

ESSENTIAL KNOWLEDGE

The Learning objectives below have been taken directly from the new numeracy curriculum. They make up the 'essential knowledge' each child will need by the end of each year to access the curriculum in the following year.

Year 1

- ✓ Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. Count, read and write numbers to 100 in numerals: count in multiples of two's, fives and tens.
- ✓ Given a number, identify one more and one less.
- ✓ Read and write numbers from 1 to 20 in numerals and words.
- ✓ Measure and record time (hours, minutes, seconds).
- ✓ Tell the time to the hour and half past the hour.

Year 2

- ✓ Count in steps of 2, 3, and 5 from 0, and in tens from any number, forwards and backwards. ☐ Recognise the PV of each digit in a two-digit number (tens, ones).
- ✓ Read and write numbers to 100 in numerals and words.
- ✓ Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100.
- ✓ Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers.
- ✓ Write simple fractions for example, $\frac{1}{2}$ of 6 = 3.
- ✓ Use symbols for pounds (£) and pence (p) and combine amounts to make a particular value.
- ✓ Tell and write the time to 5 minutes, including quarter past/to the hour.

Year 3

- ✓ Count from 0 in multiples of 4, 8, 50 and 100: find 10 or 100 more or less than a given number.
- ✓ Recognise the PV of each digit in a three digit number (hundreds, tens, ones).
- ✓ Compare and order numbers to 1000.
- ✓ Read and write numbers up to 1000 in numerals and in words.
- ✓ Add and subtract numbers mentally, including, a 3 digit number and ones, a 3 digit number and tens, a 3 digit number and hundreds.
- ✓ Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.
- ✓ Count up and down in tenths: recognise that tenths derive from dividing an object into ten equal parts and dividing one digit numbers or quantities by 10.
- ✓ Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and the 12-hour and 24-hour clocks.

Year 4

- ✓ Count in multiples of 6, 7, 9, 25 and 1000.
- ✓ Count 1000 more or less than a given number.
- ✓ Count backwards through zero to include negative numbers.
- ✓ Recognise the PV of each digit in a four digit number (thousands, hundreds, tens and ones).
- ✓ Order and compare numbers beyond 1000.
- ✓ Round any number to the nearest 10, 100 or 1000.
- ✓ Recall multiplication and division facts for multiplication tables up to 12 x 12.
- ✓ Identify, represent and estimate numbers using different representations.
- ✓ Recognise and show, using diagrams, families of common equivalent fractions.
- ✓ Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$ and $\frac{3}{4}$. Read, write and convert time between analogue and digital 12- and 24- hour clocks.

- ✓ Convert between different units of measurement (eg kilometres to metres: hours to minutes)

Year 5

- ✓ Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit.
- ✓ 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 1000,000.
- ✓ Add and subtract mentally with increasingly large numbers.
- ✓ Identify multiples and factors, including finding all factor pairs of a number and common factors of two numbers. ☐ Establish whether a number up to 100 is prime and recall prime numbers up to 19.
- ✓ Multiply and divide numbers mentally using known facts.
- ✓ Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.
- ✓ Read and write decimal numbers as fractions (eg $0.71 = 71/100$)
- ✓ Round decimals with two decimal places to the nearest whole number and to one decimal place.
- ✓ Convert between different units of metric measurement (eg km to m: cm to m, and cm and mm: g and kg, l and ml)

Year 6

- ✓ Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit.
- ✓ Round any whole number to a required degree of accuracy.
- ✓ Use negative numbers in context, and calculate intervals across zero.
- ✓ Perform mental calculations, including with mixed operations and large numbers.
- ✓ Identify common factors, common multiples and prime numbers.
- ✓ Compare and order fractions, including > 1 .
- ✓ Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places.
- ✓ Recall and use equivalences between simple fractions, decimals and percentages including in different contexts.
- ✓ Solve problems involving the calculation of percentages (eg, of measures and such as 15% of 360) and use percentages for comparison.
- ✓ Use simple formulae