



Hilton Lane Primary School

Maths Year 6 Overview

Number – number and place value	Number-addition and subtraction	Number- multiplication and division
<ul style="list-style-type: none"> -Count forwards or backwards in steps of integers, decimals, powers of 10 -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 -Identify, represent and estimate numbers using the number line -Order and compare numbers including integers, decimals and negative numbers -Find 0.001, 0.01, 0.1, 1, 10 and powers of 10 more/less than a given number -Round any whole number to a required degree of accuracy -Round decimals with three decimal places to the nearest whole number or one or two decimal places -Multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places -Use negative numbers in context, and calculate intervals across zero -Describe and extend number sequences including those with multiplication and division steps, inconsistent steps, alternating steps and those where the step size is a decimal -Solve number and practical problems that involve all of the above 	<ul style="list-style-type: none"> -Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method) -Select a mental strategy appropriate for the numbers in the calculation -Recall and use addition and subtraction facts for 1 (with decimals to two decimal places) -Perform mental calculations including with mixed operations and large numbers and decimals -Add and subtract whole numbers and decimals using formal written methods (columnar addition and subtraction) -Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy -Use knowledge of the order of operations to carry out calculations -Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why -Solve problems involving all four operations, including those with missing numbers 	<ul style="list-style-type: none"> -Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method) -Identify common factors, common multiples and prime numbers -Use partitioning to double or halve any number -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 -Multiply one-digit numbers with up to two decimal places by whole numbers -Divide numbers up to 4 digits by a two-digit whole number using the formal written methods of short or long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context -Use written division methods in cases where the answer has up to two decimal places -Use estimation and inverse to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy -Use knowledge of the order of operations to carry out calculations -Solve problems involving all four operations, including those with missing numbers
<p>Number- fractions, decimals and percentages</p> <ul style="list-style-type: none"> -Compare and order fractions, including fractions > 1 (including on a number line) -Use common factors to simplify fractions; use common multiples to express fractions in the same denomination -Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts -Associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375 and $\frac{3}{8}$) -Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions -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. $\frac{1}{3} \div 2 = \frac{1}{6}$) -Find simple percentages of amounts 	<p>Geometry- Properties of shapes</p> <ul style="list-style-type: none"> -Draw 2-D shapes using given dimensions and angles -Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius -Recognise, describe and build simple 3-D shapes, including making nets -Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles -Find unknown angles in any triangles, quadrilaterals, regular polygons 	<p>Measurement</p> <ul style="list-style-type: none"> -Use, read and write standard units of length, mass, volume and time using decimal notation to three decimal places -Convert between standard units of length, mass, volume and time using decimal notation to three decimal places -Convert between miles and kilometres -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 -Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm³) and cubic metres (m³), and extending to other units (e.g. mm³ and km³) -Calculate differences in temperature, including those that involved a positive and negative temperature

<ul style="list-style-type: none"> -Solve problems involving fractions -Solve problems which require answers to be rounded to specified degrees of accuracy -Solve problems involving the calculation of percentages (e.g. of measures and such as 15% of 260) and the use of percentages for comparison 		<ul style="list-style-type: none"> -Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate
Ratio and proportion	Geometry-position and direction	
<ul style="list-style-type: none"> -Solve problems involving the relative sizes of two quantities where missing values can be found using integer multiplication/division facts -Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples -Solve problems involving similar shapes where the scale factor is known or can be found 	<ul style="list-style-type: none"> -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 	
	Statistics	
	<ul style="list-style-type: none"> -Continue to complete and interpret information in a variety of sorting diagrams (including sorting properties of numbers and shapes) -Interpret and construct pie charts and line graphs and use these to solve problems -Solve comparison, sum and difference problems using information presented in all types of graph -Calculate and interpret the mean as an average 	
	Algebra	
	<ul style="list-style-type: none"> -Use simple formulae -Generate and describe linear number sequences -Express missing number problems algebraically -Find pairs of numbers that satisfy an equation with two unknowns -Enumerate possibilities of combinations of two variables 	