Springfield Junior School

Curriculum Content for Maths

Aims and Vision: The aim of our mathematics curriculum is for children to become confident and independent mathematic learners who are able to solve age appropriate problems. At Springfield, children learn mathematics through a mastery approach. We use the NCETM 5 Big Ideas for Mastery within our planning ensuring a coherent curriculum where children become fluent problem solvers. Our curriculum is planned and taught using a 6 stage lesson approach: Recap, Instruction, Practise, Consolidation, Revision and Application. Our teachers adapt lessons to ensure that the needs of all children are met and can progress in their maths skills and knowledge successfully. Children explore mathematics and solve problems by building on their prior learning. They use manipulatives and different representations to embed their understanding of concepts as well as using formal methods to solve problems. The children communicate their clear understanding of mathematics within class through maths partners, group work and within their maths books. Children are challenged with problems in real life contexts so they are able to understand how maths works in the real world.
Twice weekly, during registration, children practise their basic maths skills, recapping and reviewing methods they have learnt previously.

Vocabulary: See appendix 'Mathematical Vocabulary'

	Topics/Context	Skills	Knowledge (Key facts for recall)
Prior Learning	Place Value	Use place value and number facts to solve problems. Counting to 100 forwards and backwards from any given number. Counting in 2s, 3s 5s, 10s from 0 and in tens from any other number, forward or backward. One more and one less than any 2 digit number Compare numbers to 100 using symbols <> and = Use a number line for counting on and back	Know the <> = symbols and what they represent Read and write numbers to 100 in numerals and in words Know the place value of each digit in a 2 digit number Know odd and even numbers
	Addition and Subtraction	Select a mental or written strategy depending on the problem. Use counting on and back Mentally add and subtract using number bonds to twenty Use number bonds to 100 to add and subtract mentally within 100 Add and subtract numbers up to two two digits (including 2d+ones, 2d+10s, 3 single digits). Solve one step problems using addition and subtraction including missing number problems Use concrete and pictoral representations to solve problems	Know number bonds to 20 Addition can be done in any order, subtraction cannot. Number bonds to 100 Addition is the inverse of subtraction.

	Multiplication and Division	Use a number line for counting Groups of/lots of and arrays for multiplication. Sharing and groups for division. Solve problems involving multiplication and division. Single digit x single digit multiplication within times tables. Count in 2s,3s, 5s from 0 and in tens from any number forward or backward and across 10s Use concrete materials to represent multiplication and division **Halving and doubling** Double and half using grouping Double numbers to 10 Half even numbers to 10	Recall 2s 5s and 10 times tables. Know odd and even numbers. Multiplication is commutative and that division is not. Know the difference between sharing and grouping. Know the symbols x and ÷ Know what an array is Multiplication is repeated addition 'Fact Families' of multiplication and division
	Fractions, Decimals and Percentages	Find ½, 1/3, ¼, 2/4 and ¾ of set of objects, length, shape or quantity Write simple fractions of amounts Use pictoral representations and objects to find or show fractions of a shape or an amount	Know notation ½, 1/3, ¼, 2/4 and ¾ Know that ½=2/4
	Ratio and Proportion	Not application	
	Algebra	Not application	
	Measurement	Compare, describe and solve practical problems of lengths and heights using symbols <>= using place value knowledge (long, short, longer, shorter, tall, double, half) Compare, describe and solve practical problems of mass/weight (heavy, light, heavier, lighter) Compare, describe and solve practical problems of capacity (empty, full, more than, less than, half, quarter) Compare, describe and solve practical problems of time (quicker, slower, earlier, later)	Know the meaning of vocabulary: length, mass, volume and capacity Know what equipment to use to measure different things. Know that - length/height is measured in cm, m - mass in g, kg - temperature in degrees - capacity in litres, ml Know the denominations of different coins Know the symbols £ p Know that time is represented either by an analogue clock or digital

		Use appropriate measuring materials to measure standard units of length, mass, capacity and temperature Combine amounts of money to make a value Find combinations of coins that are equal to each other Solve problems involving addition and subtraction of amounts of money in the same unit (£ or p) and giving change Tell and write the time to the nearest 5 minutes including quarter past, half past and quarter to Compare and sequence intervals of time	Know that the short hand represents the hour and the long hand the minute Know before, after, next, tomorrow, yesterday, first, today, morning, afternoon and evening. Know the days of the week, months and years Know that there are 60 minutes in an hour and 24 hours in a day
	Geometry (Properties of Shape)	Compare and sort 2D and 3d shapes and everyday objects. Describe the properties of 2D shapes by size and lines of symmetry Describe the properties of 3D shapes by number of edges, vertices and faces	Know the names of common 2D shapes (square, rectangle, circle, triangle) Know the names of common 3D shapes (Cuboids, cubes, pyramids and spheres) Know that the faces of 3D shapes can by 2D shapes e.g. circle face on a cylinder, square face on a cube/cuboid
	Geometry (Position and Direction)	Order and arrange mathematical objects in patterns and sequences (e.g. multilink patterns)	Know directions and movement – up, down, left right, half, quarter and ¾ turns, clock-wise and anti-clockwise Know that rotation is a turn and ¼, ½ and ¾ are turns of right angles
	Statistics	Interpret and construct simple pictograms, tally charts, block diagrams and tables Ask and answer questions by counting objects in categories and sorting categories by quantity Ask and answer questions about totalling and comparing data.	Know how pictograms, tally charts, block diagrams and tables are presented

Year 2

Measurement **Measures (general)** measure size compare	**Time** All days of the week All months of the year All seasons	square rectangle, rectangular star pentagon hexagon

measuring scale
guess, estimate
enough, not enough
too much, too little
too many, too few
nearly, roughly, about, close to, about the same as
just over, just under
temperature
thermometer

Length
length, width, height, depth
long, short, tall, high, low
wide, narrow, deep, shallow, thick, thin
longer, shorter, taller, higher… and so on
longest, shortest, tallest, highest… and so on
far, further, furthest, near, close
metre (m), centimetre (cm)
ruler, metre stick, tape measure

Mass
weigh, weighs, balances
heavy/light, heavier/lighter, heaviest/lightest
kilogram (kg), half-kilogram,
gram (g)
balance, scales, weight

Capacity
capacity
full, half full, empty
holds, contains
litre (l), half-litre, millilitre (ml)
Volume

Statistics
count, tally, sort, vote
graph, block graph, pictogram
represent

day, week, fortnight, month, year
weekend, birthday, holiday
morning, afternoon, evening, night, midnight
bedtime, dinnertime, playtime
today, yesterday, tomorrow
before, after
next, last
now, soon, early, late
quick, quicker, quickest, quickly
fast, faster, fastest
slow, slower, slowest, slowly
old, older, oldest
new, newer, newest
takes longer, takes less time
how long ago? how long will it be to…?
how long will it take to…?
hour, minute, second
o'clock, half past, quarter to, quarter past
clock, watch, hands
digital/analogue clock/watch, timer
how often?
always, never, often, sometimes, usually
once, twice

Geometry - Shape
shape, pattern
flat, curved, straight
round
hollow, solid
point, pointed
face, side, edge, end
sort
make, build, draw
surface

3D SHAPES
vertices
cube
cuboid

octagon

Patterns and symmetry

size
bigger, larger, smaller
symmetrical
line of symmetry
fold
match
mirror line, reflection
pattern
repeating pattern

Geometry - Position, direction
position
over, under, underneath
above, below
top, bottom, side
on, in
outside, inside
around
in front, behind
front, back
before, after
beside, next to
opposite
apart
between
middle, edge
centre
corner
direction
journey, route
left, right
up, down
higher, lower
forwards, backwards, sideways
across
close, far, near
along
through
to, from, towards, away from
rotation
clockwise, anti-clockwise

group, set, data same, different list, table label, title most popular, most common least popular, least common	pyramid sphere cone cylinder **prism** **2D SHAPES** circle, circular triangle, triangular	movement slide roll whole turn, half turn, quarter turn right angle straight line stretch, bend

Year 2

General same, different missing number/s number facts number pairs number bonds number line, number track number square, hundred square number cards partition commutative equivalence number grid abacus counters, cubes, blocks, rods die, dice dominoes pegs, peg board geo-strips same way, different way best way, another way in order, in a different order not all, every, each		

	Topics/Context	Skills	Knowledge (Key facts for recall)
Year 3	Place Value	Count in 4s, 8s, 50s and 100s using a number line. Partition up to 3 digit numbers to determine their value. Compare and order numbers up to 1000 using a number line and symbols.	Know the value of each digit in numbers up to 3 digits. Read and write numbers to 1000 in numerals and in words. Know the numerals to 1000 in words

		Count on or back to find 10 or 100 more or less than any number. Place 3 digit numbers on a number line in order. Use a place value chart to determine value of 3 digit numbers. Problem solving involving aspects of taught knowledge.	Roman numerals to 12 – for reading clocks
	Addition and Subtraction	Solve missing number sentences for addition and subtraction up to 3d. Use a bar model to represent addition and subtraction problems. Use mathematical apparatus to develop and demonstrate understanding of addition and subtraction (dienes, number lines, place value chart, counters). Use column method as primary written method to add and subtract up to two 3 digit numbers with renaming. Apply number bonds knowledge to larger problems. Apply an appropriate written or mental strategy to problems with up to two steps. Use the inverse to check answers	Know that addition is commutative. Number bonds to 10, 20 and 100 Add up to 3digit add 3digit with renaming. Subtract up to 2 3 digit numbers with renaming and regrouping. Know number bonds to 10, 20, 100 and 1000. A range of mental methods for addition and subtraction (counting on/back, near doubles, partitioning)
	Multiplication and Division	Number line, counting stick, times table grid, understand different representations of times tables. Grid method and partitioning key methods for early formal multiplication. Use sharing and grouping as key strategy for Division An emerging understanding of using a division bracket Solve problems involving required knowledge including missing number problems, scaling problems and correspondence problems . - Correspondence problem e.g. Tricycles have 3 wheels. Go-carts have 5 wheels. There are 37 wheels altogether. How many go-carts and tricycles are there? Grouping for halving and doubling leading to partitioning. Double numbers to 20 and multiples of 10 Half even numbers to 20 and multiples of 10 with even tens.	2,3,4,5,8 and 10 times tables and relative division facts. Place value of 2digit numbers to calculate 2dx1d 2d x1d where the 2 digit is a multiple of 10 mentally. 2dx1d using formal written method. 2digit divided by 1 digit Introduce division bracket Mental methods for multiplication. Know the purpose of a place holder in written calculations

	Fractions, Decimals and Percentages	Count up and down in tenths Use division knowledge to divide into 10 equal parts Use a drawing or model to find a fraction of objects, including unit and non-unit fraction with small denominators (1/2, 1/3, ¼, 2/3, ¾) Use images and representations to show equivalence Order unit fractions with the same denominator on a number line Add and subtract fractions within 1 whole where denominators are the same. Use a model to solve problems that involve fractions within their knowledge.	Fractions are equal parts of a whole Notation of ½, 1/3, ¼, 1/10 Equivalent fractions ½=2/4=4/8 1/3=2/6 When the numerator and denominator are = it is 1 whole. Fractions are the same as division Know that when adding and subtracting fractions, only the numerator is calculated
	Ratio and Proportion		
	Algebra	Complete simple missing number sentences e.g. ?+6=15	Calculation knowledge
	Measurement	Compare lengths(mm,cm,m), mass (g kg)and volume(l, ml) Measure length (mm,cm,m), mass (g kg)and volume(l, ml) Measure the perimeter of 2d shapes in cm Add and subtract length, mass and capacity **Money** Add and subtract amounts of money in practical contexts **Time** Tell and write the time from analogue clocks (am and pm) Use roman numerals to tell the time on numeral clocks Read time to the nearest minute Record time in minutes, hours and seconds Calculate the time taken to complete a task	Notation mm, cm, m. g,kg. l,ml and their meaning. Know what equipment would measure different things: Ruler, metre stick, trundle wheel, jug, scales. Notation of money £ and p **Time** 24 hours in a day 60minutes in an hour 60 seconds in a minute 365 days in a year Days in the months Week ¼, ½ and ¾ of an hour in minutes Small hand – hour, large hand - minute

	Geometry (Properties of Shape)	Identify horizontal, vertical lines and pairs of perpendicular and parallel lines. Draw 2d shapes Make 3 d shapes Recognise that angles are turns in the shape Identify right angles Identify whether angles are less than or more than a right angle	The names and properties of common 2d shapes - Circle - Triangle - Square - Rectangle - Pentagon - Hexagon Right angle = 90 Right angle +right angle = half turn Right angle +right angle +right angle = 3quarter turn (link to clock face)
	Geometry (Position and Direction)	Not Applicable	
	Statistics	Interpret and present data using bar charts, pictograms and tables Answer one and two step problems using information presented in bar charts, pictograms and tables	Know what a bar chart, pictogram and table look like. Scales of 1,2,5,10

YEAR 3

Numbers and Place Value

Counting, properties of numbers and number sequences

Number, numerals
zero, one, two, three… to twenty and beyond
zero, ten, twenty… one hundred
zero, one hundred, two hundred… one thousand
none
how many…?
count, count (up) to
count on (from, to)
count back (from, to)
count in multiples of …
more, less, many, few

Estimating

guess how many, estimate
nearly, roughly, close to
approximate, approximately
about the same as
just over, just under
exact, exactly
too many, too few, enough, not enough
round (up or down)
nearest, round to the nearest ten

Fractions

part, equal parts
fraction
one whole
one half, two halves
one quarter, two… three… four quarters

Multiplication and division

lots of, groups of
×, times, multiply, multiplication, multiplied by
multiple of, product
once, twice, three times… ten times…
times as (big, long, wide… and so on)
repeated addition
array
row, column
double, halve
share, share equally
one each, two each, three each…
group in pairs
equal groups of
divide, division, divided by
remainder

odd, even
every other
how many times?
multiple of
sequence
continue
predict, pattern, pair, rule
relationship

Place value and ordering
units, ones, tens, hundreds
digit
one-, two- or three-digit number
'teens' number
place, place value
stands for, represents
exchange
the same number as, as many as
equal to
Of **two** objects/amounts:
greater, more, larger, bigger
less, fewer, smaller
Of **three** or more objects/amounts:
greatest, most, biggest, largest
least, fewest, smallest
one, ten, one hundred more than
one, ten, one hundred less than
compare, order, size
first, second, third… tenth…
twentieth
twenty-first, twenty-second…
last, last but one
before, after, next
between, half-way between

one third, two thirds, three thirds
one tenth
unit, non-unit fraction
denominator

Calculations

Addition and subtraction
+, add, addition, more, plus
make, sum, total
altogether
score
double, near double
one more, two more... ten more... one hundred more
how many more to make…?
how many more is… than…?
how much more is…?
–, subtract, subtraction, take (away), minus
leave, how many are left/left over?
one less, two less… ten less…
one hundred less
how many fewer is… than…?
how much less is…?
difference between
half, halve
=, equals, sign, is the same as
tens boundary, hundreds boundary
columnar addition and subtraction

positive integer scaling problem

Making decidsions and reasoning
pattern, puzzle
calculate, calculation
mental calculation
method
jotting
answer
right, correct, wrong
what could we try next?
how did you work it out?
number sentence
sign, operation, symbol, equation

Money
money
coin, note
penny, pence, pound (£)
price, cost
buy, bought, sell, sold
spend, spent
pay
change
dear, costs more, more/most expensive
cheap, costs less, cheaper, less/least expensive
how much…? how many…?
total, amount
value, worth

Year 3

Statistics

count, tally, sort, vote
graph, block graph, pictogram
represent
group, set
list, chart, bar chart

Time
All days of the week
All months of the year
All seasons
day, week, fortnight, month, year, century
weekend, birthday, holiday

middle, edge
centre, corner
direction
journey, route, map, plan
left, right, up, down
higher, lower
forwards, backwards, sideways

table, frequency table
Carroll diagram, Venn diagram
label, title, axis, axes
diagram
most popular, most common
least popular, least common

Measurement

Measures (general)

measure
size
compare
measuring scale, division
guess, estimate
enough, not enough
too much, little, many, few
nearly, roughly, about, close to, about the same as, approximately
just over, just under

Length

length, width, height, depth
long, short, tall, high, low
wide, narrow, deep, shallow, thick, thin
longer, shorter, taller, higher…
longest, shortest, tallest, highest… and so on
far, further, furthest, near, close
distance apart/between, distance to… from…
kilometre (km), metre (m), centimetre (cm)
mile
ruler, metre stick, tape measure

Mass

weigh, weighs, balances
heavy/light, heavier/lighter, heaviest/lightest
kilogram (kg), half-kilogram, gram (g)
balance, scales, weight

calendar, date
morning, afternoon, evening, night, midnight
am, pm
bedtime, dinnertime, playtime
today, yesterday, tomorrow
before, after
next, last
now, soon, early, late, earliest, latest
quick, quicker, quickest, quickly
fast, faster, fastest
slow, slower, slowest, slowly
old, older, oldest
new, newer, newest
takes longer, takes less time
how long ago? how long will it be to…?
how long will it take to…?
hour, minute, second
o'clock, half past, quarter to, quarter past
clock, watch, hands
digital/analogue clock/watch, timer
how often?
always, never, often, sometimes, usually
once, twice

Patterns and symmetry

size
bigger, larger, smaller
symmetrical
line of symmetry
fold, match
mirror line, reflection
pattern
repeating pattern

Geometry - Position

position
over, under, underneath
above, below
top, bottom, side

across
close, far, near
along, through
to, from, towards, away from
ascend, descend
grid, row, column
clockwise, anti-clockwise
compass point
north, south, east, west
horizontal, vertical, diagonal
movement
slide, roll
whole turn, half turn, quarter turn
angle, …is a greater/smaller angle than
right angle
straight line
stretch, bend

Geometry – shape

shape, pattern
flat, curved, straight
round
hollow, solid
point, pointed
face, side, edge, end
sort
make, build, draw
surface
right-angled
vertex, vertices
layer, diagram

3D shapes

Cube, cuboid
pyramid
sphere, hemi-sphere
cone
cylinder
prism

2D shapes

circle, circular, semi-circle
triangle, triangular

Capacity capacity full, half full, empty holds, contains litre (l), half-litre, millilitre (ml) container	on, in outside, inside, around in front, behind front, back before, after beside, next to opposite, apart, between	square rectangle, rectangular star pentagon, pentagonal hexagon, hexagonal octagon, octagonal quadrilateral

Year 3

General same, different missing number/s number facts, number pairs, number bonds greatest value, least value number line, number track number square, hundred square number cards number grid abacus counters, cubes, blocks, rods die, dice dominoes pegs, peg board geo-strips same way, different way best way, another way in order, in a different order not all, every, each		

	Topics/Context	Skills	Knowledge (Key facts for recall)
Year 4	Place Value	Count in 1000, 100, 10, 1, 25, 6s, 7s and 9s. Use place value chart to notice relationships between 1,10,100 and 1000 and understand the value of each digit. Place 4 digit numbers on a number line in order.	Know the relationship between 1, 10, 100 and 1000 Know the value of digits in 4 digit numbers. Know that numbers can have a negative value and the context in which that is the case (money, temperature) Know numerals 10,000 in words

		Use a number line for rounding to determine which 10, 100 or 1000 and number is closest to for rounding Count on and back to find 1000 more or less than any number. Use a number line for counting back through 0. Solve problems applying the stated knowledge.	Roman numerals to 100
	Addition and Subtraction	Add and subtract up to two 4d numbers using a column method as primary written method using language of renaming, and deep understanding of place value. Select **appropriate** method (including mental methods). Use rounding to estimate answers before calculating formally. Use the inverse to check answers Apply an appropriate method to contextual problems with up to two steps. Use a bar model or other strategy to represent more complex problems.	Know number bonds to 10, 20, 100 and 1000. A range of mental methods for addition and subtraction (counting on/back near doubles, partitioning, rounding and adjusting) for larger numbers. Know how to round to 10 and 100
	Multiplication and Division	Use times table to 12x12 to solve missing number sentences involving multiplication and division. Complete times tables questions in varying presentations. Expanded column method as key strategy for multiplication (may use other methods to build understanding – grid, partitioning). Use division bracket for solving written division problems. Solve problems involving required knowledge including missing number problems, scaling problems and correspondence problems. - Correspondence e.g. Tricycles have 3 wheels. Go-carts have 5 wheels. There are 37 wheels altogether. How many go-carts and tricycles are there? **Halving and doubling** Use partitioning for doubling and halving. Double numbers to 1000 Half even numbers to 1000	Know times tables up to 12x12 as instant recall and related division facts. Multiply by 10 and multiples of 10 using knowledge of place value. Multiply by 100 and multiples of 100 using knowledge of place value. Multiply by 1 and 0. Divide by 1. Multiply 3 single digits. Multiply 2 and 3 digit numbers by a single digit. Divide 3digit numbers by a single digit with remainders

		Half odd numbers to 20 X or divide by 4 using halving and doubling	
	Fractions, Decimals and Percentages	Count in hundredths Use models to show equivalent fractions. Use models to add and subtract fractions with the same denominator including across 1. E.g. 5/6+3/6=8/6 Use number lines to round to the nearest 1dp and whole number Use a number line and place value chart to compare numbers up to 2decimal places Divide one and 2 digit numbers by 10 and 100 using knowledge of division and determine ones, tenths and hundredths. Solve problems involving fractions using a model for support to find fractions of an amount including non-unit fractions. Solve measure and money problems involving fractions and decimals to two decimal places	1/100 = dividing by 100 (1/100 = 1/10 divided by 10) Place value of tenths and hundredths Decimal equivalence of any tenths and hundredths. Common equivalent ½=2/4=4/8=5/10 ¼=2/8 1/3=2/6=3/9 1/5=2/10 2/5=4/10 3/5=6/10 4/5=8/10 Know that only the numerator is added/subtracted where the denominators are the same ¼=0.25 1/2=0.5 3/4=0.75
	Ratio and Proportion	Not applicable	
	Algebra	Missing number sentences e.g. 8x?=32	Know = sign means balance Calculation knowledge
	Measurement	Compare different measures (money, length, mass and volume) Estimate different measures, including money. Convert between different units of measure Measure and calculate the perimeter of a rectilinear figure in cm and m	10mm=1cm 100cm=1m 1000m=1km 1000g=1kg

		Find the area by counting squares Calculate using different measures including money **Time** Read, write and convert time between analogue and digital 12 and 24 hour clocks Convert hours to minutes, minutes to seconds, years to months and weeks to days	1000ml=1l **Time** 24 hours in a day 60minutes in an hour 60 seconds in a minute 365 days in a year Days in the months Week Fortnight ¼, ½ and ¾ of an hour in minutes
	Geometry (Properties of Shape)	Compare and classify geometric shapes including quadrilaterals and triangles based on their properties and size Identify lines of symmetry in 2 d shapes presented in different orientations Complete a simple symmetric figure with a specified line of symmetry Identify acute and obtuse angles and compare and order angles up to two right angles	Quadrilaterals - Square - Rectangle - Parallelogram - Rhombus - Trapezium - Kite Triangles - Right angle - Isosceles - Scalene - Equilateral - Know that a right angle triangle can be isosceles or scalene
	Geometry (Position and Direction)	Describe positions on a 2D grid in the first quadrant Describe movements of translation – up,down,left,right Plot points to complete a polygon	Know that translation is the movement of a shape in its original orientation. Know that coordinated are read from x,y
	Statistics	Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs Solve comparison, sum and different problems using information from bar charts, pictograms, tables and other graphs	Know what the difference is between discrete and continuous data and how they can be presented.

YEAR 4

Numbers and place value

Place value, ordering and rounding

units, ones, tens, hundreds, thousands, ten thousand, hundred thousand, million
digit, one-, two-, three- or four-digit number
numeral
'teens' number
place, place value
stands for, represents
equal to
exchange
the same number as, as many as
Of **two** objects/amounts:
>, greater than, more than, larger than, bigger than
<, less than, fewer than, smaller than
Of **three** or more objects/amounts:
greatest, most, largest, biggest
least, fewest, smallest
one… ten… one hundred… one thousand more/less
compare, order, size
first… tenth… twentieth
last, last but one
before, after, next
between, half-way between
guess how many, estimate
nearly, roughly, close to, about the same as
approximate, approximately
just over, just under
exact, exactly
too many, too few, enough, not enough
round (up or down), nearest
sequence
continue
predict
pattern, pair, rule
relationship
sort, classify, property

Number - Fractions and decimals

part, equal parts
fraction
denominator
numerator
unit, non-unit fraction
one whole
half, quarter, eighth
ones, tenth, hundredth
third, sixth
fifth, tenth, twentieth
proportion, in every, for every
decimal, decimal fraction
decimal equivalent
decimal point, decimal place

Calculations

Addition and subtraction

add, addition, more, plus, increase
sum, total, altogether
score
double, near double
how many more to make…?
subtract, subtraction, take (away), minus, decrease
leave, how many are left/left over?
difference between
half, halve
how many more/fewer is… than…?
how much more/less is…?
equals, sign, is the same as

Multiplication and division

lots of, groups of
times, multiply, multiplication, multiplied by
multiple of, product
once, twice, three times… ten times…
times as (big, long, wide… and so on)
repeated addition
array
row, column
double, halve
share, share equally
one each, two each, three each…
group in pairs, threes… tens
equal groups of
divide, division, divided by, divided into
remainder
factor, quotient, divisible by
inverse
scaling

round to the nearest ten round to the nearest hundred integer, positive, negative above/below zero, minus Roman numerals to 100 **Properties of numbers and number sequences** number, count, how many…? odd, even how many times? multiple of digit next, consecutive	tens boundary, hundreds boundary inverse columnar addition and subtraction	

Year 4

Making decisions and reasoning pattern, puzzle calculate, calculation mental calculation method jotting answer right, correct, wrong what could we try next? how did you work it out? number sentence sign, operation, symbol, equation **Money** money coin, note penny, pence, pound (£) price, cost buy, bought, sell, sold spend, spent pay change dear, costs more, more/most expensive cheap, costs less, cheaper, less/least expensive how much…? how many…? total, amount	**Measurement** **Measures (general)** measure, measurement size compare unit, standard unit metric unit, imperial unit measuring scale, division guess, estimate enough, not enough too much, too little too many, too few nearly, roughly, about, close to about the same as, approximately just over, just under **Length** length, width, height, depth, breadth long, short, tall, high, low wide, narrow, deep, shallow, thick, thin longer, shorter, taller, higher… and so on longest, shortest, tallest, highest… and so on far, further, furthest, near, close	**Area** area, covers, surface square centimetre (cm_2) perimeter **rectilinear** **Time** time days of the week: Monday, Tuesday… months of the year: January, February… seasons: spring, summer, autumn, winter day, week, fortnight, month year, leap year, century, millennium weekend, birthday, holiday calendar, date, date of birth morning, afternoon, evening, night am, pm, noon, midnight today, yesterday, tomorrow before, after, next, last now, soon, early, late, earliest, latest quick, quicker, quickest, quickly fast, faster, fastest, slow, slower, slowest, slowly

value, worth

Statistics

count, tally, sort, vote
survey, questionnaire, data
graph, block graph, pictogram
represent
group, set
list, chart, bar chart, tally chart
table, frequency table
Carroll diagram, Venn diagram
label, title, axis, axes
diagram
most popular, most common
least popular, least common

distance apart/between,
distance to… from…
edge, perimeter
kilometre (*km*), metre (*m*)
centimetre (*cm*), millimetre (*mm*)
mile
ruler, metre stick, tape measure

Mass
mass: big, bigger, small, smaller, balances
weight: heavy/light, heavier/lighter, heaviest/lightest
weigh, weighs
kilogram (*kg*), half-kilogram, gram (*g*)
balance, scales

Capacity
capacity
full, half full
empty
holds, contains
litre (*l*), half-litre, millilitre (*ml*)
pint
container, measuring cylinder

old, older, oldest, new, newer, newest
takes longer, takes less time
how long ago? how long will it be to…?
how long will it take to…?
timetable, arrive, depart
hour, minute, second
o'clock, half past, quarter to, quarter past
clock, watch, hands
digital/analogue clock/watch, timer
how often?
always, never, often, sometimes, usually
Roman numerals

Year 4

Geometry – Shape
shape, pattern
flat, line
curved, straight, round
point, pointed
face, side, edge, surface
sort
make, build, construct, draw, sketch
centre, radius, diameter
net
angle, right-angled
base, square-based
vertex, vertices

Geometry - position
over, under, underneath
above, below, top, bottom, side
on, in, outside, inside, around
in front, behind, front, back
before, after, beside, next to
opposite, apart
between, middle, edge, centre
corner
direction
journey, route, map, plan
left, right
up, down, higher, lower

General

same, different
missing number/s
number facts, number pairs, number bonds
greatest value, least value
number line, number track
number square, hundred square
number cards, number grid
abacus
counters, cubes, blocks, rods
die, dice
dominoes

layer, diagram regular, irregular concave, convex open, closed geometric shapes acute, obtuse regular, irregular polygon **3D Shapes** 3D, three-dimensional Cube, cuboid pyramid sphere, hemi-sphere, spherical cone cylinder, cylindrical prism tetrahedron, polyhedron **2D Shapes** 2D, two-dimensional circle, circular, semi-circle triangle, triangular equilateral triangle, isosceles triangle square rectangle, rectangular, oblong pentagon, pentagonal hexagon, hexagonal heptagon octagon, octagonal polygon quadrilateral parralellogram rhombus trapezium **Patterns and symmetry** bigger, larger, smaller symmetrical line of symmetry, line symmetry fold, match mirror line, reflection, reflect pattern, repeating pattern, translation	forwards, backwards, sideways, across close, far, near along, through, to, from, towards, away from ascend, descend grid row, column origin, coordinates clockwise, anti-clockwise compass point, north, south, east, west (N, S, E, W) north-east, north-west, south-east, south-west (NE, NW, SE, SW) horizontal, vertical, diagonal movement slide, roll whole turn, half turn, quarter turn, rotate angle, …is a greater/smaller angle than right angle degree straight line stretch, bend ruler, set square angle measurer, compasses quadrant	pegs, peg board, pin board geo-strips same way, different way best way, another way in order, in a different order not all, every, each

	Topics/Context	Skills	Knowledge (Key facts for recall)
Year 5	Place Value	Count forwards and backward in steps of powers of 10 to 1,000,000 Count back through 0 and understand the context of negative numbers. Count on or back to find 10,000 and 100,000 more or less than any number. Use a number line and/or place value chart or list to order and compare numbers to 1,000,000. Use a number line and/or written strategy for rounding. Round numbers to the nearest 100, 1000,10,000 and 100,000 Solve problems applying the stated knowledge.	Know the value of digits in numbers to 1,000,000 Know numerals in words to 1,000,000 Know roman numerals to 1000 and recognise years written in roman numerals Know that – means a number less than 0
	Addition and Subtraction	Add and subtract up to two 6 digit numbers using an appropriate method. Select appropriate written or mental method. Column method used as primary written method. Use bar modelling or other strategy to represent written addition and subtraction multi-step problems, identifying what strategy to use and why. Use rounding and estimating to determine 'reasonableness' of an answer.	A range of mental methods for addition and subtraction (counting on/back near doubles, partitioning, number bonds, rounding and adjusting) for larger numbers. Know the value of the digits for purposes of addition, subtraction and renaming (link to p.v). Knowledge of bar model for addition and subtraction structures.
	Multiplication and Division	Apply multiplication and division facts mentally to solve scaled problems. E.g. 70x50 420÷7 Multiply and divide by 10,100 and 1000 (including decimals up to 2.dp) and including measures as the context. Multiply up to 4digits by 1 digit and 3digit by 2 digit. Divide up to 4d by 1 digit including remainders. Use expanded column method as key strategy for solving written multiplication problems (grid and partitioning may be used also)	All times tables and division facts. Know the place value of digits and their movement and that x whole numbers means numbers get bigger, divide means they get smaller. Know the = sign and that it represents balance. Knowledge of bar model for addition and subtraction structures. Know that a remainder is what is left out of the whole (divisor)

		Use a compact written method for up to 4dx1 digit. Use division bracket as key strategy for division. Decision making. When to use a written or mental method. Solve multistep problems involving multiplication and division using problem solving strategy. Double any number to 1000 Half any number to 1000 X and divide by 4 and 8 using halving and doubling **Properties of number** Use a systematic approach to find factors of a number or multiples of numbers Determine if a number to 100 is prime or composite using proof Use knowledge of factors, multiples, squares and cubes to solve problems	**Properties of number** Know prime numbers to 20 Know square numbers to 100 and notation of square numbers Know cube numbers to 100 and notation of cube numbers
	Fractions, Decimals and Percentages	Convert between mixed numbers and improper fractions Identify when a fraction is less than or more than 1 whole. Identify, name and write equivalent fractions of a given fraction visually Simplify fractions using division and multiplication knowledge. Add and subtract fractions using models, including where denominators are different (but multiples/factors of each other) requiring finding equivalence before calculating. Multiply proper fractions and mixed numbers by whole number using a bar model representation. Convert between fractions, decimals and percentages using known knowledge of percentage /100, fractions (of 1) and decimals as less than 1. Use models to support understanding	Know that an improper fraction is where the numerator is larger than the denominator. n/n=1 Know that a mixed number is a number of wholes and some parts. Know the notation <> related to fractions Equivalent fractions from year 4. Know that fractions with numerators or denominators that are prime cannot be simplified. Know how the bar can be used to represent fractions. Write decimal numbers as fractions and percentages our of 100 and vice versa (any tenth or hundredths or combination and… ¼ =0.25=25% ½=0.5=50% ¾=0.75=75% 1/5=0.2=20%

			Percentages /100
	Ratio and Proportion		
	Algebra	Missing number sentences e.g. 8x?=32	Know = sign means balance Calculation knowledge Use language of 'equation' as number sentence/calculation
	Measurement	Solve problems involving converting between units of time Convert between metric measures Understand an approximate equivalences between metric and imperial units (inches, pounds and pints) Measure and calculate the perimeter of composite rectilinear shapes in cm and m Calculate the area of rectangles and squares using a mathematical method. Estimate the area or irregular shapes Estimate volume in cubic cm and capacity in l Use the four operations to solve problems involving all types of measure, including money, using decimal notation and scaling (e.g. £ to p, m- cm etc)	10mm=1cm 100cm=1m 1000m=1km 1000g=1kg 1000ml=1l 2.5cm = 1inch 564ml= 1pint 1kg=2.2lb Area = lxw P= lengths of all sides Correct notation of square metres and centimetres and cubic centimetres. Four operations **Time** 24 hours in a day 60minutes in an hour 60 seconds in a minute 365 days in a year Days in the months Week Fortnight ¼, ½ and ¾ of an hour in minutes
	Geometry (Properties of Shape)	Deduce related facts and find missing lengths and angles. Apply understanding of polygons to reasoning questions (equal sides and angles) Identify 3D shapes from 2D drawings Identify angles at a point and one whole turn	Know the properties of rectangles and squares Know regular and irregular polygons Know the names of 3D shapes Know that angles are measured in degrees and the notation for that.

		Identify angles at a point on a straight line Find missing angles using given information Draw and measure angles in degrees using a protractor	Know the vocabulary and meaning – acute, obtuse and reflex. 180 = straight line 360 = whole turn 270 = ¾ turn
	Geometry (Position and Direction)	Identify, describe and represent the position of a shape following a reflection or translation	Know that a shape does not change when reflected or translated
	Statistics	Complete, read and interpret information in tables, including timetables. Solve comparison, sum and difference problems presented in a line graph.	Know what different tables and graphs are and look like Know how a line graph is presented Know and identify different scales and when they would be most appropriate

YEAR 5

Numbers and place value **Place value ordering and rounding** units, ones, tens, hundreds, thousands ten thousand, hundred thousand, million digit, one-, two-, three- or four-digit number numeral 'teens' number place, place value stands for, represents exchange the same number as, as many as equal to Of **two** objects/amounts: >, greater than, more than, larger than, bigger than <, less than, fewer than, smaller than ≥, greater than or equal to ″, less than or equal to Of **three** or more objects/amounts: greatest, most, largest, biggest least, fewest, smallest	**Properties of numbers and umber sequences** number, count, how many…? odd, even every other how many times? multiple of digit next, consecutive sequence continue predict pattern, pair, rule relationship sort, classify, property formula divisible (by), divisibility, factor square number one squared, two squared… (1_2, 2_2…) **Number – Fractions, decimals, percentages, ratio and proportion** part, equal parts fraction, proper/improper fraction mixed number numerator, denominator	how much more/less is…? equals, sign, is the same as tens boundary, hundreds boundary units boundary, tenths boundary inverse **columnar addition, subtraction** **Multiplication and division** lots of, groups of times, multiply, multiplication, multiplied by multiple of, product once, twice, three times… ten times… times as (big, long, wide… and so on) repeated addition array row, column double, halve share, share equally one each, two each, three each… group in pairs, threes… tens equal groups of divide, division, divided by, divided into remainder

one… ten… one hundred… one thousand more/less compare, order, size ascending/descending order first… tenth… twentieth last, last but one before, after, next between, half-way between guess how many, estimate nearly, roughly, close to, about the same as approximate, approximately ⊕, is approximately equal to just over, just under exact, exactly too many, too few, enough, not enough round (up or down), nearest round to the nearest ten/hundred round to the nearest thousand integer, positive, negative above/below zero, minus **Roman numerals to 1000(m)**	equivalent, reduced to, cancel one whole half, quarter, eighth third, sixth, ninth, twelfth fifth, tenth, twentieth, hundredth proportion, ratio in every, for every to every, as many as decimal, decimal fraction decimal point, decimal place percentage, per cent, % **Calculations** **Addition and subtraction** add, addition, more, plus, increase sum, total, altogether score double, near double how many more to make…? subtract, subtraction, take (away), minus, decrease leave, how many are left/left over? difference between half, halve how many more/fewer is…	factor, quotient, divisible by inverse **prime number** **prime factor** **composite number** **square number** **cubed number** **Making decisions and reasoning** pattern, puzzle calculate, calculation mental calculation method, strategy jotting answer right, correct, wrong what could we try next? how did you work it out? number sentence sign, operation, symbol, equation

Year 5

Money money coin, note penny, pence, pound (£) price, cost buy, bought, sell, sold spend, spent pay change dear, costs more, more/most expensive cheap, costs less, cheaper, less/least expensive how much…? how many…?	**Length** length, width, height, depth, breadth long, short, tall, high, low wide, narrow, deep, shallow, thick, thin longer, shorter, taller, higher… and so on longest, shortest, tallest, highest… and so on far, further, furthest, near, close distance apart/between, distance to… from… edge, perimeter	today, yesterday, tomorrow before, after, next, last now, soon, early, late, earliest, latest quick, quicker, quickest, quickly fast, faster, fastest, slow, slower, slowest, slowly takes longer, takes less time how long ago? how long will it be to…? how long will it take to…? timetable, arrive, depart hour, minute, second

total, amount, value, worth
discount
currency

STATISTICS

count, tally, sort, vote
survey, questionnaire
data, database
graph, block graph, line graph
pictogram,
represent
group, set
list, chart, bar chart, bar line chart
tally chart
table, frequency table
Carroll diagram, Venn diagram
label, title, axis, axes
diagram
most popular, most common
least popular, least common
mode, range
maximum/minimum value
classify, outcome

Measurement

Measure (general)
measure, measurement
size
compare
unit, standard unit
metric unit, imperial unit
measuring scale, division
guess, estimate
enough, not enough
too much, too little
too many, too few
nearly, roughly, about, close to
about the same as, approximately
just over, just under

kilometre (*km*), metre (*m*)
centimetre (*cm*), millimetre (*mm*)
inches, mile
ruler, metre stick, tape measure

Mass
mass: big, bigger, small, smaller, balances
weight: heavy/light, heavier/lighter, heaviest/lightest
weigh, weighs
kilogram (*kg*), half-kilogram, gram (*g*)
balance, scales

Capacity
full, half full, empty
holds, contains
litre (*l*), half-litre, millilitre (*ml*)
pint, gallon
container, measuring cylinder

Area
area, covers, surface
square centimetre (cm^2), square metre (m^2)
square millimetre (mm^2)

Time
days of the week: Monday, Tuesday…
months of the year: January, February…
seasons: spring, summer, autumn, winter
day, week, fortnight, month
year, leap year, century, millennium
weekend, birthday, holiday
calendar, date, date of birth
morning, afternoon, evening, night
am, pm, noon, midnight

o'clock, half past, quarter to, quarter past
clock, watch, hands
digital/analogue clock/watch, timer
24-hour clock, 12-hour clock
how often?
always, never, often, sometimes, usually

Geometry Shape

shape, pattern
flat, line, curved, straight
round
hollow, solid
corner
point, pointed
face, side, edge, end
sort
make, build, construct, draw, sketch
centre, radius, diameter
net
surface
angle, right-angled
congruent
base, square-based
vertex, vertices
layer, diagram
regular, irregular
concave, convex
open, closed
degree

3D Shapes
3D, three-dimensional
cube, cuboid
pyramid
sphere, hemi-sphere, spherical
cone
cylinder, cylindrical
prism
tetrahedron, polyhedron, octahedron

Year 5

2D Shapes
2D, two-dimensional
circle, circular, semi-circle
triangle, triangular
equilateral triangle, isosceles triangle, scalene triangle
square
rectangle, rectangular, oblong
pentagon, pentagonal
hexagon, hexagonal
heptagon
octagon, octagonal
polygon
quadrilateral

Patterns and symmetry
bigger, larger, smaller
symmetrical
line of symmetry, axis of symmetry
line, reflective symmetry
fold, match
mirror line, reflection, reflect
pattern, repeating pattern, translation

Geometry - position

over, under, underneath
above, below, top, bottom, side
on, in, outside, inside, around
in front, behind, front, back
before, after, beside, next to
opposite, apart
between, middle, edge, centre
direction
journey, route, map, plan
left, right
up, down, higher, lower
forwards, backwards, sideways, across
close, far, near
along, through, to, from, towards, away from
ascend, descend
movement
slide, roll
whole, half quarter turn
rotate, rotation
reflection
angle, …is a greater/smaller
right angle, acute, obtuse
degree
straight line
ruler, set square
angle measurer, compasses, protractor

General
same, different
missing number/s
number facts, number pairs, number bonds
greatest value, least value
number line, number track
number square, hundred square
number cards, number grid
abacus
counters, cubes, blocks, rods
die, dice, spinner
dominoes
pegs, peg board, pin board
geo-strips
same way, different way
best way, another way
in order, in a different order
not
all, every, each

grid, row, column origin, coordinates clockwise, anti-clockwise compass point, north, south, east, west (N, S, E, W) north-east, north-west, south-east, south-west (NE, NW, SE, SW) horizontal, vertical, diagonal parallel, perpendicular x-axis, y-axis quadrant		

	Topics/Context	Skills	Knowledge (Key facts for recall)
Year 6	Place Value	Use a number line to solve contextual negative number problems. Use a number line and/or place value chart or list to order and compare numbers to 10,000,000. Use a written or number line strategy for rounding. Solve problems applying the stated knowledge. Use a number line or place value chart to order numbers.	Calculate intervals across 0. E.g. 6-10 Know the value of the digits in numbers to 10,000,000 Round numbers decimal numbers to 3dp Write numbers to 10,000,000 in numerals and words. Round any whole number
	Addition and Subtraction	Use rounding and estimating to estimate an answer Determine which part of a problem in context requires an addition or subtraction calculation. Check reasonableness of an answer. Single written column method for addition and subtraction	Knowledge of formal methods to add and subtract numbers up to 10,000,000 A range of mental strategies for addition and subtraction of large numbers. Knowledge of place value within addition and subtraction calculations
	Multiplication and Division	Apply times table knowledge to multiply by multiples of 10, 100 and 1000 Multiply whole numbers and decimals by 10,100 and 100 including in the context of measures. Decision making. When to use a written or mental method. Estimate before calculating and check the reasonableness of an answer. Use a column method as the primary strategy for written multiplication. Use division bracket as the primary strategy for written division using long or short division. Convert remainders to fractions and decimals.	Rapid recall of multiplication facts up to 12 x12 Multiply and divide large numbers mentally using times table knowledge. For example: 4,000 x 4,000 Place value of digits up to 1,000,000 and thousandths Multiply up to 4dby 2digits. Divide up to 4dby 2 digits. The order of operations **Properties of numbers** Know prime numbers to 50

		Understand the context of a problem and interpret remainders accordingly and rounding Apply doubling and halving strategies to different contexts. Double and half any number to 10,000,000 **Properties of number** Use systematic approach to find common factors, multiples and to determine if a number is prime (up to 100)	
	Fractions, Decimals and Percentages	Simplify fractions using knowledge of common factors Use common multiples to express equivalent fractions, decimals and percentages. Compare and order fractions, decimals and percentages on a number line using equivalence Add and subtract fractions with different denominators, using equivalence. Multiply pairs of proper fractions, with the answer in the simplest form Use models to represent multiplying and dividing fractions Multiply and divide by 10,100 and 1000 where the question or answer may involve numbers to 3dp Multiply decimals by whole numbers Divide decimals by whole numbers Interpret problems where the answer is rounded to a specified degree of accuracy.	Revision of prior knowledge Know that multiplying 2 proper fractions will = smaller fraction Know that dividing a fraction by a whole number = smaller fraction Fractions = division Know the decimal place values to thousandths
	Ratio and Proportion	Solve problems involving the relative size of 2 quantities where missing values can be found using multiplication and division facts Find percentages of a given amount Solve shape problems with scale factors Solve problems involving unequal sharing using fractions and multiples knowledge	Multiplication and division facts Know that a percentage is a fraction of an amount Know what a scale factor is and identify scale factors Notation of ratio e.g. 2:1 and relationship with fractions

	Algebra	Express missing number problems algebraically Use simple formulae to solve problems Describe linear number sequences Find pairs of numbers that satisfy an equation with two unknowns Find combinations of two variables	Know that numbers can be represented as letters Know simple formulae
	Measurement	Use, read, write and convert between standard units including using decimal notation u to 3decial places. Convert between miles and km. Calculate the area of parallelograms and triangles Know when to use formulae to calculate the area of shapes e.g. rectangles, squares, triangles) Calculate, estimate and compare the volume of cubes and cuboids using correct notation and link to other units of measure. Use formulae to calculate volume where appropriate Solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3dp	10mm=1cm 100cm=1m 1000m=1km 1000g=1kg 1000ml=1l 2.5cm = 1inch 564ml= 1pint 1kg=2.2lb Area = lxw P= lengths of all sides Correct notation of square metres and centimetres and cubic centimetres. Four operations 1.6km=1mile Know that shapes with the same area may have different perimeters Volume of cube and cuboid = length x width x depth **Time** 24 hours in a day 60minutes in an hour 60 seconds in a minute 365 days in a year Days in the months Week

			Fortnight ¼, ½ and ¾ of an hour in minutes
	Geometry (Properties of Shape)	Compare and classify geometric shapes based on their properties and size Describe 3D shapes based on their properties Recognise and build 3D shapes, including making nets Draw 2D shapes with given dimensions and angles Find unknown angles in triangles, quadrilaterals and regular polygons Find missing angles	Know the properties of 2D and 3D shapes Know the parts of a circle Know that diameter is double the radius
	Geometry (Position and Direction)	Draw and translate shapes on the co-ordinate plane, reflect them in axis Describe positions in all four quadrants	Know how to write position in 4 quadrants, including negative.
	Statistics	Interpret and construct pie charts and line graphs and use these to solve problems Calculate and interpret the mean as an average.	Know what a pie chart and line graph are and what data should be presented in each.

YEAR 6

Numbers and place value **Place value, ordering and rounding** units, ones, tens, hundreds, thousands ten thousand, hundred thousand, million digit, one-, two-, three- or four-digit number numeral 'teens' number place, place value stands for, represents exchange	next, consecutive sequence continue predict pattern, pair, rule relationship sort, classify, property formula divisible (by), divisibility, factor, factorise square number one squared, two squared… (1_2, 2_2…) prime, prime factor	boundary units boundary, tenths boundary inverse **columnar addition and subtraction** **Multiplication and division** lots of, groups of times, multiply, multiplication, multiplied by long multiplication multiple of, product once, twice, ten times… times as (big, long, wide… repeated addition array, row, column double, halve

equal to
Of **two** objects/amounts:
>, greater than, more than, larger than, bigger than
<, less than, fewer than, smaller than
≥, greater than or equal to
″, less than or equal to
Of **three** or more objects/amounts:
greatest, most, largest, biggest
least, fewest, smallest
one… ten… one hundred… one thousand more/less
compare, order, size
ascending/descending order
first… tenth… twentieth
last, last but one
before, after, next
between, half-way between
guess how many, estimate
close to, about the same as
approximate, approximately
is approximately equal to
just over, just under
exact, exactly
too many, too few, enough, not enough
round (up or down), nearest
round to the nearest ten/hundred/thousand
integer, positive, negative
above/below zero, minus

Properties of numbers and number sequences
number, count, how many…?
odd, even
every other
how many times?
multiple of
digit

Number – Fractions, decimals, percentages, ratio and proportion
part, equal parts
fraction, proper/improper fraction
mixed number
numerator, denominator
equivalent, reduced to, cancel
one whole
half, quarter, eighth
third, sixth, ninth, twelfth
fifth, tenth, twentieth
hundredth, thousandth
proportion, ratio
in every, for every
to every, as many as
decimal, decimal fraction
decimal point, decimal place
percentage, per cent, %
integer
scale factor
pie charts

Calculations

Addition and subtraction
add, addition, more, plus, increase
sum, total, altogether
double, near double
how many more to make…?
subtract, subtraction, take (away), minus, decrease
leave, how many are left/left over?
difference between
half, halve
how many more/fewer is… than…?
how much more/less is…?
equals, sign, is the same as
tens boundary, hundreds

share, share equally
one each, two each..
group in pairs, threes… tens
equal groups of
divide, division, divided by, divided into
long division
remainder
factor, quotient, divisible by
inverse
factor

Solving Problems
pattern, puzzle
calculate, calculation
mental calculation
method, strategy
jotting, answer
right, correct, wrong
what could we try next?
how did you work it out?
number sentence
sign, operation, symbol, equation

Money
Money, coin, note
penny, pence, pound (£)
price, cost
buy, bought, sell, sold
spend, spent
pay, change
dear, costs more, more/most expensive
cheap, costs less, cheaper, less/least expensive
how much…? how many…?
total, amount, value, worth
discount, profit, loss
currency

Year 6

Statistics

count, tally, sort, vote
survey, questionnaire
data, database
graph, block graph, line graph
pictogram,
represent, group, set
list, chart, bar chart, bar line
tally chart
table, frequency table
Carroll diagram, Venn diagram
label, title, axis, axes
diagram
most popular, most common
least popular, least common
mode, range, mean, average, median
statistics, distribution
maximum/minimum value
classify, outcome

Measurement (General)

measure, measurement
size
compare
unit, standard unit
metric unit, imperial unit
measuring scale, division
guess, estimate
enough, not enough
too much, too little
too many, too few
nearly, roughly, about, close to
about the same as, approximately
just over, just under

Length

length, width, height, depth, breadth
long, short, tall, high, low
wide, narrow, deep, shallow, thick, thin
longer, shorter, taller, higher…

Mass

mass: big, bigger, small, smaller, balances
weight: heavy/light, heavier/lighter, heaviest/lightest
weigh, weighs
tonne, kilogram (*kg*), half-kilogram, gram (*g*)
pound (*lb*), ounce (*oz*)
balance, scales

Capacity

full, half full, empty
holds, contains
litre (*l*), half-litre, centilitre (*cl*), millilitre (*ml*)
pint, gallon
container, measuring cylinder

Area

area, covers, surface
square centimetre (cm^2), square metre (m^2)
square millimetre (mm^2)
perimeter

Time

All days of the week
All months of the year
All seasons
day, week, fortnight, month
year, leap year, century, millennium
weekend, birthday, holiday
calendar, date, date of birth
morning, afternoon, evening, night
am, pm, noon, midnight
today, yesterday, tomorrow
before, after, next, last
now, soon, early, late, earliest, latest
quick, quicker, quickest, quickly
fast, faster, fastest, slow, slower, slowest, slowly

Geometry - shape

shape, pattern
flat, line
curved, straight
round
hollow, solid
point, pointed
face, side, edge, end
make, build, construct, draw, sketch, sort
centre, radius, diameter
circumference, concentric, arc
net
surface
angle, right-angled
congruent
intersecting, intersection
plane
base, square-based
vertex, vertices
layer, diagram
regular, irregular
concave, convex
open, closed
tangram
geometric

3D Shapes

3D, three-dimensional
cube, cuboid
pyramid
sphere, hemi-sphere, spherical
cone
cylinder, cylindrical
prism
tetrahedron, polyhedron, octahedron, dodecahedron

2D Shapes

2D, two-dimensional
circle, circular, semi-circle
triangle, triangular
equilateral triangle, isosceles triangle, scalene triangle
square, rhombus

longest, shortest, tallest, highest… far, further, furthest, near, close distance apart/between, distance to… from… edge, perimeter, circumference kilometre (*km*), metre (*m*) centimetre (*cm*), millimetre (*mm*) mile, yard, feet, foot, inch ruler, metre stick, tape measure, compasses cubic mm, cm, m, Km,	old, older, oldest, new, newer, newest takes longer, takes less time how long ago? how long until? timetable, arrive, depart hour, minute, second o'clock, half past, quarter to, quarter past clock, watch, hands digital/analogue clock/watch 24-hour clock, 12-hour clock Greenwich Mean Time, British Summer Time	rectangle, rectangular, oblong pentagon, pentagonal hexagon, hexagonal heptagon octagon, octagonal polygon quadrilateral kite parallelogram, trapezium

Year 6

Patterns and symmetry size bigger, larger, smaller symmetrical line of symmetry, axis of symmetry line symmetry, reflective symmetry, fold match mirror line, reflection, reflect pattern, repeating pattern, translation **Geometry - position** over, under, underneath above, below, top, bottom, side on, in, outside, inside, around in front, behind, front, back before, after, beside, next to opposite, apart between, middle, edge, centre direction journey, route, map, plan left, right up, down, higher, lower forwards, backwards, sideways, across close, far, near	**General** same, identical, different missing number/s number facts, number pairs, number bonds greatest value, least value number line, number track number square, hundred square number cards, number grid abacus counters, cubes, blocks, rods die, dice, spinner dominoes pegs, peg board, pin board geo-strips same way, different way best way, another way in order, in a different order not all, every, each	

along, through, to, from, towards, away from ascend, descend grid, row, column origin, coordinates clockwise, anti-clockwise compass point, north, south, east, west (N, S, E, W) north-east, north-west, south- east, south-west (NE, NW, SE, SW) horizontal, vertical, diagonal parallel, perpendicular x-axis, y-axis quadrant movement slide, roll whole turn, half turn, quarter turn, rotate, rotation angle, …is a greater/smaller right angle, acute, obtuse, reflex degree straight line ruler, set square angle measurer, compasses, protractor		