Oct | 8th– 12th Oct | 15th - 19th oct | Half term | 29th Oct – 2nd Nov | 5th – 9th Nov | 12th – 16th Nov | 19th – 23rd  Nov | 26th – 30th Nov  | 3rd – 7th Dec | 10th - 14th Dec | 17th – 21st Dec  |
|  | **Number and Place Value*** Read Roman numerals to 1000 (M) ad recognise years written as Roman numerals.
* Identify the value of each digit in numbers up to 100,000 (hundred thousand, ten thousand, thousand, hundred, tens, ones)
* Moving onto numbers up to 1 000 000 (one million, hundred thousand, ten thousand, thousand, hundred, tens, ones.)
* Order and compare numbers to 100,000 including ordering numbers on a number line. Moving onto numbers up to 1,000000
* Read and write numbers up to 100,000 in words and figures. Moving onto numbers up to 1,000,000.
* Count forwards and backwards in steps of powers of 10 (e.g.10, 100, 1000, 10 000,) for any given number up to 100,000
* Round any number up to 100 000 to the nearest 10, 100, 1000, 10 000.
* Solve number problems and practical problems involving all

of the above. Teach all of the objectives up to 100,000 and then move on to numbers up to 1 million – at least identify and represent up to 1 million.  | **Addition and Subtraction** * Add and subtract whole numbers with more than 4 digits, using formal written methods (columnar addition and subtraction). Including tricky questions such as repeated carrying or repeated exchanging E.g. 32,005 – 9,342
* Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.
* Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.
* Mental methods: What must be added to any 3 /4 digit number to make the next multiple of 100 or 1000? 4087 + \_\_\_\_ = 5000
* Add 3, 4 or 5 digit multiples of a hundred to any number up to 5 digits e.g. 15, 274 + 13,800.
* Subtract 3 or 4 digit multiples of 100 from 3, 4 or 5 digit multiples of 100. E.g. 17,600 – 4800 =
 |  | **Multiplication and Division** (with some measure)* Multiply and divide numbers mentally drawing upon known facts.
* Multiply and divide whole numbers (and those involving decimals) by 10, 100, and 1000
* Multiply 2 and 3 digit numbers by a 1 digit number using written methods for multiplication using expanded method if necessary moving onto short multiplication.
* Multiply numbers with up to 4 digits by a one digit number using formal written methods for multiplication. *(All ARE pupils need to be doing this confidently with challenging number sentences.)*
* Multiply numbers with up to 4 digits by 2 digit numbers using formal written method long multiplication.
* Divide numbers with up to 4 digits by 1 digit using the formal written method of short division initially without carrying and moving into carrying. *(All ARE pupils need to be doing this confidently with challenging number sentences.)*
* Interpret remainders appropriately in contexts.
* solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes
* solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign
* solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates
 | **Fractions: Decimals*** . Count up and down in hundredths; recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten.
* Recognise and write the decimal equivalent of any number of tenths or hundredths.
* Find the effect of dividing a 1 or 2 digit number by 10 and 100; identifying the value of the digits in the answer as ones, tenths and hundredths
* Round decimal with one decimal place to the nearest whole number.
* Round decimals with two decimal places to the nearest whole number and to one decimal place
* Compare numbers with the same number of decimal places up to 2 decimal places.
* Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents
* Read, write, order and compare numbers with up to three decimal places
* Multiply and divide (whole numbers) and those involving decimals by 10, 100, and 1000
* Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)
* Add and subtract decimal numbers up to 2 decimal places e.g. 5.67 – 3.07 =
* Add and subtract decimals that are compliments of each other e.g. 0.64 + \_\_\_ = 1
* solve problems involving number up to three decimal places
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| **Spring Term** |
| Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 |  | Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 |
| Mon 7th – 11th Jan  | 14th – 18th Jan | 21th – 25th Jan | 28th Jan – 1st Feb | 4th – 8th Feb | 11th Feb – 15th Feb | Half term | 25th Feb– 1st March | 4th – 8th March | 11th - 15th March | 18th – 22nd March | 25th – 29th March | 1st – 5th Apri |
| **Fractions*** Compare and order fractions whose denominators are the same.
* Compare and order fractions whose denominators are all multiples of the same number.
* Recognise and show, using diagrams, families of common equivalent fractions.
* Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.
* Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, 5 2 + 5 4 = 5 6 = 1 5 1 ]
* Add and subtract fractions with the same denominator and denominators that are multiples of the same number.
* Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.
* Read and write decimal numbers as fractions [for example, 0.71 = 100 71 ]
* Solve problems involving multiplication and division, including scaling by simple fractions and problem solving involving simple rates.
* 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, and as a decimal
* Solve problems which require knowing percentage and decimal equivalents of 2 1 , 4 1 , 5 1 , 5 2 , 5 4 and those fractions with a denominator of a multiple of 10 or 25.
 | **Number, place value, addition and subtraction.** * Read and write numbers up to 1000 000 in figures and words.
* Identify the value of each digit in numbers up to 1 000 000 (one million, hundred thousand, ten thousand, thousand, hundred, tens, ones.)
* Order and compare numbers up to 1 000 000 including ordering numbers on a number line.
* Count forwards and backwards in steps of powers of 10 (e.g.10, 100, 1000, 10 000,100 000) for any given number up to 1000,000
* Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000, 100 000.
* Count backwards through zero to include negative numbers.
* Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers through zero.
* Solve number problems and practical problems involving all of the above.

**Addition and subtraction mental methods:*** Revise mental methods previously taught.
* Teach adjustment method for near multiples.
* Choose appropriate mental or written method.
 |  | **Multiplication and Division****Recap objectives for written methods from the previous unit if needed.** * Recognise and use factor pairs and commutativity in mental calculations.
* Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.
* Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.
* Multiply 3 numbers together e.g. 4 x 5 x 12
* Establish whether a number up to 100 is a prime number and recall the prime numbers up to 19.
 | **Geometry: Properties of shape** * Compare and classify geometric shapes, including quadrilaterals and triangles based on their properties.
* Identify 3-D shapes, including cubes and other cuboids, from 2-D representations
* Distinguish between regular and irregular polygons based on reasoning about equal sides and angles
 | Assessment Week?  | Continue on with properties of shape. | **Geometry: Position and direction*** Describe positions on a 2-D grid as coordinates in the first quadrant
* Describe movements between positions as translations of a given unit to the left/right and up/down
* Plot specified points and draw sides to complete a given polygon, i*ncluding drawing pairs of axis in one quadrant. Read, write and use pairs of coordinates including using ICT tools.*
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| **Summer Term** |
| Week 1 | Week 2 | Week 3 | Week 4 | Week 5 |  | Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 |
| 23rd (Tues) – 26th April | 29th – 3rd May | 6th - 10th May | 13th – 17th May | 20th – 24th May | Half Term  | 3rd – 7th June | 10h – 14th June | 17th – 21st June | 24th – 28th June | 1st – 5th July  | 8th – 12th July | 15th – 19th July |
| **Measurement*** Convert between different units of metric measure [for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre]
* Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints
* Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres
* Calculate and compare the area of rectangles (including squares), including using standard units, square centimetres (cm²) and square metres (m²), and estimate the area of irregular shapes
* Estimate volume [for example, using 1 cm³ blocks to build cuboids (including cubes)] and capacity [for example, using water]
* read, write and convert time between analogue and digital 12- and 24-hour clocks
* solve problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days
* Solve problems involving converting between units of time
* Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.
 | **Statistics** * Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs
* Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.
* Relate the graphical representation of data to represent change over time.
 |  | **Geometry: Properties of shape** (angle)* Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles
* Draw given angles, and measure them in degrees (o )
* Identify angles at a point and one whole turn (total 360o )
* Identify angles at a point on a straight line and 2 1 a turn (total 180o )
* Identify other multiples of 90o
* Use the properties of rectangles to deduce related facts and find missing lengths and angles
* Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.
 | **Assessment Week?**  | **Consolidation of objectives for Year 6** |