

Number and place value

Counting to and across 100, forwards and backwards from any number.

Counting, reading and writing numbers to 100.

Counting in 2s, 5s and 10s.

Identifying and representing numbers using objects and pictures.

Reading and writing numbers 1 to 20 in numerals and words.

Identifying 'one more than' and 'one less than'.

Using the language of: equal to, more than, less than (fewer), most, least.



Year 1 End of year expectations



Geometry

Naming common 2-D shapes e.g. rectangles (including squares), circles and triangles.

Naming common 3-D shapes e.g. cuboids (including cubes), pyramids and spheres.

Describing position, direction and movement, including whole, half, quarter and three-quarter turns.

Fractions

Recognising and finding a half of an object, shape or quantity.

Recognising and finding a quarter of an object, shape or quantity.

Calculation

Reading and writing statements involving +, - and = signs.

Recalling number bonds and subtraction facts to 20.

Adding and subtracting one-digit and two-digit numbers to 20.

Solving one-step addition and subtraction problems, using concrete objects and pictorial representations.

Solving missing number problems such as $7 = \square - 9$.

Solving one-step multiplication and division problems using concrete objects, pictorial representations and arrays.

Measurement

Comparing, describing and solving practical problems for:

- Lengths and heights, e.g. long/short, longer/shorter, tall/short, double/half;
- Mass/weight e.g. heavy/light, heavier than, lighter than
- Capacity and volume, e.g. full/empty, more than, less than, half, half full, quarter;
- Time, e.g. quicker, slower, earlier, later.

Measuring and beginning to record lengths and heights; mass/weight; capacity and volume; time (hours, minutes, seconds).

Recognising and knowing the value of different coins and notes.

Sequencing events in chronological order using language e.g. before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening.

Using language relating to dates, including days of the week, weeks, months and years.

Telling the time to the hour and half past the hour.

Number and place value

Counting forwards and backwards in steps of 2, 3 and 5.
Counting in tens from any number, forwards and backwards.
Recognising place value of each digit in a two-digit number.
Comparing and ordering numbers from 0 to 100; using $<$, $>$ and $=$ signs.
Reading and writing numbers to at least 100 in numerals and in words.



Calculation

Adding and subtracting numbers using concrete objects and pictorial representations to solve problems.
Using addition and subtraction facts to 20 fluently, and deriving and using related facts up to 100 .
Using the inverse operation to check calculations and solve missing number problems.
Recalling multiplication and division facts for the 2, 5 and 10 x tables; applying these to calculate mathematical statements using \times , \div and $=$ signs.
Recognising odd and even numbers .
Solving problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts.

Year 2 End of year expectations



Geometry

Describing the properties of 2-D shapes, including number of sides and vertical line symmetry.
Identifying and describing the properties of 3-D shapes, including number of edges, vertices and faces.
Identifying 2-D shapes on the surface of 3-D shapes.
Comparing and sorting shapes and everyday objects.
Ordering and arranging objects in sequences.
Describe position, direction and movement, including movement in a straight line and turning quarter, half and three-quarter turns clockwise and anti-clockwise.

Measurement

Using appropriate units to estimate and measure length/height (m/cm); mass (kg/g); temperature ($^{\circ}$ C); capacity (litres/ml).
Comparing and ordering lengths, mass, volume/capacity and recording the results using $>$, $<$ and $=$.
Recognising and using symbols for pounds (£) and pence (p).
Finding different combinations of coins with the same value.
Solving simple problems in a practical context involving addition and subtraction of money of the same unit, including change.
Comparing and sequencing intervals of time .
Telling the time to five minutes, including quarter past/to.
Knowing the number of minutes in an hour and hours in a day.

Statistics

Interpreting and constructing simple pictograms, tally charts, block diagrams and tables .
Asking and answering simple questions by counting objects within a category and sorting the categories by quantity.

Fractions

Finding, naming and writing fractions: $\frac{1}{3}$ $\frac{1}{4}$ $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity.
Writing simple fractions, e.g. of $\frac{1}{2}$ of $6 = 3$ and recognising the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$.

Number and place value

Counting in 4s, 8s, 50s and 100s from any number.
Comparing and ordering numbers up to 1000.
Recognising place value of three-digit numbers.
Finding ten more of ten less than a given number.



Calculation

Adding and subtracting numbers mentally.
Adding and subtracting numbers with up to three-digits using an efficient written method.
Estimating and checking answers.
Solving missing number problems.
Recalling and using multiplication and division facts for the 3, 4, and 8 multiplication tables.
Multiplying and dividing numbers mentally and using an efficient written method (up to $TU \times U$ and $TU \div U$).

Year 3 End of year expectations



Geometry

Identifying horizontal, vertical, perpendicular and parallel lines in shapes.
Drawing 2-D shapes using given dimensions and angles.
Making and describing 3-D shapes.
Recognising right angles, angles which are less than or more than a right angle.

Statistics

Solve one-step and two-step questions, e.g. 'How many more?' and 'How many fewer?' using information presented in scaled bar charts, pictograms and tables.

Measurement

Comparing and measuring lengths, masses, volumes/capacities.
Telling the time on an analogue clock.
Converting times using the 12 and 24 hour clock.
Knowing and using facts about time e.g. 60 minutes in an hour, 365 days in a year/ 366 in a leap year and vocabulary about time, e.g. am/pm.
Calculating durations of time.
Measuring the perimeter of simple shapes.
Adding and subtracting money (including giving change).
Adding and subtracting in the context of length, mass and capacity/volume.

Fractions

Counting up and down in tenths and understanding their value.
Finding and writing fractions of a set of objects, e.g. $\frac{1}{4}$ of 12 pencils or $\frac{3}{4}$ of 20 shells.
Recognising and showing pictorially equivalent fractions.
Comparing and ordering fractions with the same denominator.
Adding and subtracting fractions with the same denominator within one whole e.g. $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$.
Solve problems that involve all of the above.

Year 4

End of year expectations



Number and place value

Counting in 6s, 7s, 9s, 25s and 1000s.
Finding 1000 more or less than a given number.
Counting back through zero into negative numbers.
Recognising place value of each digit in a four-digit number.
Ordering and comparing numbers beyond 1000.
Rounding any number to the nearest 10, 100 or 1000.

Calculation

Adding and subtracting numbers with up to 4 digits using column addition and subtraction.
Estimating and using inverse operations to check answers.
Solving addition and subtraction two-step problems, deciding which operations and methods to use and why.
Recalling multiplication and division facts up to 12×12 .
Using place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers.
Using factor pairs and commutativity in mental calculations.
Multiplying TU \times U and HTU \times U using formal written layout.
Solving integer scaling problems.

Geometry

Comparing and classifying geometric shapes, including quadrilaterals and triangles.
Identifying acute and obtuse angles.
Identifying lines of symmetry in 2-D shapes presented in different orientations.
Completing symmetric figures in a line of symmetry.
Describing coordinates in the first quadrant.
Describing translations to the left/right and up/down.
Plotting points and drawing sides to complete a polygon.

Fractions and decimals

Using diagrams to show families of equivalent fractions.
Counting up and down in hundredths.
Adding and subtracting fractions with the same denominator
Recognising and writing fraction-decimal equivalents (tenths or hundredths).
Recognising and writing decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$.
Dividing 1 or 2-digit numbers by 10 and 100.
Rounding decimals with 1dp to the nearest whole number.
Comparing decimal values with up to 2dp.
Solving simple measure and money problems involving fractions and decimals to 2dp.

Statistics

Interpreting and presenting discrete and continuous data using bar charts and time graphs.
Solving comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.

Measurement

Converting between different units of measure, e.g. kilometre to metre; hour to minute.
Calculating the perimeter of a rectilinear figure in cm and m.
Finding the area of rectilinear shapes by counting squares.
Estimating, comparing and calculating different measures, including money in pounds and pence.

Number and place value

Reading, writing and ordering numbers to 1 000 000.
Counting forwards or backwards in steps or powers of 10 for any given number up to 1 000 000.
Counting forwards and backwards with positive and negative whole numbers, including through zero.
Rounding to the nearest 10, 100, 1000, 10 000 and 100 000.



Year 5 End of year expectations



Measurement

Converting between different units of metric measure.
Using approximate equivalences between metric units and common imperial units such as inches, pounds and pints.
Calculating perimeter of composite rectilinear shapes.
Calculating and comparing area using standard units (cm^2 and m^2) and estimating the area of irregular shapes.
Estimating volume and capacity.
Solving problems involving conversion between units of time.

Geometry

Identifying 3-D shapes from 2-D representations.
Estimating and comparing acute, obtuse and reflex angles; drawing and measuring angles in degrees ($^\circ$).
Finding angles around a point (total 360°).
Finding angles along a straight line (total 180°).
Distinguishing between regular and irregular polygons based on reasoning about equal sides and angles.
Identifying, describing and representing the position of a shape following a reflection or translation.

Calculation

Adding and subtracting whole numbers with more than 4 digits.
Adding and subtracting larger numbers mentally.
Identifying multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.
Using the vocabulary: prime numbers, prime factors, composite (non-prime) numbers; square numbers and cube numbers.
Establishing whether a number up to 100 is prime and recalling prime numbers up to 19.
Multiplying and dividing numbers up to $\text{ThHTU} \times \text{U}$ and $\text{ThHTU} \div \text{U}$, interpreting remainders.
Multiplying and dividing numbers mentally using known facts.
Multiplying and dividing whole and decimal numbers by 10, 100 and 1000; using rounding to determine levels of accuracy.
Scaling by simple fractions.

Fractions and decimals

Comparing and ordering, adding and subtracting fractions whose denominators are all multiples of the same number.
Identifying and writing equivalent fractions of a given fraction.
Converting mixed number and improper fractions.
Multiplying proper fractions by whole numbers.
Rounding decimals with 2dp to nearest whole number and 1dp.
Writing, ordering and comparing numbers with up to 3dp.
Writing % as a fraction with denominator 100 and as a decimal.
Solving problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25.

Statistics

Solving comparison, sum and difference problems using information presented in a line graph.
Completing, reading and interpreting information in tables, including timetables.

Number and place value

Reading, writing and ordering numbers up to 10 000 000.
Rounding any whole number to a required degree of accuracy.
Using negative numbers in context, calculating intervals across 0.



Year 6 End of year expectations



Geometry

Drawing 2-D shapes using given dimensions and angles.
Recognising, describing and building simple 3-D shapes / nets.
Classifying shapes based on their properties.
Finding unknown angles in triangles and quadrilaterals.
Describing positions on the full coordinate grid (four quadrants).
Drawing and translating simple shapes on the coordinate plane, and reflecting them in the axes.

Measurement

Using and converting 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 to up to 3dp.
Recognising that shapes with the same areas can have different perimeters and vice versa.
Recognising when it is possible to use formulae for area and volume; calculating the area of parallelograms and triangles.

Ratio and Proportion

Solving problems involving the calculation of percentages in order to make comparisons.
Solving problems involving unequal sharing and grouping using knowledge of fractions and multiples.

Calculation

Multiplying using a formal method up to ThHTU x TU
Dividing numbers up to ThHTU \div TU, interpreting remainders, or by rounding appropriately for the context.
Solving complex mental calculations with increasingly large numbers and mixed operations.
Continuing to use all multiplication tables to calculate mathematical statements in order to maintain fluency.
Identifying common factors, multiples and prime numbers.
Applying 'order of operations'.
Solving + - x \div multi-step problems in contexts, deciding which operations and methods to use and why.
Using estimation to check answers / determine level of accuracy.

Fractions and decimals

Using common factors to simplify fractions; using common multiples to express fractions in the same denomination.
Comparing and ordering fractions, including fractions >1 .
Adding and subtracting fractions with different denominators and mixed numbers, using the concept of equivalent fractions.
Multiplying and dividing numbers by 10, 100 and 1000 where the answers are up to 3dp.
Multiplying U.tu by whole numbers.
Using equivalences between fractions, decimals and %.

Algebra

Understanding that symbols and letters can be used to represent variables and unknowns in mathematical situations.

Statistics

Interpreting and constructing pie charts and line graphs and using these to solve problems.
Calculating mean, median and modal values as well as the range.