Argyle Primary School

Year 5 Yearly Overview

Green italic objectives are essential; these should prioritised within planning and revisited throughout the year. They are core learning on which next year's curriculum is based. All objectives need to be taught and, where possible, combine objectives so that application is stressed, e.g. fractions and decimals of measures or percentages in data.

<table>
<tr><th colspan="6">Number: Number and Place Value</th></tr>
<tr><th colspan="2">Counting</th><th>Rounding</th><th>Understanding place value</th><th>Reading and writing numbers</th><th>Problem solving</th></tr>
<tr><td>Interpret negative nos in context, count forwards & backwards with positive & negative whole nos, including through 0</td><td>Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000</td><td>Round any number up to 1,000,000 to the nearest 10, 100, 1000, 10,000 and 100,000</td><td>read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents</td><td>Read Roman numerals to 1000 (M) & recognise years written in Roman numerals.</td><td>Solve number problems and practical problems that involve all of the above</td></tr>
<tr><th colspan="6">Number: Addition and Subtraction</th></tr>
<tr><th>Mental Calculation</th><th colspan="2">Written Calculation</th><th colspan="2">Inverse operations, estimating and checking answers</th><th>Problem solving</th></tr>
<tr><td>Add and subtract numbers mentally with increasingly large numbers</td><td colspan="2">Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)</td><td colspan="2">Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy</td><td>Solve addition & subtraction multi-step problems in contexts, deciding which operations & methods to use and why</td></tr>
<tr><th colspan="6">Number: Multiplication and Division</th></tr>
<tr><th>Mental calculation</th><th colspan="2">Written calculation</th><th colspan="3">Properties of numbers</th></tr>
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Multiply and divide numbers mentally drawing upon known facts	*Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000*	*Multiply numbers up to 4 digits by a 1- or 2-digit number using a formal written method, including long multiplication for 2-digit numbers*	*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*	Establish whether a number up to 100 is prime and recall prime numbers up to 19	Know and use the vocabulary of prime numbers, prime factors & composite (non-prime) numbers	Recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3})	*Identify multiples and factors, including finding all factor pairs of a number, and common factors of 2 numbers*

Problem solving		
Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes	*Solve problems involving +, -, × and ÷, 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.

Number: Fractions						
Recognising fractions	**Comparing fractions**	**Comparing decimals**	**Rounding**	**Equivalence**		
Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	*Compare and order fractions whose denominators are all multiples of the same number*	*Read, write, order and compare numbers with up to 3 decimal places*	*Round decimals with 2 decimal places to the nearest whole number and to 1 decimal place*	*Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths*	*Read and write decimal numbers as fractions [for example, 0.71 = 71/100]*	*Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per 100', and write percentages as a fraction with denominator 100, and as a decimal fraction*

Addition and subtraction		**Multiplication and division**	**Problem solving**	
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 [for example, $^2/5 + ^4/5 = ^6/5 = 1^1/5$]*	*Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams*	*Solve problems involving numbers up to 3 decimal places*	*Solve problems which require knowing percentage and decimal equivalents of ½, ¼, $^1/5$, $^2/5$, $^4/5$ and those fractions with a denominator of a multiple of 10 or 25.*

Measurement			
Comparing & estimating	**Measuring and calculating**	**Converting**	**Telling the time**

Estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water]	Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes	Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres	*Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.*	*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	*Solve problems involving converting between units of time*

Geometry: Properties of Shape					
Identifying shapes	**Drawing**	**Comparing and classifying**		**Angles**	
Identify 3-D shapes, including cubes & other cuboids, from 2-D representations	Draw given angles, and measure them in degrees (º)	Distinguish between regular and irregular polygons based on reasoning about equal sides and angles	*Use the properties of rectangles to deduce related facts and find missing lengths and angles*	Know angles are measured in degrees: estimate & compare acute, obtuse and reflex angles	Identify angles at a point and one whole turn (total 360º, angles at a point on a straight line and ½ a turn (total 180º), other multiples of 90º

Geometry: Position and Direction	**Statistics**	
Position, direction and movement	**Interpreting, constructing and representing data**	**Problem solving**
Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.	Complete, read and interpret information in tables, including timetables	Solve comparison, sum and difference problems using information presented in a line graph

Examples of what each objective looks like are available on NCETM's website, (National Centre for the excellence of teaching in maths), www. ncetm.org.uk. *Click on: New National Curriculum 2014 blue box – National Curriculum Resource Tool - select appropriate year group and area – click on exemplification.*

Year 5 Suggested Yearly Pacer

Measurement should be viewed as applied number and calculation. All opportunities to use number in real life contexts should be exploited.
Links between fractions, division and multiplication should be made.
Please take all opportunities to draw objectives together rather than teach discretely.
The aims of fluency, reasoning and problem solving should be embedded in all teaching.

Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 2**	**Summer 2**
Number		**Number**		**Number**	

Number and Place Value Addition and Subtraction Multiplication and Division Fractions	Number and Place Value Addition and Subtraction Multiplication and Division Fractions	Number and Place Value Addition and Subtraction Multiplication and Division Fractions	Number and Place Value Addition and Subtraction Multiplication and Division Fractions	Number and Place Value Addition and Subtraction Multiplication and Division Fractions	Number and Place Value Addition and Subtraction Multiplication and Division Fractions
Measurement		**Measurement**		**Measurement**	
Money Length Perimeter	Time Capacity	Money Mass Area	Time Volume	Money Length, Mass, Capacity and Volume	Time Perimeter and Area
Geometry/Statistics		**Geometry/Statistics**		**Geometry/Statistics**	
Shape	Statistics	Shape	Position and Direction	Statistics	Shape