Number & Place Value

Addition & Subtraction

Multiplication & Division

## Mathematics Targets



I can count in steps of 2, 3, and 5 from 0 forward and backward.

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I can count in tens from any number, forward and backward.

I can compare and order numbers from 0 up to 100 and use <, > and = signs.

I can recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers.

I can recognise the place value of each digit in a two-digit number (tens, ones).

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I can read and write numbers to at least 100 in numerals and in words.

I can calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs.

I can identify, represent and estimate numbers using different representations, including the number line.

I can use place value and number facts to solve problems.

I can show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.

I can solve problems involving multiplication and division, using

multiplication and division facts, including problems in contexts

materials, arrays, repeated addition, mental methods, and

I can recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100.

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I can solve problems with addition and subtraction:  $\checkmark \quad \text{using concrete objects and pictorial representations,}$ 

- using concrete objects and pictorial representations including those involving numbers, quantities and measures
- ✓ applying my increasing knowledge of mental and written methods

I can show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot.

I can recognise the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.

I can add and subtract numbers using concrete objects, pictorial representations, and mentally, including:

- ✓ a two-digit number and ones
- a two-digit number and tens
- two two-digit numbers
- adding three one-digit numbers

I recognise, find, name and write fractions  $\frac{1}{3}$ ,  $\frac{1}{4}$  and  $\frac{3}{4}$  of a length, shape, set of objects or quantity.

I can write simple fractions for example,  $\frac{1}{2}$  of 6=3 and recognise the equivalence of  $\frac{2}{4}$  and  $\frac{1}{2}$ .

I can identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line.

I can identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid].

I can order and arrange combinations of mathematical objects in patterns and sequences.

I can identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces.

I can compare and sort common 2-D and 3-D shapes and everyday objects.

I can use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti- clockwise).



Name

 $\boldsymbol{I}$  choose and use appropriate standard units to estimate and measure:

- ✓ length/height in any direction (m/cm)
- √ mass (kg/g)

Measurement

Statistics

- ✓ temperature (°C)
- √ capacity (litres/ml)

to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels.

I can compare and order lengths, mass, volume/capacity and record the results using >, < and =

I can tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times.

I can interpret and construct simple pictograms, tally charts, block diagrams and simple tables.



#### Mathematics Targets



I can recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value.

I can find different combinations of coins that equal the same amounts of money.

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I can solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.

I can compare and sequence intervals of time.

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I know the number of minutes in an hour and the number of hours in a day.

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I can ask and answer questions about totalling and comparing categorical data.

I can ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity.

Number & Place Value

Addition & Subtraction

I can measure, compare, add and subtract:



### Mathematics Targets

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I can measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml).

I can measure the perimeter of simple 2-D shapes.

I can estimate and read time with increasing accuracy to the nearest minute.

I know the number of seconds in a minute and the number of days in each month, year and leap year.

I can add and subtract amounts of money to give change, using both  $\pounds$  and p in practical contexts.

I can record and compare time in terms of seconds, minutes and hours.

I can compare durations of events [for example to calculate the time taken by particular events or tasks].

I can tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks.

I can use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight.

I can draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them.

I can recognise angles as a property of shape or a description of a turn.

I can recognise that two right angles make a halfturn, three make three quarters of a turn and four a complete turn.

I can identify right angles.

Measurement

Geometry

I can identify horizontal and vertical lines and pairs of perpendicular and parallel lines.

I can identify whether angles are greater than or less than a right angle.

# Mathematics Targets



I can count in multiples of 6, 7, 9, 25 and 1000.

I can find  $1000\ \text{more}$  or less than a given number.

I can count backwards through zero to include negative numbers.

I can recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones).

I can add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate.

I can estimate and use inverse operations to check answers to a calculation.

I can solve solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.

I can convert between different units of measure [for example, kilometre to metre; hour to minute]

I can measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres.

I can find the area of rectilinear shapes by counting squares.

 $\boldsymbol{I}$  can order and compare numbers beyond 1000.

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I can identify, represent and estimate numbers using different representations.

I can round any number to the nearest 10, 100 or 1000.

I can solve number and practical problems that involve all of the above and with increasingly large positive numbers.

I can read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value.

I can solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.

I can recall multiplication and division facts for multiplication tables up to  $12 \times 12$ .

I recognise and use factor pairs and commutativity in mental calculations.

I use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers.

I can multiply two-digit and three-digit numbers by a one-digit number using formal written layout.

I can estimate, compare and calculate different measures, including money in pounds and pence.

I can read, write and convert time between analogue and digital 12- and 24-hour clocks.

I solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.

I can interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.

I can solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.

#### Mathematics Targets



families of common equivalent fractions.

Fractions

I can count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.

I can solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number.

I can add and subtract fractions with the same denominator.

I can compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.

I can identify acute and obtuse angles and compare and order angles up to two right angles by size.

I can plot specified points and draw sides to complete a given polygon.

I can recognise and write decimal equivalents of any number of tenths or hundredths. 0

I can recognise and write decimal equivalents to  $\frac{1}{4}$ ,  $\frac{1}{2}$ ,  $\frac{3}{4}$ .

I can find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths.

I can identify lines of symmetry in 2-D shapes presented in different orientations.

I can complete a simple symmetric figure with respect to a specific line of symmetry.

decimal places up to two decimal places.

I can round decimals with one decimal place to

I can compare numbers with the same number of

I can solve simple measure and money problems

involving fractions and decimals to two decimal

the nearest whole number.

places.

0

0

I can describe positions on a 2-D grid as coordinates in the first quadrant.

I can describe movements between positions as translations of a given unit to the left/right and up/down.

Subtraction

Addition &



### Mathematics Targets



I can read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit.

I can count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000.

I can compare and order fractions whose denominators are all multiples of the same number.

I can recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.

I can interpret negative numbers in context.

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I can identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.

I can round decimals with two decimal places to the nearest whole number and to one decimal place.

I can count forwards and backwards with positive and negative whole numbers, including through zero.

I can recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number.

I can read, write, order and compare numbers with up to three decimal places.

I can round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000.

I can add and subtract fractions with the same denominator and denominators that are multiples of the same number.

I can solve problems involving number up to three decimal places.

I can solve number problems using my knowledge of number and place value.

I can multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.

I can 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.

I can read Roman numerals to 1000 (M) and recognise years written in Roman numerals.

I read and write decimal numbers as fractions (for example, 0.71 = 71/100).

I can solve problems which require knowing percentage and decimal equivalents of 1/2 , 1/4 , 1/5 , 2/5 , 4/5 and those fractions with a denominator of a multiple of 10 or 25.

I can add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction).

I can use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.

I can solve comparison, sum and difference problems using information presented in a line graph.

I can add and subtract numbers mentally with increasingly large numbers.

I can solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.

I can complete, read and interpret information in tables, including timetables.

I can identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers

I can know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.

I can establish whether a number up to 100 is prime and recall prime numbers up to 19.

I can 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.

I can multiply and divide numbers mentally drawing upon known facts.

I can 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.

I can identify 3-D shapes, including cubes and other cuboids, from 2-D representations.

I can draw given angles, and measure them in degrees (°).

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I can identify:

- angles at a point and one whole turn (total 360°)
- angles at a point on a straight line and ½ a turn (total 180°)
- other multiples of 90°



#### Mathematics Targets



I can multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.

I can recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3).

I can solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.

I can solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign

I can solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.

I can know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.

I can use the properties of rectangles to deduce related facts and find missing lengths and angles (•)

I can distinguish between regular and irregular polygons based on reasoning about equal sides and angles.

I can 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.

I can convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre).

I can 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.

I can understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. 🕥

I can measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.

I can estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water].

I can solve problems involving converting between units of time.

I can use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including

digit.

# I can read, write, order and compare numbers up



#### Mathematics Targets

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I can round any whole number to a required degree of accuracy.

to 10 000 000 and determine the value of each

I can use negative numbers in context, and calculate intervals across zero.

I can solve number and practical problems that involve all of the above.

I can multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication.

I can divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context

I can divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context.

I can perform mental calculations, including with mixed operations and large numbers.

I can use common factors to simplify fractions; use common multiples to express fractions in the same denomination.

I can add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.

I can multiply simple pairs of proper fractions, writing the answer in its simplest form  $[ \frac{1}{4} \times \frac{1}{2} = \frac{1}{8} ]$ 

I can identify common factors, common multiples and prime numbers.

I can use their knowledge of the order of operations to carry out calculations involving the four operation.

I solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.

I solve problems involving addition, subtraction, multiplication and division.

I use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.

I can divide proper fractions by whole numbers [for example,  $1/3 \div 2 = 1/6$ ]

I can associate a fraction with division and calculate decimal fraction equivalents [e.g. 0.375] for a simple fraction [e.q. 3/8]

I can compare and order fractions, including fractions > 1

I can multiply one-digit numbers with up to two decimal places by whole numbers.

I can 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.

I can use written division methods in cases where the answer has up to two decimal places.

I can solve problems which require answers to be rounded to specified degrees of accuracy.

I can recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.



Ratio & Portion