

Year 2 Learning Outcomes

Autumn

Numbers 10 – 100

- 1 Pupils explain that one ten is equivalent to ten ones
- 2 Pupils represent multiples of ten using their numerals
- 3 Pupils represent multiples of ten using their numerals and names
- 4 Pupils represent multiples of ten in an expression or an equation
- 5 Pupils estimate the position of multiples of ten on a 0-100 number line
- 6 Pupils explain what happens when you add and subtract ten to a multiple of ten
- 7 Pupils use knowledge of facts and unitising to add and subtract multiples of ten
- 8 Pupils add and subtract multiples of ten
- 9 Pupils explore the counting sequence for counting to 100 and beyond
- 10 Pupils count a large group of objects by counting groups of tens and the extra ones
- 11 Pupils count a large group of objects by using knowledge of unitising by counting tens and ones
- 12 Pupils represent a number from 20-99 in different ways
- 13 Pupils explain and mark the position of numbers 20-99 on a number line
- 14 Pupils explain that numbers 20-99 can be represented as a length
- 15 Pupils compare two, two-digit numbers
- 16 Pupils partition a two-digit number into tens and ones
- 17 Pupils add two, two-digit numbers by partitioning into tens and ones

Calculations within 20

- 1 Pupils add three addends
- 2 Pupils use a 'First... Then... Now" story to add 3 addends
- 3 Pupils explain that addends can be added in any order
- 4 Pupils add 3 addends efficiently
- 5 Pupils add 3 addends efficiently by finding two addends that total 10
- 6 Pupils add two numbers that bridge through 10
- 7 Pupils subtract two numbers that bridge through 10
- 8 Pupils compare numbers and describe how many more or less there are in each set
- 9 Pupils calculate the difference
- 10 Pupils use knowledge of subtraction to solve problems in a range of contexts
- 11 Pupils explain what the difference is between consecutive numbers
- 12 Pupils calculate difference when information is presented in a pictogram
- 13 Pupils calculate difference when information is presented in a bar chart

Fluently add and subtract within 20

- 1 Pupils demonstrate their fluency of addition and subtraction within ten
- 2 Pupils practise addition and subtraction strategies as required

Addition and subtraction of 2-digit numbers (1)

- 1 Pupils add and subtract one to and from a two-digit number
- 2 Pupils add and subtract one to and from a two-digit number that crosses a tens boundary
- 3 Pupils add and subtract one from any two-digit number
- 4 Pupils use number facts to add a single-digit number to a two-digit number
- 5 Pupils use number facts to subtract a single-digit number from a two-digit number
- 6 Pupils use a part-part-whole model to represent addition and subtraction
- 7 Pupils use number bonds to ten to add a single-digit number to a two-digit number
- 8 Pupils use number bonds to ten to subtract a single-digit number from a two-digit number
- 9 Pupils use knowledge of 'make ten' to add a one-digit number to a two-digit number
- 10 Pupils use knowledge of 'make ten' to subtract a multiple of ten or a single-digit from a two-digit number
- 11 Pupils solve problems using knowledge of addition and subtraction
- 12 Pupils find ten more or ten less than a two-digit number (1)
- 13 Pupils find ten more or ten less than a two-digit number (2)
- 14 Pupils add and subtract ten to/from a two-digit number
- 15 Pupils explain the patterns when adding and subtracting ten
- 16 Pupils use knowledge of adding and subtracting ten to solve problems
- 17 Pupils use number facts to add a multiple of ten to a two-digit number
- 18 Pupils use number facts to subtract a multiple of ten from a two-digit number
- 19 Pupils partition a two-digit number into parts in different ways (two and three parts)
- 20 Pupils use knowledge of adding and subtracting multiples of ten to solve problems

Introduction to multiplication

- 1 Pupils explain that objects can be grouped in different ways
- 2 Pupils describe how objects have been grouped
- 3 Pupils represent equal groups as repeated addition
- 4 Pupils represent equal groups as repeated addition and multiplication
- 5 Pupils represent equal groups as multiplication

- 6 Pupils explain and represent multiplication when a group contains zero or one items
- 7 Pupils identify and explain each part of a multiplication equation
- 8 Pupils use knowledge of multiplication to calculate the product
- 9 Pupils represent the two times table in different ways
- 10 Pupils use knowledge of the two times table to solve problems
- 11 Pupils explain the relationship between adjacent multiples of two
- 12 Pupils explain that factor pairs can be written in any order
- 13 Pupils represent counting in tens as the ten times table
- 14 Pupils represent the ten times table in different ways
- 15 Pupils explain the relationship between adjacent multiples of ten
- 16 Pupils represent counting in fives as the five times table
- 17 Pupils represent the five times table in different ways
- 18 Pupils explain the relationship between adjacent multiples of five
- 19 Pupils explain how groups of five and ten are related
- 20 Pupils explain the relationship between multiples of five and ten
- 21 Pupils use knowledge of the relationships between the five and ten times tables to solve problems
- 22 Pupils explain how a factor of zero or one affect the product
- 23 Pupils represent multiplication equations in different ways
- 24 Pupils use knowledge of the two, five and ten times tables to solve problems (1)
- 25 Pupils use knowledge of the two, five and ten times tables to solve problems (2)
- 26 Pupils explain what each factor represents in a multiplication story
- 27 Pupils explain what each factor represents in a multiplication story when one of the factors is one
- 28 Pupils explain how a multiplication equation with two as a factor is related to doubling
- 29 Pupils double two-digit numbers
- 30 Pupils multiply efficiently when one of the factors is two
- 31 Pupils explain how halving and doubling are related
- 32 Pupils explain the relationship between factors and products
- 33 Pupils halve two-digit numbers
- 34 Pupils use knowledge of doubling, halving and the two times table to solve problems

Introduction to division structures

- 1 Pupils explain that objects can be grouped equally
- 2 Pupils identify and explain when objects cannot be grouped equally
- 3 Pupils explain the relationship between division expressions and division stories

- 4 Pupils calculate the number of equal groups in a division story
- 5 Pupils use their knowledge of skip counting and division to solve problems relating to measure
- 6 Pupils skip count using the divisor to find the quotient
- 7 Pupils use their knowledge of division to solve problems
- 8 Pupils explain that objects can be shared equally
- 9 Pupils use skip counting to solve a sharing problem
- 10 Pupils skip count using the divisor to find the quotient
- 11 Pupils solve a variety of division problems, explaining their understanding

Shape

- 1 Pupils learn that a polygon is a 2D shape with straight sides that meet at vertices
- 2 Pupils describe polygons and find different ways to sort them
- 3 Pupils learn that polygons can be sorted and named according to the number of sides and vertices
- 4 Pupils discuss, and compare by direct comparison, the shape and size of polygons
- 5 Pupils discuss, and compare by direct comparison, the vertices of polygons
- 6 Pupils investigate how polygons can be joined and folded to form 3-dimensional shapes
- 7 Pupils describe 3-dimensional shapes and find different ways to sort them
- 8 Pupils discuss, and compare by direct comparison, the shape and size of 3-dimensional shapes

Addition and subtraction of 2-digit numbers (2)

- 1 Pupils explain strategies used to add
- 2 Pupils add a two-digit number to a two-digit number
- 3 Pupils add a two-digit number to a two-digit number when not crossing ten (i)
- 4 Pupils add a two-digit number to a two-digit number when not crossing ten (ii)
- 5 Pupils add a two-digit number to a two-digit number when crossing ten
- 6 Pupils explain strategies used to subtract
- 7 Pupils subtract a two-digit number from a two-digit number
- 8 Pupils partition the subtrahend to help with subtraction
- 9 Pupils subtract a two-digit number from a two-digit number when not crossing ten (i)
- 10 Pupils subtract a two-digit number from a two-digit number when not crossing ten (ii)
- 11 Pupils subtract a two-digit number from a two-digit number when crossing ten

12 Pupils subtract efficiently using knowledge of two-digit numbers

Summer

Money

National curriculum statutory requirements (p14)

Pupils should be taught to:

- recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value
- find different combinations of coins that equal the same amounts of money
- solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.

Notes and guidance (non-statutory)

- Pupils become fluent in counting and recognising coins. They read and say amounts of money confidently and use the symbols £ and p accurately, recording pounds and pence separately.

Fractions

- 1 Pupils identify whether something has or has not been split into equal parts
- 2 Pupils name the fraction 'one-half' in relation to a fraction of a length, shape or set of objects
- 3 Pupils name the fraction 'one-quarter' in relation to a fraction of a length, shape or set of objects
- 4 Pupils name the fraction 'one-third' in relation to a fraction of a length, shape or set of objects
- 5 Pupils read and write the fraction notation $\frac{1}{2}$, $\frac{1}{3}$ and $\frac{1}{4}$ and relate this to a fraction of a length, shape or set of objects
- 6 Pupils find half of numbers
- 7 Pupils find $\frac{1}{3}$ or $\frac{1}{4}$ of a number
- 8 Pupils find $\frac{1}{4}$ and $\frac{3}{4}$ of an object, shape, set of objects, length or quantity
- 9 Pupils recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$

Time

National curriculum statutory requirements (p14)

Pupils should be taught to:

- compare and sequence intervals of time
- 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

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

Notes and guidance (non-statutory)

- Pupils use standard units of measurement with increasing accuracy, using their knowledge of the number system. They become fluent in telling the time on analogue clocks and recording it.

Position and direction

National curriculum statutory requirements (p16)

Pupils should be taught to:

- order and arrange combinations of mathematical objects in patterns and sequences
- 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).

Notes and guidance (non-statutory)

- Pupils should work with patterns of shapes, including those in different orientations.
- Pupils use the concept and language of angles to describe ‘turn’ by applying rotations, including in practical contexts (for example, pupils themselves moving in turns, giving instructions to other pupils to do so, and programming robots using instructions given in right angles).

Multiplication and division – doubling, halving, quotative and partitive division

- 1 Pupils identify the patterns and relationships between the 5 and 10 times tables
- 2 Pupils explain the patterns and relationships between the 5 and 10 times tables
- 3 Pupils use their knowledge of the 5 and 10 times tables to solve problems
- 4 Pupils identify and explain relationships between the 5 and the 10 times tables
- 5 Pupils use their knowledge of the 5 and 10 times tables to solve problems
- 6 Pupils explain how times table facts can help to find the quotient (10 times table)
- 7 Pupils explain how times table facts can help to find the quotient (5 times table)
- 8 Pupils explain how times table facts can help to find the quotient (2 times table)
- 9 Pupils explain how a division equation with 2 as a divisor is related to halving

- 10 Pupils explain each part of a division equation and know how they can be interchanged
- 11 Pupils use knowledge of divisibility rules when the divisor is 2 to solve problems
- 12 Pupils use knowledge of divisibility rules when then divisor is 10 to solve problems
- 13 Pupils use knowledge of divisibility rules when the divisor is 5 to solve problems
- 14 Pupils explain how a dividend of zero affects the quotient
- 15 Pupils explain how the quotient is affected when the divisor is equal to the dividend
- 16 Pupils explain how a divisor of one affects the quotient

Sense of measure – capacity, volume and mass

National curriculum statutory requirements (p14)

Pupils should be taught to:

- choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature ($^{\circ}\text{C}$); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels
- compare and order lengths, mass, volume/capacity and record the results using $>$, $<$ and $=$.

Notes and guidance (non-statutory)

- Pupils use standard units of measurement with increasing accuracy, using their knowledge of the number system. They use the appropriate language and record using standard abbreviations.
- Comparing measures includes simple multiples such as ‘half as high’; ‘twice as wide’.