**Year 4 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** * Recognise the place value of each digit in four-digit numbers up to 10,000 (thousands, hundreds, tens, and ones)
* Identify, represent and estimate numbers using different representations using numbers up to 10,000.
* Order and compare numbers up to 10,000 using < > =
* Order and compare numbers up to 10,000 using a number line.
* Count in multiples of 6, 7, 9 25 and 1000 *(In lesson then move to MMM)*
* Round any number up to 10,000 to the nearest 10,100 or 10000
* Solve number and practical problems that involve all of the above with increasingly large positive numbers up to 10,000
 | **Addition and Subtraction*** Find 1, 10, 100 and 1000 more or less than a given number under 10,000,
* Add and subtract numbers with up to 3 digits using the formal written method for addition and subtraction including carrying and exchanging.
* Add and subtract numbers with 4 digits using the formal written methods for addition and subtraction where appropriate.
* Estimate and use the inverse operations to check the answer to a calculation.
* Solve addition and subtraction two step problems in contexts (focus on measures particularly length, capacity, weight) deciding on which operation and method to use and why.
 | **Fractions*** Compare and order unit fractions and fractions with the same denominator.
* Add and subtract fractions with the same denominator within one whole using practical resources and diagrams to represent this. (Ensure understanding – why do we not add the denominator?)
* Add and subtract fractions with the same denominator going over one whole (using simple fractions) e.g. 2$\frac{1}{2}$ + 3 $\frac{1}{2}$ ; $\frac{3}{4}$ + $\frac{2}{4}$
 |  | **Fractions*** Recognise and show using diagrams, equivalent fractions with small denominators, e.g. $\frac{1}{2}$ = $\frac{2}{4}$ , $\frac{1}{3}$ = $\frac{2}{6}$ etc.
* Recognise and show using diagrams, families of common equivalent fractions e.g. $\frac{1}{2}$ = $\frac{2}{4}$ = $\frac{3}{6}$ = $\frac{4}{8}$ ; $\frac{1}{4}$ = $\frac{2}{8}$ = $\frac{3}{12}$ = $\frac{4}{16}$ ; including simple non-unit fractions $\frac{3}{4}$ = $\frac{6}{8}$ = $\frac{9}{12}$
* Recognise and use fractions as numbers: Use the bar model and introduce more efficient methods of calculating non-unit fractions e.g. $\frac{3}{5}$of 30 = 30 ÷ 5 = 6x 3 = 18.
* Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities where the answer is a whole number
 | **Multiplication** (and division)(Roughly 1 week)* Use place value, known and derived facts to multiply and divide mentally, For example, 600 ÷ 2 = 300 can be derived from 6 ÷ 2 = 3, This should include multiplying by 0 and 1; dividing by 1
* Multiply 3 numbers together.
* Recognise and use factor pairs (teach through factor bugs)
* Recognise that multiplication sentences are commutative 2 x 3 = 3 x 2 in mental calculations.

(Roughly 2 weeks)* Multiply 2 and 3 digit numbers by 1 one digit numbers using expanded multiplication.
* If appropriate move pupils on from expanded multiplication to short multiplication with the same size numbers – initially without carrying/ moving onto carrying E.g. 3 x 323 = (no carrying needed) to 3 x 343 (carrying.) **This will be revisited – ideally all ARE pupils have expanded in this unit.**
 | **Multiplication and Measures** * Solve problems involving multiplying and adding, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.
* Convert between units of measure, for example, kilometre to metre, millilitres to litres, etc (avoid time)
* Estimate, compare and calculate different measures, including money in pounds and pence (through shops)
* Solve problems involving a range of different measures and converting these.
 | **Measures*** Measure and calculate the perimeter of a rectilinear figure (including squares) in cm and M.
* Find the area of rectilinear shapes by counting squares.
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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 including decimals*** Count up and down in tenths; recognise that tenths arise from dividing an object into ten equal parts and in dividing 1 digit numbers or quantities by 10.
* Count up and down in hundredths; recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten.
* Find the effect of dividing a one or two digit number by 10 and 100, identifying the value of the digits as ones, tenths and hundredths.
* Recognise and write decimal equivalents of any number of tenths or hundredths.
* Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$
* Compare numbers with the same number of decimal places up to 2 decimal places.
* Revisit rounding any number to the nearest 10, 100 or 1000 (using only whole numbers)
* Round decimals with one decimal place to the nearest whole number.
* Solve number and practical problems that involve all of the above with increasingly large positive numbers up to 10,000 including numbers with up to 2 decimal places.
 | **Geometry (Shape)*** Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes
* Identify acute and obtuse angles and compare and order angles up to two right angles by size
* Identify lines of symmetry in 2-D shapes presented in different orientations
* Complete a simple symmetric figure with respect to a specific line of symmetry.
 | **Number and Place Value*** Count backwards through zero to include negative numbers.
* 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.

  |  | **Multiplication** (and division)* Pupils use the distributive law E.g. 39 x 7 = 30 x 7 + 9 x 7 and associative law (2 x 3) x 4 = 2 x (3 x 4) to find equivalent calculations.
* Revisit Multiplying 2 and 3 digit numbers by 1 one digit numbers using expanded multiplication if needed.
* Use formal written methods (short multiplication) to multiply 2 and 3 digit numbers by 1 digit numbers – initially without carrying/ moving onto carrying E.g. 3 x 323 = (no carrying needed) to 3 x 343 (carrying.) **All ARE pupils to be confident in using short multiplication.**
* Solve problems involving multiplying, adding and subtracting including using the distributive law to multiply 2 digit number by 1 digit.
* Solve integer scaling problems and harder correspondence problems including problems such as n objects are connected to m objects.
* Solve multi-step problems including all taught operations (addition, subtraction and multiplication) and a range of measures.
 | Assessment Week?  | **Statistics*** Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. (Large time graph focus in year 5)
* Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.
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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**  (Time)* Tell and write the time from an analogue clock, including clocks with Roman numerals with increasing accuracy to the nearest minute.
* Record and compare time in terms of seconds, minutes, hours and o’clock; use vocabulary such as am/ pm, morning afternoon, noon and midnight.
* Read, write and convert time between analogue and digital 12 and 24 hour clocks.
* Solve problems converting from hours to minutes; minutes to seconds; years to months; weeks to days.
 | **Addition and subtraction*** Ensure that all pupils are confident in using compact written methods for addition and subtraction including carrying and exchanging. Pupils are not to move on until they are secure with this (if appropriate)

Teach mental methods for addition and subtraction:* Add and subtract two, three and four digit multiples of 10 E.g. 1,400 + 1,700 = / 700 – 30 =
* Add or subtract a near multiple of 10 or 100 using adjustment E.g. 56 + 29 / 867 – 399
* What should be added to a number to get to the next multiple of 100 or 1000 E.g. 571 + \_\_\_\_\_\_= 600 using a number line.
* Add and subtract near number doubles E.g. 274 + 275 =
* Look carefully at calculations and decide which method would be the most appropriate *e.g. 2003 – 1998 mental methods* or 9875 – 2394 written method. Do this both just with calculations and within word problems.
* Estimate and use the inverse operations to check the answer to a calculation.
* Solve addition and subtraction two step problems in contexts (focus on measures particularly length, capacity, weight) deciding on which operation and method to use and why.
 |  | **Geometry****Position and Direction** * Pupils should be taught to: 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.
 | **Four operation- additional problem solving** * Solve one step problems involving all four operations (limit division to known facts) focusing on accurately identifying the operations needed to solve the question.
* Solve multi-step problems involving all four operations in context, for example, money, measures etc. Choosing methods of calculating appropriately
 | **Assessment Week?**  | **Consolidation of objectives where needed.**Ensure that pupils are solid in written methods and then revisit **fractions including shape, number and decimals** in preparation for Year 5.  |