

Maths - EYFS 30-50m

Number

- Uses some number names and number language spontaneously.
- Uses some number names accurately in play.
- Recites numbers in order to 10.
- Knows that numbers identify how many objects are in a set.
- Beginning to represent numbers using fingers, marks on paper or pictures.
- Sometimes matches numeral and quantity correctly.
- Shows curiosity about numbers by offering comments or asking questions.
- Compares two groups of objects, saying when they have the same number.
- Shows an interest in number problems.
- Separates a group of three or four objects in different ways, beginning to recognise that the total is still the same.
- Shows an interest in numerals in the environment.
- Shows an interest in representing numbers.
- Realises not only objects, but anything can be counted, including steps, claps or jumps.

Shape, Space & Measure

- Shows an interest in shape and space by playing with shapes or making arrangements with objects.
- Shows awareness of similarities of shapes in the environment.
- Uses positional language.
- Shows interest in shape by sustained construction activity or by talking about shapes or arrangements.
- Shows interest in shapes in the environment.
- Uses shapes appropriately for tasks.
- Beginning to talk about the shapes of everyday objects, e.g. 'round' and 'tall'.

Maths - EYFS 40-60m

Number

- Recognise some numerals of personal significance.
- Recognises numerals 1 to 5.
- Counts up to three or four objects by saying one number name for each item.
- Counts actions or objects which cannot be moved.
- Counts objects to 10, and beginning to count beyond 10.
- Counts out up to six objects from a larger group.
- Selects the correct numeral to represent 1 to 5, then 1 to 10 objects.
- Counts an irregular arrangement of up to ten objects.
- Estimates how many objects they can see and checks by counting them.
- Uses the language of 'more' and 'fewer' to compare two sets of objects.
- Finds the total number of items in two groups by counting all of them.
- Says the number that is one more than a given number.
- Finds one more or one less from a group of up to five objects, then ten objects.
- In practical activities and discussion, beginning to use the vocabulary involved in adding and subtracting.
- Records, using marks that they can interpret and explain.
- Begins to identify own mathematical problems based on own interests and fascinations.

Shape, Space & Measure

- Beginning to use mathematical names for 'solid' 3D shapes and 'flat' 2D shapes, and mathematical terms to describe shapes.
- Selects a particular named shape.
- Can describe their relative position such as 'behind' or 'next to'.
- Orders two or three items by length or height.
- Orders two items by weight or capacity.
- Uses familiar objects and common shapes to create and recreate patterns and build models.
- Uses everyday language related to time.
- Beginning to use everyday language related to money.

Orders and sequences familiar events.
Measures short periods of time in simple ways.
Maths - EYFS ELG
Number
Children count reliably with numbers from one to 20, place them in order and say which number is one more or one less than a given number.
Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer.
They solve problems, including doubling, halving and sharing.
Children estimate a number of objects and check quantities by counting up to 20. (ELG EXC)
They solve practical problems that involve combining groups of 2, 5 or 10, or sharing into equal groups. (ELG EXC)
Shape, Space & Measure
Children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems.
They recognise, create and describe patterns.
They explore characteristics of everyday objects and shapes and use mathematical language to describe them.
Children estimate, measure, weigh and compare and order objects and talk about properties, position and time. (ELG EXC)

Maths – pre Key Stage 1 standards

Mathematics

Pupils encounter activities and experiences. (P1 i)

They may be passive or resistant. (P1 i)

They may show simple reflex responses [for example, startling at sudden noises or movements]. (P1 i)

Any participation is fully prompted. (P1 i)

Pupils show emerging awareness of activities and experiences. (P1 ii)

They may have periods when they appear alert and ready to focus their attention on certain people, events, objects or parts of objects,[for example, grasping objects briefly when they are placed in their hand] (P1 ii)

They may give intermittent reactions [for example, sometimes showing surprise at the sudden presence or absence of an event or object] (P1 ii)

Pupils begin to respond consistently to familiar people, events and objects. (P2 i)

They react to new activities and experiences [for example, becoming excited or alarmed when a routine is broken] (P2 i)

They begin to show interest in people, events and objects [for example, tracking objects briefly across their field of awareness] (P2 i)

They accept and engage in coactive exploration [for example, lifting objects briefly towards the face in shared investigations] (P2 i)

Pupils begin to be proactive in their interactions. (P2 ii)

They communicate consistent preferences and affective responses [for example, showing a desire to hold a favourite object] (P2 ii)

They recognise familiar people, events and objects [for example, looking towards their own lunch box when offered a selection] (P2 ii)

They perform actions, often by trial and improvement, and they remember learned responses over short periods of time [for example, repeating an action with a familiar item of equipment] (P2 ii)

They cooperate with shared exploration and supported participation [for example, handling and feeling the texture of objects passed to them] (P2 ii)

Pupils begin to communicate intentionally. (P3 i)

They seek attention through eye contact, gesture or action. (P3 i)

They request events or activities [for example, pushing an item of equipment towards a member of staff] (P3 i)

They participate in shared activities with less support. (P3 i)

They sustain concentration for short periods. (P3 i)

They explore materials in increasingly complex ways [for example, banging or rubbing objects together] (P3 i)

They observe the results of their own actions with interest [for example, as they throw or drop objects on to different surfaces] (P3 i)

They remember learned responses over more extended periods [for example, remembering how to activate a pop-up object from a previous lesson] (P3 i)

Pupils use emerging conventional communication. (P3 ii)

They greet known people and may initiate interactions and activities [for example, dropping objects to prompt interventions from adults] (P3 ii)

They can remember learned responses over increasing periods of time and may anticipate known events [for example, collecting coats and bags at the end of the school day] (P3 ii)

They may respond to options and choices with actions or gestures [for example, pointing to or giving one object rather than another] (P3 ii)

They actively explore objects and events for more extended periods [for example, manipulating objects in piles, groups or stacks] (P3 ii)

They apply potential solutions systematically to problems [for example, using items of equipment purposefully and appropriately] (P3 ii)

Maths - pre Key Stage 1 standards

Using and Applying

Pupils are aware of cause and effects in familiar mathematical activities [for example, knowing that in a role-play shop a coin can be exchanged for an item; hitting a mathematical shape on a concept keyboard to make it appear on the screen] (P4)

Pupils show awareness of changes in shape, position or quantity [for example, grouping objects that have similar key features such as shape; creating very simple sequences of light or sound using switched equipment; recalling an object which has been placed out of sight] (P4)

They anticipate, follow and join in familiar activities when given a contextual clue [for example, anticipating the next chorus or action in songs and rhymes; matching cakes to plates] (P4)

Pupils sort or match objects or pictures by recognising similarities [for example, matching shoes or socks by placing next to one placed by an adult; find matching pairs from a collection of pictures; collecting objects given one criterion such as blue or big] (P5)

They make sets that have the same small number of objects in each [for example, distributing sweets into containers so that there are one or two in each] (P5)

They solve simple problems practically [for example, selecting appropriate containers for items of different sizes; checking there is a knife for every fork] (P5)

Pupils sort objects and materials according to a given criteria [for example, sorting footballs into a net and table tennis balls into a box] (P6)

They copy simple patterns or sequences [for example, copying a drumbeat; copying a simple pattern of repeated movements; copying a pattern of large and small cups] (P6)

Pupils complete a range of classification activities using a given criterion [for example, sorting a pile of coins by size, colour or shape; sorting all the blue Wellington boots; sorting all the size 6 shoes] (P7)

They identify when an object is different and does not belong to a given familiar category [for example, removing odd items from sets; collecting items into sorting boxes or drawers] (P7)

They respond appropriately to key vocabulary and questions [for example, 'How many?'] (P7)

Pupils talk about, recognise and copy simple repeating patterns and sequences [for example, recognising and describing simple repeating patterns on textiles or necklaces from different cultures; recognising and describing a pattern of socks on a line; joining in a pattern of hand claps; talking about and copying patterns such as beats in familiar music; shapes made by hand and feet in damp sand; sponge prints] (P8)

Pupils use their developing mathematical understanding of counting up to ten to solve simple problems encountered in play, games or other work [for example, using tokens or marks to tally events or scoring in games; counting in the school environment; using ordinal words to describe positions and turns] (P8)

Pupils make simple estimates [for example, estimating the number of cubes that will fit into a box or the number of strides across a room] (P8)

Number

Pupils show an awareness of number activities and counting [for example copying some actions during number rhymes, songs and number games; following a sequence of pictures or numbers as indicated by a known person during number rhymes and songs] (P4)

Pupils respond to and join in with familiar number rhymes, stories, songs and games [for example, using a series of actions during the singing of a familiar song; joining in by saying, signing or indicating at least one of the numbers in a familiar number rhyme] (P5)

Pupils can indicate one or two [for example by using eye pointing, blinks, gestures or any other means to indicate one or two, as required] (P5)

They demonstrate that they are aware of contrasting quantities [for example 'one' and 'lots' by making groups of one or lots of food items on plates] (P5)

Pupils demonstrate an understanding of one-to-one correspondence in a range of contexts [for example: matching objects such as cups to saucers, straws to drink cartons]. Pupils join in rote counting up to five [for example, saying or signing number names to 5 in counting activities] (P6)

They count reliably to three, make sets of up to three objects and use numbers to three in familiar activities and games [for example, touching one, two, three items as an adult counts, counting toys or pictures, counting out sets of three, such as knife, fork and spoon] (P6)

They demonstrate an understanding of the concept of 'more' [for example, indicating that more cups, counters, food items are required]. They join in with new number rhymes, songs, stories and games. (P6)

Pupils join in rote counting to 10 [for example, saying or signing number names to 10 in counting activities] (P7)

They can count at least 5 objects reliably [for example, candles on a cake, bricks in a tower] (P7)

They recognise numerals from one to five and to understand that each represents a constant number or amount [for example, putting correct number of objects (one to five) into containers marked with the numeral; collecting the correct number of items up to five] (P7)

Pupils demonstrate an understanding of 'less' [for example, indicating which bottle has less water in it]. In practical situations they respond to 'add one' to a number of objects [for example, responding to requests such as add one pencil to the pencils in the pot, add one sweet to the dish] (P7)

Pupils join in with rote counting to beyond 10 [for example, they say or sign number names in counting activities] (P8)

They continue to rote count onwards from a given small number [for example, continuing the rote count onwards in a game using dice and moving counters up to 10; continuing to say, sign or indicate the count aloud when an adult begins counting the first two numbers] (P8)
Pupils recognise differences in quantity [for example, in comparing given sets of objects and saying which has more or less, which is the bigger group or smaller group] (P8)
They recognise numerals from one to nine and relate them to sets of objects [for example, labelling sets of objects with correct numerals]. (P8)
In practical situations they respond to 'add one' to or 'take one away' from a number of objects, [for example, adding one more to three objects in a box and say, sign or indicate how many are now in the box; at a cake sale saying, signing or indicating how many cakes are left when one is sold] (P8)
They use ordinal numbers (first, second, third) when describing the position of objects, people or events [for example, indicating who is first in a queue or line; who is first, second and third in a race or competition] (P8)
Pupils estimate a small number (up to 10) and check by counting [for example, suggesting numbers that can be checked by counting, guessing then counting the number of: pupils in a group; adults in the room; cups needed at break time]. (P8)
Shape, Space & Measure
Pupils search for objects that have gone out of sight, hearing or touch, demonstrating the beginning of object permanence [for example, searching for an object or sound when it is removed] (P4)
Pupils match big objects and small objects [for example, finding a big football to place in a net with other big footballs, matching a small model car with a similar sized model car] (P4)
They demonstrate interest in position and the relationship between objects [for example, stacking or joining objects or using construction materials]. (P4)
Pupils search intentionally for objects in their usual place [for example, going to the mathematics shelf for the box of shapes] (P5)
They find big and small objects on request [for example, from a choice of two objects, identifying the 'big' and 'small'] (P5)
They compare the overall size of one object with that of another where there is a marked difference [for example, they indicate which of two shoes is the bigger, compare objects - big boxes and small boxes] (P5)
They explore the position of objects [for example, placing objects in and out of containers, placing objects inside and outside a hoop, fits as many objects as possible into a box]. (P5)
Pupils search for objects not found in their usual place, demonstrating their understanding of object permanence [for example, looking for cups when they are not in their usual cupboard] (P6)
They compare the overall size of one object with that of another where the difference is not great [for example, identifying the bigger of two Russian dolls or nesting cubes] (P6)
They manipulate three-dimensional shapes [for example, putting shapes into a shape sorter, using 3D objects to build and manipulate in role-play, rolling a tube in a race with a partner] (P6)
They show understanding of words signs and symbols that describe positions [for example, responding to a request to put an object in, on, under, or inside another object]. (P6)
Pupils respond to 'forwards' and 'backwards' [for example, moving forwards and backwards on request, recognising when a vehicle is moving forwards or backwards, moving a counter forward or backward on a board game] (P7)
They pick out described shapes from a collection [for example, picking out all the round shapes in the classroom, finding shapes with straight edges, fitting shapes into matching holes] (P7)
They use familiar words in practical situations when they compare sizes and quantities, [for example, using the words 'heavy' and 'light', 'more' and 'less', 'enough' or 'not enough' to compare objects or quantities]. (P7)
Pupils compare objects directly, focusing on one dimension such as length or height where the difference is marked and can indicate 'the long one' or 'the tall one' [for example, comparing two plants, placed side by side and indicate the tall one, or comparing two zips and indicating the long one] (P8)
They show awareness of time, through some familiarity with names of the days of the week and significant times in their day, such as meal times, bed times [for example, ordering events in their day on a visual daily timetable, understanding and using names of days of the week, 'no school on Saturday or Sunday, swimming on Wednesday'] (P8)
They respond to mathematical vocabulary such as 'straight', 'circle', 'larger' to describe the shape and size of solids and flat shapes [for example, when shopping, pupils find boxes with straight edges to pack into the carrier bag; identify the larger circle when stacking two cans] (P8)
They describe shapes in simple models, pictures and patterns [for example, stamping shapes in sand and describing them, using a set of flat shapes to make pictures or patterns, naming some of the shapes used, identifying specific shapes from pictures, simple models or patterns]. (P8)

Maths - EAL 1

To know and use numbers

Rote count to 3 in 1st language.

Rote count to 3 in English.

Say English number names when looking at numbers (not necessarily the correct ones).

Says the correct number when looking at the numeral to 3 in 1st language.

Says the correct number when looking at the numeral to 3 in English.

Write numbers to 3 in 1st language.

Write numbers to 3 in English.

Rote count to 5 in 1st language.

Rote count to 5 in English.

Say English number names when looking at numbers (not necessarily the correct ones).

Says the correct number when looking at the numeral to 5 in 1st language.

Says the correct number when looking at the numeral to 5 in English.

Write numbers to 5 in 1st language.

Write numbers to 5 in English.

Counts out up to 6 objects from a larger group in 1st language.

Counts out up to 6 objects from a larger group in English.

Has 1:1 correspondence.

Selects the correct numeral to represent 1 to 5 objects.

Make and draw sets to 5.

Complete repeating patterns of up to 3 colours or objects.

Say the number that is 1 more than a given number to 5.

Find 1 more/one less from a group of up to 5 objects.

Maths - EAL 2

To know and use numbers

Rote count to 10 in 1st language.

Rote count to 10 in English.

Rote count backwards from 10 in 1st language.

Rote count backwards from 10 in English.

Write numbers to 10 in 1st language.

Write numbers to 10 in English.

Selects the correct numeral to represent 5 to 10 objects.

Says the correct number when looking at the numeral to 10 in 1st language.

Says the correct number when looking at the numeral to 10 in English.

Counts an irregular arrangement of up to 10 objects.

Beginning to count beyond 10 objects.

Estimates how many objects they can see up to 10 and checks by counting them.

Make and draw sets to 10.

Uses the language of 'more, fewer, less' to compare sets of objects in 1st language.

Uses the language of 'more, fewer, less' to compare sets of objects in English.

Say the number that is one more than a given number to 10.

Find one more/one less from a group of up to 10 objects.

Copy actions for add, subtract and equals.

Can practically double numbers to 5.

Maths - EAL 3

To know and use numbers

Rote count to 20 in 1st language.

Rote count to 20 in English.

Rote count backwards from 20 in 1st language.

Rote count backwards from 20 in English.

Write numbers to 20 in 1st language.

Write numbers to 20 in English.

Selects the correct numeral to represent 10 to 20 objects.

Says the correct number when looking at the numeral to 20 in 1st language.

Says the correct number when looking at the numeral to 20 in English.

Counts an irregular arrangement of up to 20 objects (1:1).

Estimates how many objects they can see up to 20 and checks by counting them.

Make and draw sets to 20.

Knows the names for add, subtract and equals in English.

Understands the concept of $+$ $-$ $=$ in first language.

Add numbers practically to make a total of up to 10.

Subtract numbers practically within 10.

Can practically double numbers to 10.

Can practically halve numbers to 10.

Maths - EAL 4

To know and use numbers

Rote count to 50 in 1st language.

Rote count to 50 in English.

Rote count backwards from 30+ in 1st language.

Rote count backwards from 30+ in English.

Write numbers to 50 in 1st language.

Write numbers to 50 in English.

Selects the correct numeral to represent 10 to 30 objects.

Says the correct number when looking at the numeral to 50 in 1st language.

Says the correct number when looking at the numeral to 50 in English.

Counts larger amounts by grouping into 10s.

Has some understanding of 2 digit numbers as being made up of 10s and 1s.

Represent pictorially addition and subtraction to 20.

Add numbers practically to make a total of up to 20.

Subtract numbers practically within 20.

Knows number bonds to 10.

Count forwards and backwards in 2s, 5s, 10s in 1st language.

Count forwards and backwards in 2s, 5s, 10s in English.

Solve addition and subtraction problems with single digit numbers.

Can practically double numbers to 20.

Can practically halve numbers to 20.

Can share a number of objects equally into 3 groups.

Can split a shape into half by drawing or folding.

Can identify shapes which have been split into halves from a group also containing shapes that have been unequally split into 2.

Maths - Y1
Place Value
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 twos, fives and tens.
Given a number, identify one more and one less.
Use the language of: equal to, more than, less than (fewer), most, least.
Identify and represent numbers using objects and pictorial representations including a number line.
Read and write numbers from 1 to 20 in numerals.
Read and write numbers from 1 to 20 in words.
Addition & Subtraction
Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs.
Know and use number bonds and related subtraction facts up to 20.
Add and subtract one-digit and two-digit numbers to 20, including zero.
Solve one-step problems that involve addition and subtraction, using objects and pictorial representations.
Solve missing number problems such as $7 = \square - 9$
Multiplication & Division
Solve one-step problems involving multiplication and division, by calculating the answer using objects, pictorial representations and arrays with the support of the teacher.
Fractions
Recognise, find and name a half of an object, shape or quantity.
Recognise, find and name a quarter of an object, shape or quantity.
Measurement
Solve practical problems for lengths and heights [for example, long/short, longer/shorter, tall/short, double/half].
Solve practical problems for mass/weight [for example, heavy/light, heavier than, lighter than].
Solve practical problems for capacity and volume [for example, full/empty, more than, less than, half, half full, quarter].
Solve practical problems for time [for example, quicker, slower, earlier, later]. (KPI)
Measure and begin to record lengths and heights.
Measure and begin to record mass/weight.
Measure and begin to record capacity and volume.
Measure and begin to record time (hours, minutes, seconds).
Recognise and know the value of different denominations of coins and notes.
Sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening].
Recognise and identify days of the week, weeks, months and years.
Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.
Geometry: Properties of Shape
Recognise and name common 2-D shapes.
Recognise and name common 3-D shapes.
Geometry: Position & Direction
Describe position, direction and movement, including whole, half, quarter and three-quarter turns.

Maths - Y2

Place Value

Count in steps of 2 from 0.

Count in steps of 3 from 0.

Count in steps of 5 from 0.

Count in tens from any number, forward and backward.

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

Identify, represent and estimate numbers using different representations, including the number line.

Order numbers from 0 up to 100.

Compare numbers using $<$, $>$ and $=$ signs

Read and write numbers to at least 100 in numerals.

Read and write numbers to at least 100 in words.

Use place value and number facts to solve problems.

Addition & Subtraction

Solve problems with addition using objects and pictorial representations.

Solve problems with subtraction using objects and pictorial representations.

Solve problems with addition and subtraction applying their increasing knowledge of mental and written methods.

Recall and use addition and subtraction facts to 20 fluently.

Recall and use addition and subtraction facts up to 100.

Add and subtract numbers using objects, pictorial representations.

Add and subtract numbers mentally, including a two-digit number and ones.

Add and subtract numbers using objects, pictorial representations, and mentally, including a two-digit number and tens.

Add and subtract numbers using objects, pictorial representations, and mentally, including adding three one-digit numbers.

Show that addition of two numbers can be done in any order and subtraction of one number from another cannot.

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

Multiplication & Division

Recall and use multiplication and division facts for the 2x multiplication tables.

Recall and use multiplication and division facts for the 5x multiplication tables.

Recall and use multiplication and division facts for the 10x multiplication tables.

Calculate mathematical statements for multiplication and division and write them using the multiplication ($\times$), division ($\div$) and equals ($=$) signs.

Show that multiplication of two numbers can be done in any order and division of one number by another cannot.

Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts

Fractions

Recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$, and $\frac{3}{4}$ of a length, shape, set of objects or quantity.

Write simple fractions for example, $\frac{1}{2}$ of 6 = 3.

Recognise simple equivalent fractions for example $\frac{2}{4} = \frac{1}{2}$

Measurement

Choose and use appropriate standard units to estimate and measure to the nearest appropriate unit, using rulers, meter sticks for length/height in any direction (m/cm).

Choose and use appropriate standard units to estimate and measure to the nearest appropriate unit, using scales for mass (kg/g).

Choose and use appropriate standard units to estimate and measure to the nearest appropriate unit, using thermometers for temperature ($^{\circ}\text{C}$).

Choose and use appropriate standard units to estimate and measure to the nearest appropriate unit, using measuring vessels for capacity (litres/ml).

Compare and order lengths, mass, volume/capacity.

Record the results of ordering using $>$, $<$ and $=$.

Recognise and use symbols for pounds (£) and pence (p).

Recognise and combine amounts of coins 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.

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 number of hours in a day.
Geometry: Properties of Shape
Identify and describe the properties of 2-D shapes, including the number of sides and lines of symmetry.
Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces
Identify 2-D shapes on the surface of 3-D shapes [for example, a circle on a cylinder and a triangle on a pyramid].
Compare and sort common 2-D and 3-D shapes and everyday objects.
Geometry: Position & Direction
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).
Statistics
Interpret and construct simple pictograms, tally charts, block diagrams and simple tables.
Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity.

Maths - Y3

Place Value

Count from 0 in multiples of 4.

Count from 0 in multiples of 8.

Count from 0 in multiples of 50 and 100.

Find 10 or 100 more or less than a given number.

Recognise the place value of each digit in a three-digit number (hundreds, tens, ones).

Compare and order numbers up to 1000.

Identify, represent and estimate numbers using different representations.

Read and write numbers up to 1000 in numerals.

Read and write numbers up to 1000 in words.

Solve number problems and practical problems.

Addition & Subtraction

Add and subtract numbers mentally, including a three-digit number and ones.

Add and subtract numbers mentally, including a three-digit number and tens.

Add and subtract numbers mentally, including a three-digit number and hundreds.

Add and subtract numbers with up to three digits, using formal written methods of column addition and subtraction.

Estimate the answer to a calculation and use inverse operations to check answers.

Solve problems, including missing number problems.

Multiplication & Division

Recall and use multiplication and division facts for the 3x tables.

Recall and use multiplication and division facts for the 4x tables.

Recall and use multiplication and division facts for the 8x tables.

Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods.

Solve problems, including missing number problems, involving multiplication and division.

Fractions

Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts.

Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators.

Recognise and use fractions as numbers: unit fractions (numerator of 1) and non-unit fractions with small denominators.

Recognise and show, using diagrams, equivalent fractions with small denominators.

Add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$].

Compare and order unit fractions, and fractions with the same denominators.

Solve problems that involve all of the above.

Measurement

Measure, compare, add and subtract lengths (m/cm/mm)

Measure, compare, add and subtract mass (kg/g)

Measure, compare, add and subtract volume/capacity (l/ml)

Measure the perimeter of simple 2-D shapes.

Add and subtract amounts of money to give change, using both £ and p in practical contexts.

Tell and write the time from an analogue clock, including using Roman numerals from I to XII.

Tell and write the time from an analogue clock.

Estimate and read time with increasing accuracy to the nearest minute.

Record and compare time in terms of seconds, minutes and hours

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

Know the number of seconds in a minute and the number of days in each month, year and leap year

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

Geometry: Properties of Shape

Draw 2-D shapes.

make 3-D shapes using modelling materials.

Recognise 3-D shapes in different orientations and describe them.

Recognise angles as a property of shape or a description of a turn.

Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn.)

Identify whether angles are greater than or less than a right angle.

Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.

Statistics
Interpret and present data using bar charts, pictograms and tables.
Solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.

Maths - Y4

Place Value

Count in multiples of 6, 7, 9, 25 and 1000.

Find 1000 more or less than a given number.

Count backwards through zero to include negative numbers.

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

Order and compare numbers beyond 1000.

Identify, represent and estimate numbers using different representations.

Round any number to the nearest 10.

Round any number to the nearest 100.

Round any number to the nearest 1000.

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

Read Roman numerals to 100 (I to C).

Addition & Subtraction

Add numbers with up to 4 digits using the formal written methods of columnar addition.

Subtract numbers with up to 4 digits using the formal written methods of columnar subtraction.

Estimate and use inverse operations to check answers to a calculation.

Solve addition and subtraction two-step problems in contexts.

Multiplication & Division

Recall multiplication and division facts for multiplication tables up to 12 x 12.

Use place value, known and derived facts to multiply and divide mentally.

Use place value, known and derived facts to multiply and divide mentally including multiplying by 0 and 1.

Use place value, known and derived facts to multiply and divide mentally including dividing by 1.

Use place value, known and derived facts to multiply and divide mentally including multiplying together three numbers.

Recognise and use factor pairs and commutativity in mental calculations.

Multiply two-digit and three-digit numbers by a one-digit number using formal written layout.

Solve problems involving multiplying and adding.

Fractions (including Decimals & Pcts)

Recognise and show common equivalent fractions.

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

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.

Add and subtract fractions with the same denominator.

Recognise and write decimal equivalents of any number of tenths or hundredths.

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

Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer.

Round decimals with one decimal place to the nearest whole number.

Compare numbers with the same number of decimal places up to two decimal places.

Solve simple measure and money problems involving fractions and decimals to two decimal places.

Measurement

Convert between different units of measure [for example, kilometre to metre; hour to minute].

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

Find the area of rectilinear shapes by counting squares.

Estimate, compare and calculate different measures, including money in pounds and pence.

Read, write and convert time between analogue and digital 12- and 24-hour clocks.

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

Geometry: Properties of Shape

Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.

Identify acute and obtuse angles and compare and order angles up to two right angles by size.

Identify lines of symmetry in 2-D shapes presented in different orientations.

Complete a simple symmetric figure with respect to a specific line of symmetry

Geometry: Position & Direction

Describe positions on a 2-D grid as coordinates in the first quadrant.

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

Plot specified points and draw sides to complete a given polygon.

Statistics
Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.
Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.

Maths - Y5

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 & 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 (example, $12,462 - 2,300 = 10,162$).

Use rounding to check answers to calculations.

Solve addition and subtraction multi-step problems in contexts.

Multiplication & 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 (non-prime) 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.

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.

Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.

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

Solve problems involving multiplication and division..

Solve problems involving addition, subtraction, multiplication and division and a combination of these.

Fractions (including Decimals & Pcts)

Compare and order fractions whose denominators are all multiples of the same number.

Identify, name and write equivalent fractions of a given fraction.

Recognise mixed numbers and improper fractions and convert from one form to the other.

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.

Read and write decimal numbers as fractions.

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 $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25.

Measurement

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 (cm²) and square metres (m²).

Estimate the area of irregular shapes.

Estimate volume.

Estimate capacity.

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 (°).
Identify angles at a point and one whole turn (total 360°).
Identify angles at a point on a straight line and 1/2 a turn (total 180°).
Identify other multiples of 90°.
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 & 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.

Maths - Y6

Place Value

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. (incl. 2 dp)

Use negative numbers in context, and calculate intervals across zero.

Solve number and practical problems that involve all of the above.

Add, Sub, Multip & Division

Multiply 2, 3 & 4 digit numbers by a two-digit whole number using a formal written method.

Divide numbers up to 4 digits by a two-digit whole number using the formal written method.

Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate.

Perform mental calculations, including with mixed operations and large numbers.

Identify common factors, common multiples and prime numbers.

Use their knowledge of the order of operations to carry out calculations involving the four operations (BODMAS).

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

Solve problems involving addition, subtraction, multiplication and division.

Use estimation to check answers to calculations and determine, in the context of a problem.

Fractions (including Decimals & Pcts)

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

Compare and order fractions, including fractions > 1 .

Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.

Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$].

Divide proper fractions by whole numbers [for example, $\frac{1}{3} \div 2 = \frac{1}{6}$].

Associate a fraction with division and calculate decimal fraction equivalents.

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.

Multiply one-digit numbers with up to two decimal places by whole numbers.

Use written division methods in cases where the answer has up to two decimal places.

Solve problems which require answers to be rounded to specified degrees of accuracy.

Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.

Ratio & Proportion

Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.

Solve problems involving the calculation of percentages.

Solve problems involving similar shapes where the scale factor is known or can be found.

Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.

Algebra

Use simple formulae.

Generate and describe linear number sequences.

Express missing number problems algebraically.

Find pairs of numbers that satisfy an equation with two unknowns.

Enumerate possibilities of combinations of two variables.

Measurement

Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.

Use, read, write and convert 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 three decimal places.

Convert between miles and kilometres.

Recognise that shapes with the same areas can have different perimeters and vice versa.

Recognise when it is possible to use formulae for area and volume of shapes.

Calculate the area of parallelograms and triangles.

Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm³) and cubic metres (m³), and extending to other units [for example, mm³ and km³].

Geometry: Properties of Shape

Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons.

Recognise, describe and build simple 3-D shapes, including making nets.

Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.
Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.
Draw 2-D shapes using given dimensions and angles.
Geometry: Position & Direction
Describe positions on the full coordinate grid (all four quadrants).
Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.
Statistics
Interpret and construct pie charts and line graphs and use these to solve problems.
Calculate and interpret the mean as an average.