



## Ravensfield Maths Curriculum Year 5

### **Number and Place Value**

- Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit
- Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000
- Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero
- Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000
- Solve number problems and practical problems that involve all of the above
- Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.

### **Addition and subtraction**

- Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)
- Add and subtract numbers mentally with increasingly large numbers
- Use rounding 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.

### **Multiplication and division**

- Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers
- Know and use the vocabulary of prime numbers, prime factors and composite (nonprime) numbers
- Establish whether a number up to 100 is prime and recall prime numbers up to 19
- Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers
- Multiply and divide numbers mentally drawing upon known facts
- 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
- Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000

### **Fractions (including decimals and percentages)**

- Compare and order fractions whose denominators are all multiples of the same number
- Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths
- Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements  $> 1$  as a mixed number [for example,  $2/5 + 4/5 = 6/5$  or  $1 \frac{1}{5}$ ]
- Add and subtract fractions with the same denominator and denominators that are multiples of the same number
- Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams
- Read and write decimal numbers as fractions [for example,  $0.71 = 71/100$ ]
- Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents
- Round decimals with two decimal places to the nearest whole number and to one decimal place
- Read, write, order and compare numbers with up to three decimal places
- Solve problems involving number up to three decimal places
- Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal
- Solve problems which require knowing percentage and decimal equivalents of  $\frac{1}{2}$ ,  $\frac{1}{4}$ ,  $\frac{1}{5}$ ,

2/5, 4/5 and those fractions with a denominator of a multiple of 10 or 25.

### **Measures**

- 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
- Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres
- Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm<sup>2</sup>) and square metres (m<sup>2</sup>) and estimate the area of irregular shapes
- Estimate volume [for example, using 1 cm<sup>3</sup> blocks to build cuboids (including cubes)] and capacity [for example, using water]
- Solve problems involving converting between units of time
- Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.

### **Geometry – Properties of shape**

- Identify 3-D shapes, including cubes and other cuboids, from 2-D representations
- Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles
- Draw given angles, and measure them in degrees (o )
- Identify:
  - angles at a point and one whole turn (total 360o )
  - angles at a point on a straight line and 1/2 a turn (total 180o)
  - other multiples of 90o
- Use the properties of rectangles to deduce related facts and find missing lengths and angles
- Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.

### **Geometry – position and direction**

- 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.

### **Statistics**

- Solve comparison, sum and difference problems using information presented in a line graph
- Complete, read and interpret information in tables, including timetables.

## Number Skills

Number skills which children need to know before starting year 5. Practice these skills over the summer ready for Year 5.

Year 4 number skills	My child can
Count in multiples of 6,7,9,25 and 1000	
Count backwards through zero to include negative numbers	
Round numbers to the nearest 10, 100, 1000	
Know all multiplication facts to 12x12	
Count up and down in 1/5, 1/100's	
Know factor pairs for known multiplication facts.	
Pairs of fractions that total 1 (with the same denominator)	
Decimal compliments to 1 (1 dp, for example, 0.3 + 0.7)	
Fraction/decimal equivalents of one half, quarters, tenths and hundredths (eg $0.3 = 3/10$ , $3/100 = 0.03$ ).	
Revise doubles of multiples of 10 and 100 and corresponding halves.	
Know what number must be added to any 3 digit number to make the next multiple of 100 (eg, $345 + 55 = 400$ )	

From September, children will practise the following basic number and counting skills. They need to know them by heart and be able to apply them to their maths work. Children need to practise these facts at home to reinforce learning from school to help them become fluent.

Year 5 number skills	My child can
Count forward and backwards with positive and negative numbers, including through zero.	
Count forward and backwards in steps of powers to 10 for any given number to 1,000,000	
Count prime numbers up to 19	
Know all multiplication and corresponding division facts to $12 \times 12$	
Square and cubed numbers	
Convert equivalent fractions to decimals and percentages	
Know decimal compliments to 1 (2 dp, e.g., $0.76 + 0.24$ )	
Know decimal compliments to 10 (1dp, e.g., $6.2 + 3.8$ )	
Know what must be added to any 4-digit number to make the next multiple of 1000 (e.g. $4678 + 322 = 5000$ )	
Know what must be added to any 1d.p number to make the next whole number (e.g. $4.8 + 0.2 = 5$ )	
Doubles and halves of 1.d.p decimals to 10 (e.g. double 3.4, half of 5.6).	
Know all square numbers to $12 \times 12$	
Know all prime numbers to 19.	
FDP equivalents of halves, quarters, tenths, hundredths, thirds and fifths (e.g. $1/5 = 2/10 = 0.2 = 20\%$ )	
Factor pairs for numbers to 100.	