Primary Curriculum 2014

Suggested Key Objectives

for Mathematics

at Key Stage 2

Year 3 Maths Key Objectives
Taken from the National Curriculum

1	Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number.
2	Compare and order numbers up to 1000
3	Add and subtract numbers mentally, including: HTU+U, HTU+T and HTU+H
4	Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction
5	Estimate the answer to a calculation and use inverse operations to check answers
6	Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables
7	Count up and down in tenths;
8	Recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10
9	Compare and order unit fractions, and fractions with the same denominators
10	Recognise and show, using diagrams, equivalent fractions with small denominators
11	Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators
12	Add and subtract fractions with the same denominator within one whole [for example, 5/7 + 1/7 = 6/7]
13	Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)
14	Measure the perimeter of simple 2-D shapes
15	Add and subtract amounts of money to give change, using both £ and p in practical contexts
16	Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks
17	Estimate and read time with increasing accuracy to the nearest minute
18	Identify horizontal and vertical lines and pairs of perpendicular and parallel lines
19	Identify whether angles are greater or less than a right angle
20	Interpret and present data using bar charts, pictograms and tables

Year 3 Maths Key Objectives
Summarised form

1	Count in multiples of 4, 8, 50 and 100
2	Compare and order numbers up to 1000
3	Add and subtract numbers mentally, including round numbers to HTU
4	Add and subtract using standard column method
5	Estimate answers to calculations and use the inverse to check answers
6	Know 3×, 4× and 8× tables
7	Count up and down in tenths
8	Understand that tenths are objectives or quantities divided into ten equal parts
9	Compare and order simple fractions
10	Recognise and show equivalent fractions
11	Find and write fractions of a set of objects
12	Add and subtract fractions with common denominators (less than one)
13	Measure, compare and calculate measures using standard units
14	Measure the perimeter of simple 2-D shapes
15	Add and subtract money, including giving change
16	Tell and write the time from an analogue clock, including using Roman numerals
17	Estimate and read time to the nearest minute
18	Identify horizontal, vertical, parallel and perpendicular lines
19	Identify whether angles are greater or less than a right angle
20	Interpret and present data using bar charts, pictograms and tables

Year 4 Maths Key Objectives
Taken from the National Curriculum

1	Count backwards through zero to include negative numbers
2	Recognise the place value of each digit in a four-digit number
3	Round any number to the nearest 10, 100 or 1000
4	Recall multiplication and division facts for multiplication tables up to 12 × 12
5	Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers
6	Recognise and use factor pairs and commutativity in mental calculations
7	Multiply two-digit and three-digit numbers by a one-digit number using formal written layout
8	Recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.
9	Recognise and write decimal equivalents to ¼, ½ and ¾
10	Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths
11	Round decimals with one decimal place to the nearest whole number
12	Compare numbers with the same number of decimal places up to two decimal places
13	Convert between different units of measure; estimate, compare and calculate different measures, including money in pounds and pence
14	Find the area of rectilinear shapes by counting squares
15	Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days
16	Compare and classify geometric shapes, including quadrilaterals and triangles, based on properties and sizes
17	Complete a simple symmetric figure with respect to a specific line of symmetry.
18	Describe positions on a 2-D grid as coordinates in the first quadrant
19	Describe movements between positions as translations of a given unit to the left/right and up/down
20	Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs

Year 4 Maths Key Objectives
Summarised form

1	Count backwards through zero, including negative numbers
2	Recognise place value in four-digit numbers
3	Round any number to the nearest 10, 100 or 1000
4	Know tables up to 12 × 12
5	Use place value and number facts to carry out mental calculations
6	Use factor pairs and commutativity in mental calculations
7	Use short multiplication method
8	Recognise and use hundredths
9	Recognise and write decimal equivalents to ¼, ½ and ¾
10	Divide one- or two-digit numbers by 10 and 100, using tenths and hundredths
11	Round decimals with one decimal place to the nearest whole number
12	Compare numbers up to two decimal places
13	Convert between different units of metric measurement, including money
14	Find the area of rectilinear shapes by counting squares
15	Solve problems converting units of time
16	Compare and classify shapes, including quadrilaterals and triangles
17	Complete a simple symmetric figure with respect to a specific line of symmetry.
18	Describe positions on a 2-D grid using co-ordinates
19	Describe translations using a given unit to the left/right and up/down
20	Interpret and present discrete and continuous data on appropriate graphs

Year 5 Maths Key Objectives
Taken from the National Curriculum

1	Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero
2	Read Roman numerals to 1000 (M) and recognise years written in Roman numerals
3	Recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3})
4	Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy
5	Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers
6	Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers
7	Establish whether a number up to 100 is prime and recall prime numbers up to 19
8	Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000
9	Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers
10	Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context
11	Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number
12	Compare and order fractions whose denominators are all multiples of the same number
13	Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths
14	Add and subtract fractions with the same denominator and denominators that are multiples of the same number
15	Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams
16	Read and write decimal numbers as fractions
17	Round decimals with two decimal places to the nearest whole number and to one decimal place
18	Read, write, order and compare numbers with up to three decimal places
19	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
20	Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints
21	Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres
22	Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes
23	Use the properties of rectangles to deduce related facts and find missing lengths and angles
24	Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.
25	Identify 3-D shapes, including cubes and other cuboids, from 2-D representations
26	Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles
27	Draw given angles, and measure them in degrees (°)
28	Identify angles at a point and one whole turn (total 360°); at a point on a straight line and ½ a turn (total 180°)
29	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
30	Complete, read and interpret information in tables, including timetables

Year 5 Maths Key Objectives
Summarised form

1	Interpret negative numbers in context
2	Read Roman numerals to 1000, including years
3	Recognise and use square and cube numbers, and know the notation
4	Use rounding to check answers and determine accuracy
5	Identify multiples and factors, including finding factor pairs and common factors
6	Use vocabulary: prime numbers, prime factors and composite numbers
7	Know prime numbers up to 19
8	Multiply and divide numbers by 10, 100 or 1000, including decimals
9	Use long multiplication for multiplying numbers of up to 4 digits by one or two digits
10	Divide numbers using standard written short division
11	Convert between mixed numbers and improper fractions
12	Compare and order fractions whose denominators are multiples of the same number
13	Identify, name and write equivalent fractions including tenths and hundredths
14	Add and subtract fractions with denominators that are multiples of the same number
15	Multiply proper fractions and mixed numbers by whole numbers with support
16	Read and write decimal numbers as fractions
17	Round decimals with 2 decimals places to whole number or to one decimal place
18	Read, write, order and compare numbers with up to 3 decimal places
19	Recognise % symbol and explain as a fraction with denominator 100 (parts out of 100)
20	Understand and use common approximate conversions between metric and imperial
21	Measure and calculate the perimeter of composite rectilinear shapes
22	Calculate the area of rectangles, and estimate the area of irregular shapes
23	Use the properties of rectangles to find missing lengths and angles
24	Distinguish between regular and irregular polygons
25	Identify 3-d shapes from 2-d representations
26	Know angles are measured in degrees and compare acute, obtuse and reflex angles
27	Draw and measure angles to the nearest degree
28	Identify angles at a point, in a turn and on a straight line
29	Describe and represent the result of a reflection or translation
30	Complete, read and interpret information in tables, including timetables

Year 6 Maths Key Objectives
Taken from the National Curriculum

1	Use negative numbers in context, and calculate intervals across zero
2	Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context
3	Use their knowledge of the order of operations to carry out calculations involving the four operations
4	Use common factors to simplify fractions
5	Compare and order fractions, including fractions > 1
6	Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions
7	Multiply simple pairs of proper fractions, writing the answer in its simplest form
8	Divide proper fractions by whole numbers
9	Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction
10	Multiply one-digit number with up to two decimal places by whole numbers
11	Use written division methods in cases where the answer has up to two decimal places
12	Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison
13	Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.
14	Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts
15	Solve problems involving similar shapes where the scale factor is known or can be found
16	Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.
17	Use simple formulae
18	Generate and describe linear number sequences
19	Express missing number problems algebraically
20	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
21	Convert between miles and kilometres
22	Calculate the area of parallelograms and triangles
23	Calculate, estimate and compare volume of cubes and cuboids using standard units
24	Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius
25	Find unknown angles in any triangles, quadrilaterals, and regular polygons
26	Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles
27	Describe positions on the full coordinate grid (all four quadrants)
28	Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.
29	Interpret and construct pie charts and line graphs
30	Calculate and interpret the mean as an average

Year 6 Maths Key Objectives
Summarised form

1	Use negative numbers to calculate intervals across zero
2	Divide numbers using long division, interpreting the remainders as appropriate
3	Use order of operations to carry out calculations
4	Use common factors to simplify fractions
5	Compare and order fractions of any size
6	Add and subtract fractions with different denominators and mixed numbers
7	Multiply simple pairs of proper fractions
8	Divide proper fractions by whole numbers
9	Calculate decimal fraction equivalents for simple fractions
10	Multiply a number with up to two decimal places by whole numbers
11	Use written division with answers of up to two decimal places
12	Solve problems involving the calculation of percentages
13	Recall and use equivalences between fractions, decimals and percentages
14	Solve problems using ratio using multiplication and division facts
15	Solve problems involving similar shapes where the scale factor is known
16	Solve problems involving proportion, using knowledge of fractions and multiples
17	Use simple formulae
18	Generate and describe linear number sequences
19	Express missing number problems algebraically
20	Convert units of measure between smaller and larger units
21	Convert between miles and kilometres
22	Calculate the area of parallelograms and triangles
23	Calculate and compare volume of cubes and cuboids
24	Illustrate and name parts of a circle
25	Finding missing angles in triangles, quadrilaterals and regular polygons
26	Recognise vertically opposite angles and find missing angles
27	Describe positions on the full co-ordinate grid
28	Translate shapes on a co-ordinate grid and reflect in the axes
29	Construct and interpret pie charts
30	Calculate the mean as an average