FRONT STREET PRIMARY SCHOOL – MATHS OVERVIEW – YEAR GROUP: 2

Layered objectives (taught within other topics and also within other foundation subjects and curriculum areas):

- **Interpret and construct simple pictograms, tally charts, block diagrams and simple tables.**
- Use many-to-one correspondence in pictograms with simple ratios 2, 5, 10.
- **Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity.**
- **Ask and answer questions about totalling and comparing categorical data.**
- *Pose and answer questions using pictograms, tally charts, block diagrams and simple tables*
- *Understand and use Venn and Carroll diagrams to support reasoning about numbers or shapes*
- *Use and apply measuring skills in cross-curricular contexts.*

Autumn Focus (taught discretely):

NUMBER AND PLACE VALUE

- **Read and write numbers to at least 100 in numerals and words.**
- **Compare and order numbers from 0 up to 100; use >, < and = signs.**
- **Recognise the place value of each digit in a two-digit number (tens, ones).**
- Partition numbers in different ways e.g. 23 = 20 + 3 and 23 = 10 + 13 to support subtraction.
- *Understand e.g. 23 as20 + 3 and as 2 tens and 3 ones.*
- **Identify, represent and estimate numbers using different representations, including the number line** and spatial representations.
- **Recognise the place value of each digit in a two-digit number (TOs).**
- Begin to understand zero as a place holder.
- **Use place value and number facts to solve problems**
- *Continue to count forwards and backwards in ones and tens from any number to 100 and beyond to establish fluency, especially across boundaries of 10s and 100s.*

NUMBER + -

- **Recall and use addition and subtraction facts to 20 fluently and**

Spring Focus:

NUMBER x and ÷

- *Continue to recognise doubles and corresponding halves.*
- Connect unit fractions to equal sharing and grouping, to numbers when they can be calculated and to measures, finding fractions of lengths, quantities, sets of objects and shapes.
- **Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs.**
- **Solve problems involving multiplication and division using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.**
- Work with a range of materials and contexts in which multiplication and division relate to grouping and sharing discrete and continuous quantities, to arrays and to repeated addition. Relate these to fractions and measures.
- Use a variety of language to describe multiplication and division.
- **Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.**

NUMBER – FRACTIONS

Summer Focus:

MEASURE

- **Choose and use appropriate standard units to estimate and measure,** with increasing accuracy, **length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels.**
- Use language of measure and abbreviations.
- **Compare and order lengths, mass, volume/capacity and record the results using >, < and =.**
- **Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value.**
- **Find different combinations of coins for the same total.**
- **Solve simple problems in a practical context (+ and – of money and give change)**
- **Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times.**
- *Make and explain connections between number, measures and shape*

Continually Revisited Objectives (Hi3/Maths Blast, Fluency Friday) :

- **Count in steps of 2, 3 and 5 from 0 and in tens from any number, forward and back.**
- Counting in steps of three will support later understanding of a third.
- Recognize patterns in numbers to and beyond 100.
- **Find 10 more or 10 less than any given number.**
- *Recognise and extend number sequences formed by counting from any number in steps of constant size*
- *Explore and discuss patterns, properties and relationships that arise in the number system using appropriate mathematical vocabulary.*
- **Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognizing odd and even numbers.**
- Connect the 2, 5 and 10 multiplication tables to each other. Connect the 10 multiplication table to place value and the 5 multiplication table to the divisions on a clock face.
- *Continue to recognise doubles and corresponding halves.*
- *Continue to count forwards and backwards in ones and tens from any number to 100 and beyond to establish fluency, especially across boundaries of 10s and 100s.*
- **Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times.**
- **Know the number of minutes in an hour and the number of hours in a day.**
- *Use all four operations to solve problems including scaling problems involving measure (e.g. length, mass, volume, money). Information required to solve a problem is often drawn from tables, and charts*
- *Continue to recognise doubles and corresponding halves.*
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derive and use related facts to 100 e.g. use 3 + 7 = 10; 10 -7 = 3 and 7 = 10 – 3 to calculate 30 + 70 = 100; 100 – 70 = 30 and 70 = 100 – 30.
• **Add and subtract numbers using concrete objects, pictorial representations and mentally, including:**
• **TO and O, TO and T, TO and TO**
• **adding O + O + O**
• **Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot.**
• Check calculations e.g. by adding to check subtraction and adding numbers in a different order to check addition e.g. 5 + 2 +1 = 1 + 5 + 2 = 1 + 2 + 5. This establishes commutativity and associativity of addition.
• **Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.**
• Teach language of sum and difference
• **Solve problems with addition and subtraction**
  • **Using concrete objects and pictorial representations, including those involving numbers, quantities and measures.**
  • **Applying increasing knowledge of mental and written methods.**
• *Use and explain the equals sign to indicate equivalence, including in missing number problems (e.g. 4+ 6 = 5 + 5; 17 = 19 - Δ).*
	• **Recognise, find, name and write fractions 1/3 , ¼, 2/4, and ¾ of a length, shape and set of objects or quantity.**
	• **Write simple fractions e.g. ½ of 6 = 3 and recognise the equivalence of 2/4 and ½**
	• Use fractions as 'fractions of' discrete (*e.g. countables*) and continuous (*e.g. liquid*) quantities by solving problems using shapes, objects and quantities.
	• Connect unit fractions to equal sharing and grouping, to numbers when they can be calculated and to measures, finding fractions of lengths, quantities, sets of objects and shapes.
	• Count in fractions up to 10 starting at any number and using the ½ and 2/4 equivalence on the number line e.g. 1 ¼ , 1 2/4, (or 1 ½) 1 ¾ , 2. Reinforce the concept of fractions as numbers and that they can add up to more than one.
	• *Apply understanding of fractions to solve problems and puzzles.*
		GEOMETRY - shapes
		• **Identify and describe the properties of 2-D shapes, (sides, lines of symmetry)**
		• **Identify and describe the properties of 3-D shapes, (edge, faces and vertices)**
		• **Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid].**
		• **Compare and sort common 2-D and 3-D shapes and everyday objects** on the basis of their properties and use vocabulary precisely.
		• Read and write names of shapes appropriate to their word reading and spelling.
		• Draw lines and shapes using a straight edge
		• *Solve problems, involving shapes and their properties.*
		GEOMETRY – position & direction
		• **Order and arrange combinations of mathematical objects in patterns and sequences** including the use of shapes in different orientations.
		• **Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise).**
		• Use the language of angles in practical contexts e.g. pupils moving in turns, instructing others to do so and programming robots using instructions given in right angles	

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