

Kentish Town C of E Primary School

Year 6 Yearly Overview

Red objectives are essential; these should be 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. using formulae for shape calculations or finding percentages of measures.

Number: Number and Place Value						
Counting	Reading & writing numbers	Understanding place value		Rounding		Problem solving
use negative numbers in context, and calculate intervals across zero	read, write, order and compare numbers up to 10 000 000 and determine the value of each digit	identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places		round any whole number to a required degree of accuracy	solve problems which require answers to be rounded to specified degrees of accuracy	Solve number problems and practical problems that involve all of the above
Number: Addition and Subtraction						
Mental Calculation			Inverse operations, estimating and checking answers		Problem solving	
Perform mental calculations, including with mixed operations and large numbers.		use their knowledge of the order of operations to carry out calculations involving the four operations	use estimation 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	
Number: Multiplication and Division						
Mental calculation		Written calculation				
perform mental calculations, including with mixed operations and large numbers	multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication	divide numbers up to 4-digits by a two-digit whole number using the formal written method of short division. Where appropriate for the context, divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division.			interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context	
Properties of numbers		Inverse operations, estimating and checking answers		Problem solving		
identify common factors, common multiples and prime numbers		use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy		solve multiplication and division multi-step problems in contexts, deciding which operations and methods to use and why		
Number: Fractions						
Comparing fractions	Comparing decimals	Rounding	Equivalence		Addition and subtraction	
compare and order fractions, including fractions >1	identify the value of each digit in numbers given to three decimal places	solve problems which require answers to be rounded to specified degrees of accuracy	use common factors to simplify fractions; use common multiples to express fractions in the same denomination	associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $\frac{3}{8}$)	recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.	add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions

Multiplication and division of fractions				Multiplication and division of decimals				
multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$)		divide proper fractions by whole numbers (e.g. $\frac{1}{3} \div 2 = \frac{1}{6}$)		multiply one-digit numbers with up to two decimal places by whole numbers		multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places		use written division methods in cases where the answer has up to two decimal places
Algebra				Number: Ration and proportion				
Equations			Formulae	Sequences	Problem solving			
express missing number problems algebraically	find pairs of numbers that satisfy number sentences involving two unknowns	enumerate all possibilities of combinations of two variables	use simple formulae	generate and describe linear number sequences	solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts	solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison	solve problems involving similar shapes where the scale factor is known or can be found	solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.
Measurement								
Comparing and estimating			Measuring and calculating					
calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetres cubed (cm^3) and cubic metres (m^3), and extending to other units such as mm^3 and km^3 .			solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate		recognise that shapes with the same areas can have different perimeters and vice versa	calculate the area of parallelograms and triangles	recognise when it is possible to use formulae for area and volume of shapes	
Converting								
use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation up to three decimal places							convert between miles and kilometres	
Geometry: Properties of Shape								
Identifying shapes		Drawing and constructing		Comparing and classifying		Angles		
recognise, describe and build simple 3-D shapes, including making nets	illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius	draw 2-D shapes using given dimensions and angles	recognise, describe and build simple 3-D shapes, including making nets	compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons		recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles		
Geometry: Position and direction				Statistics				
				Interpreting, constructing and representing data		Problem solving		
describe positions on the full coordinate grid (all four quadrants)		draw and translate simple shapes on the coordinate plane, and reflect them in the axes.		interpret and construct pie charts and line graphs and use these to solve problems		calculate and interpret the mean as an average		

Examples of what each objective looks like are available on NCTM'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.

Suggested Yearly Pacer Year 6

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