



Maths

Year 6

Non-negotiable

Use formal written methods for all four rules.
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Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit.
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Multiply and divide numbers by 10, 100, 1000 giving answers to 3 decimal places.
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Identify the value of each digit in numbers given to 3 decimal places.
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Number and place value

N	<u>Assessed</u>	<u>Examples</u>
1	Read and write numbers up to 10,000,000	
2	Know the value of each digit in numbers up to 10,000,000	
3	Order and compare numbers up to 10,000,000	
4	<u>Round any whole number to any degree of accuracy</u>	
5	<u>Use negative numbers in context</u>	
6	<u>Calculate intervals across zero</u>	
7	Solve number and practical problems involving all of the above	

Addition, subtraction, multiplication and division

A	<u>Assessed</u>	<u>Examples</u>
1	<u>Use long multiplication to multiply numbers up to 4 digits by a two-digit whole number</u>	
2	<u>Use long division to divide numbers up to 4 digits by a two-digit whole number</u>	interpret remainders as whole numbers, fractions, or by rounding
3	<u>Show remainders in long division as whole numbers, fractions or by rounding</u>	
4	Perform mental calculations involving mixed operations and large numbers	
5	Identify common factors and prime numbers	
6	Identify common multiples	
7	Understand and use BODMAS to solve calculations	$2 + (3+5) \times 4 - 5 =$ $2 + 8 \times 4 - 5 =$ $2 + 32 - 5 =$
8	<u>Solve addition and subtraction multi-step problems in contexts</u>	
9	Solve problems involving addition, subtraction, multiplication and division	
10	<u>Use estimation to check answers to calculations</u>	
11	Add and subtract negative integers	

Fractions

F	Assessed	Examples
1	Use common factors to simplify fractions	$4/12 = 2/6 = 1/3$
2	Use common multiples to change fractions so they have the same denominator	$2/12, 1/6, 2/3$ $= 1/6, 1/6, 4/6$
3	Compare and order fractions, including fractions greater than 1	$1/4 > 1/5$ $2/3, 5/6, 6/5, 1\ 1/4$
4	Add and subtract fractions with different denominators	$1/6 + 2/3 =$
5	Add and subtract mixed numbers using understanding of equivalent fractions	$1\ 3/4 - 1/2$
6	Multiply simple pairs of proper fractions, writing an answer in its simplest form	$1/4 \times 1/2 = 1/8$
7	Divide proper fractions by whole numbers	$1/3 \div 2 = 1/6$
8	Link fractions with division and calculate decimal equivalents for a simple fraction	$3/8$ is 3 divided by 8 $3/8 = 0.375$
9	Identify the value of each digit to 3dp	
10	Multiply and divide numbers by 10, 100 and 1000 where answers are up to 3dp	$97 \div 1000 = 0.097$
11	Multiply one-digit numbers with up to 2dp by whole numbers	$2.42 \times 2 = 4.84$
12	<u>Use written division methods where the answer has up to 2dp</u>	See route through calculation
13	<u>Solve problems which need answers to be rounded</u>	
14	<u>Recall and use equivalent fractions, decimals and percentages</u>	$3/6 = 1/2 = 0.5 = 50\%$ $2/8 = 1/4 = 0.25 = 25\%$

Ratio and proportion

R	Assessed	Examples
1	Use multiplication and division to calculate missing values in ratio	
2	<u>Find percentages of amounts</u>	
3	<u>Use percentages for comparison</u>	calculate percentages of whole numbers or measures, eg. 15% of 360
4	Solve problems involving similar shapes where the scale factor (the ratio of one shape to another) is known or can be found	
5	<u>Use fractions and multiples to help solve problems</u>	for every egg you need 3 spoonfuls of flour or $3/5$ of the class are boys

Algebra

Al	Assessed	Examples
1	Express missing number problems algebraically	$27 + n = 39$
2	<u>Use simple formulae expressed in words</u>	
3	Generate and describe number sequences and use algebra to show the rule	2, 4, 6, 8, $X_n = 2 \times n$
4	Find pairs of numbers that satisfy number sentences involving two unknowns	
5	Find all possible answers to questions such as $p + y = 9$	$p+y=9$ $p=1, y=8$ $p=2, y=7$ $p=3, y=6$ etc.

Measurement

M	Assessed	Examples
1	Solve problems involving calculations and converting units of measure (use decimal notation up to 3dp)	
2	Use, read, write and convert between standard units for length, mass, volume and time	a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places
3	Convert from a smaller unit of measure to a large one and vice versa	
4	Convert between miles and kilometres	
5	Recognise that shapes with the same areas can have different perimeters and vice versa	
6	Recognise when it is possible to use formulae for area and volume of shapes	
7	Calculate the area of parallelograms and triangles.	
8	Calculate, estimate and compare volume of cubes and cuboids using cm^3 , m^3 and extending to mm^3 and km^3	

Properties of shapes

Sh	Assessed	Examples
1	Draw 2D shapes using given dimensions and angles	
2	Recognise and describe 3D shapes	
3	Make nets of 3D shapes	
4	Organise shapes based on their properties and sizes	identify parallel planes and symmetry
5	Compare shapes based on their properties and sizes	find unknown angles in any triangles, quadrilaterals, and regular polygons
6	Find unknown angles in triangles, quadrilaterals and regular polygons	
7	Label the radius, diameter and circumference on a circle	
8	Know that the diameter is twice the radius	Use algebra to show relationships $d=2r$
9	Recognise angles where they meet at a point, are on a straight line or are vertically opposite and find missing angles	

Position and direction

P	Assessed	Examples
1	Describe positions on the full coordinate grid (4 quadrants)	
2	Draw and translate simple shapes on the coordinate plane and reflect in the axes	

Statistics

S	Assessed	Examples
1	Interpret pie charts and line graphs and use to solve problems	
2	Construct pie charts and line graphs	
3	Calculate and interpret mean (average)	