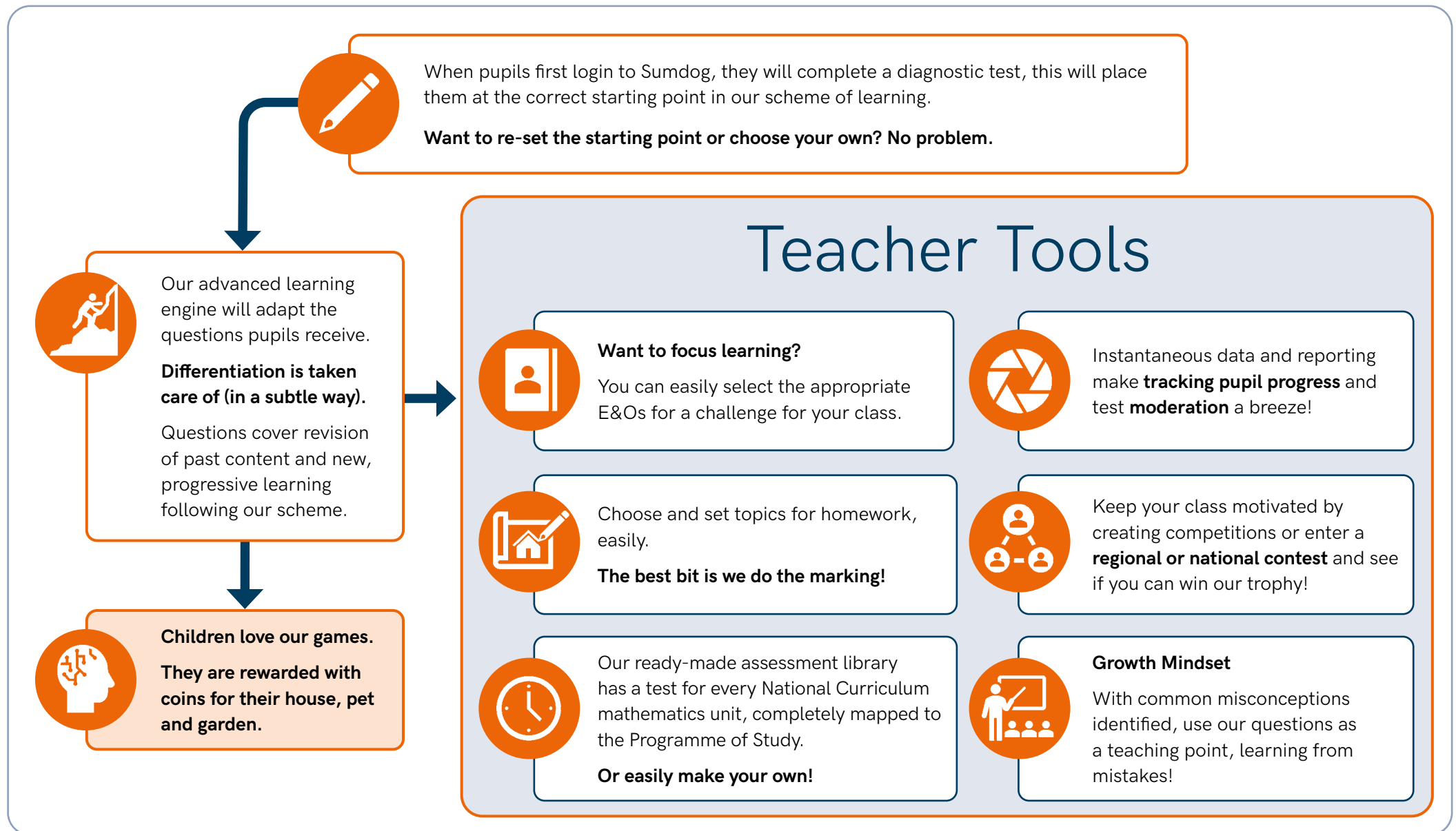# Mathematics Programme of Study National Curriculum – England

## Sumdog Scheme of Learning KS1–KS3

Use our handy scheme of learning to help with your planning, tracking and monitoring

# How to use the Sumdog Scheme of Learning

When pupils first login to Sumdog, they will complete a diagnostic test, this will place them at the correct starting point in our scheme of learning.

**Want to re-set the starting point or choose your own? No problem.**

Our advanced learning engine will adapt the questions pupils receive.

**Differentiation is taken care of (in a subtle way).**

Questions cover revision of past content and new, progressive learning following our scheme.

Children love our games.

**They are rewarded with coins for their house, pet and garden.**

## Teacher Tools

**Want to focus learning?**

You can easily select the appropriate E&Os for a challenge for your class.

Choose and set topics for homework, easily.

**The best bit is we do the marking!**

Our ready-made assessment library has a test for every National Curriculum mathematics unit, completely mapped to the Programme of Study.

**Or easily make your own!**

Instantaneous data and reporting make **tracking pupil progress** and test **moderation** a breeze!

Keep your class motivated by creating competitions or enter a **regional or national contest** and see if you can win our trophy!

**Growth Mindset**

With common misconceptions identified, use our questions as a teaching point, learning from mistakes!

To make our curriculum easier for teachers to work with, we have created our own system of notation and given each of our skills a curriculum code to show the National Curriculum statutory requirements that they align to. The first number in each code refers to the year group, and the subsequent letters indicate the strand (and unit where applicable) that the skill aligns to. The last number in each code indicates the exact corresponding statutory requirement in the programme of study for maths. For example, 1.n.npv.3 refers to the third statutory requirement from Year 1 – number – number and place value.

Count blocks and objects (within 10)
**1.n.npv.1**

Count blocks and objects (within 20)
**1.n.npv.1**

Count 5 more to 100
**1.n.npv.2**

Count 10 more to 100
**1.n.npv.2**

Count 10 less from 100
**1.n.npv.2**

Count in tens from a ten (within 100)
**1.n.npv.2**

Count up and down by 1 (within 5)
**1.n.npv.3**

Count up and down by 1 (within 10)
**1.n.npv.3**

Count up and down by 1 (within 20)
**1.n.npv.3**

Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least.
**1.n.npv.4**

Read and write numbers from 1 to 20 in numerals and words.
**1.n.npv.5**

Compare, describe and solve practical problems for: lengths and heights, mass/weight, capacity and volume, and time.
**1.m.1**

Measure and begin to record the following: lengths and heights, mass/weight, capacity and volume, and time.
**1.m.2**

Recognise and know the value of different denominations of coins and notes.
**1.m.3**

Sequence events in chronological order using language.
**1.m.4**

Recognise and use language relating to dates, including days of the week, weeks, months and years.
**1.m.5**

Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.
**1.m.6**

Represent and use number bonds and related subtraction facts within 20.
**1.n.as.2**

Add within 20
**1.n.as.3**

Subtraction within 20
**1.n.as.3**

Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems.
**1.n.as.4**

▶

**Highlight and annotate me**

**Strands:** ■ Number (n)  ■ Geometry (g)  ■ Measurement (m)  ■ Statistics (s)  ■ Ratios & Proportion (rp)  ■ Algebra (a)
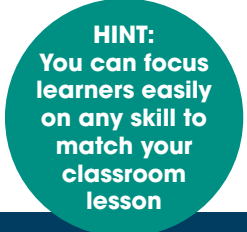
**HINT:** You can focus learners easily on any skill to match your classroom lesson

Recognise and name common 2-D and 3-D shapes.
**1.g.ps.1** ◼

Recognise, find and name a half as one of two equal parts of an object, shape or quantity.
**1.n.f.1** ◼

Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.
**1.n.f.2** ◼

Describe position, direction and movement, including whole, half, quarter and three-quarter turns.
**1.g.pd.1** ◼

**Highlight and annotate me**

**Strands:** ◼ Number (n)  ◼ Geometry (g)  ◼ Measurement (m)  ◼ Statistics (s)  ◼ Ratios & Proportion (rp)  ◼ Algebra (a)

**HINT:** You can focus learners easily on any skill to match your classroom lesson

Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward.
**2.n.npv.1** ■

Recognise the place value of each digit in a two-digit number (tens, ones).
**2.n.npv.2** ■

Identify, represent and estimate numbers using different representations, including the number line.
**2.n.npv.3** ■

Compare and order numbers from 0 up to 100; use <, > and = signs.
**2.n.npv.4** ■

Read and write numbers to at least 100 in numerals and in words.
**2.n.npv.5** ■

Use place value and number facts to solve problems.
**2.n.npv.6** ■

Choose and use appropriate standard units to estimate and measure length/height in any direction, mass, temperature and capacity to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels.
**2.m.1** ■

Compare and order lengths, mass, volume/capacity and record the results using >, < and =.
**2.m.2** ■

Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value.
**2.m.3** ■

Find different combinations of coins that equal the same amounts of money.
**2.m.4** ■

Add money (within £1)
**2.m.5** ■

Subtract money (within £1)
**2.m.5** ■

Calculate change and compare coins (within 50p)
**2.m.5** ■

Compare and sequence intervals of time.
**2.m.6** ■

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.
**2.m.7** ■

Know the number of minutes in an hour and the number of hours in a day.
**2.m.8** ■

Solve problems with addition and subtraction using concrete objects and pictorial representations, including those involving numbers, quantities and measures.
**2.n.as.1** ■

Addition and subtraction (up to 20)
**2.n.as.2** ■

Addition and subtraction (up to 100)
**2.n.as.2** ■

Add 4 numbers within 20
**2.n.as.3** ■

Add 2 digit numbers within 100 (with and without carrying)
**2.n.as.3** ■

Subtract a 1 digit number from a 2 digit number
**2.n.as.3** ■

Add three 1 digit number within 100
**2.n.as.3** ■

Subtract within 100
**2.n.as.3** ■

Show that addition of two numbers can be done in any order (commutative) & subtraction of one number from another cannot.
**2.n.as.4** ■

▶

**Highlight and annotate me**

**Strands:** ■ Number (n)  ■ Geometry (g)  ■ Measurement (m)  ■ Statistics (s)  ■ Ratios & Proportion (rp)  ■ Algebra (a)

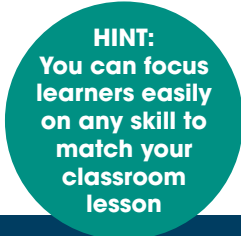**HINT:** You can focus learners easily on any skill to match your classroom lesson

Identify true or false equations (up to 20)
**2.n.as.5** ■

Inverse relationships (within 100)
**2.n.as.5** ■

Add unknown values (within 100)
**2.n.as.5** ■

Subtract unknown values (within 100)
**2.n.as.5** ■

Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line.
**2.g.ps.1** ■

Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces.
**2.g.ps.2** ■

Identify 2-D shapes on the surface of 3-D shapes.
**2.g.ps.3** ■

Compare and sort common 2-D and 3-D shapes and everyday objects
**2.g.ps.4** ■

Multiplication and division by 10
**2.n.md.1** ■

Multiplication and division by 2
**2.n.md.1** ■

Multiplication and division by 5
**2.n.md.1** ■

Doubling up to 20
**2.n.md.1** ■

Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.
**2.n.md.3** ■

Arrays as repeated addition (within 25)
**2.n.md.4** ■

Identify an array by multiplication expression (2s, 5s, 10s)
**2.n.md.4** ■

Identify even and odd numbers (up to 20)
**2.n.md.4** ■

Identify unknown numbers in multiplication and division questions (2s, 5s, 10s)
**2.n.md.4** ■

Solve problems for 2s, 5s and 10s (inc. word problems)
**2.n.md.4** ■

Order and arrange combinations of mathematical objects in patterns & sequences.
**2.g.pd.1** ■

Use mathematical vocabulary to describe position, direction and movement.
**2.g.pd.2** ■

Recognise, find, name and write fractions third, quarter, two fourths, three quarters of a length, shape, set of objects or quantity.
**2.n.f.1** ■

Write simple fractions for example, a half of 6 = 3 and recognise the equivalence of two fourths and a half.
**2.n.f.2** ■

Interpret and construct simple pictograms, tally charts, block diagrams and simple tables.
**2.s.1** ■

Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity.
**2.s.2** ■

Ask and answer questions about totalling and comparing categorical data.
**2.s.3** ■

Highlight and annotate me

**Strands:** ■ Number (n) ■ Geometry (g) ■ Measurement (m) ■ Statistics (s) ■ Ratios & Proportion (rp) ■ Algebra (a)

HINT:
You can focus learners easily on any skill to match your classroom lesson

Count in 10s and 100s
**3.n.npv.1** ■

Skip counting up and down
**3.n.npv.1** ■

Recognise the place value of each digit in a three-digit number (hundreds, tens, ones).
**3.n.npv.2** ■

Compare and order numbers up to 1000.
**3.n.npv.3** ■

Identify, represent and estimate numbers using different representations.
**3.n.npv.4** ■

Read and write numbers up to 1000 in numerals and in words.
**3.n.npv.5** ■

Estimate and compare metric units
**3.m.1** ■

Add metric units (within 200)
**3.m.1** ■

Subtract metric units (within 100)
**3.m.1** ■

Measure the perimeter of simple 2-D shapes.
**3.m.2** ■

Add and subtract amounts of money to give change, using both £ and p in practical contexts.
**3.m.3** ■

Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks.
**3.m.4** ■

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.
**3.m.5** ■

Know the number of seconds in a minute and the number of days in each month, year and leap year.
**3.m.6** ■

Compare durations of events.
**3.m.7** ■

Multiplication and Division Relationships (3s, 4s and 8s)
**3.n.md.3** ■

Identify the unknown value (3s, 4s and 8s)
**3.n.md.3** ■

Problem solving (3s, 4s and 8s)
**3.n.md.3** ■

Add 1 to the next 100 (within a 1000)
**3.n.as.1** ■

Add to 3-digit numbers
**3.n.as.1** ■

Inverse relationships (within 1,000)
**3.n.as.3** ■

Identify and estimate with addition and subtraction (up to 3-digits)
**3.n.as.3** ■

Subtract from 3-digit numbers
**3.n.as.1** ■

2-digit column addition and subtraction
**3.n.as.2** ■

▶

**Highlight and annotate me**

**Strands:** ■ Number (n) ■ Geometry (g) ■ Measurement (m) ■ Statistics (s) ■ Ratios & Proportion (rp) ■ Algebra (a)

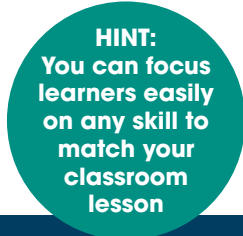**HINT:** You can focus learners easily on any skill to match your classroom lesson

Identify correct layout for column addition
**3.n.as.2** ■

Column addition
**3.n.as.2** ■

Column Subtraction
**3.n.as.2** ■

Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.
**3.n.as.4** ■

Draw 2-D shapes and make 3-D shapes using modelling materials' recognise 3-D shapes in different orientations and describe them.
**3.g.ps.1** ■

Recognise angles as a property of shape or a description of a turn.
**3.g.ps.2** ■

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.
**3.g.ps.3** ■

Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.
**3.g.ps.4** ■

Multiplication and division by 3
**3.n.md.1** ■

Multiplication and division by 4
**3.n.md.1** ■

Multiplication and division by 8
**3.n.md.1** ■

Multiplication arrays (3s, 4s, 8s)
**3.n.md.1** ■

Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know.
**3.n.md.2** ■

Interpret and present data using bar charts, pictograms and tables.
**3.s.1** ■

Solve one-step and two-step questions using information presented in scaled bar charts and pictograms and tables.
**3.s.2** ■

Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10.
**3.n.f.1** ■

Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators.
**3.n.f.2** ■

Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators.
**3.n.f.3** ■

Recognise and show, using diagrams, equivalent fractions with small denominators.
**3.n.f.4** ■

Add and subtract fractions with the same denominator within one whole.
**3.n.f.5** ■

Compare and order unit fractions, and fractions with the same denominators.
**3.n.f.6** ■

Solve problems that involve all of the above.
**3.n.f.7** ■

**Highlight and annotate me**

**Strands:** ■ Number (n)  ■ Geometry (g)  ■ Measurement (m)  ■ Statistics (s)  ■ Ratios & Proportion (rp)  ■ Algebra (a)

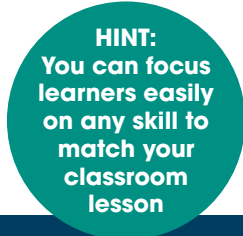**HINT:** You can focus learners easily on any skill to match your classroom lesson

Count in multiples of 6, 7, 9, 25 and 1,000
**4.n.npv.1** ■

Find 1,000 more or less than a given number
**4.n.npv.2** ■

Count backwards through zero to include negative numbers
**4.n.npv.3** ■

Recognise the place value of each digit in a four-digit number
**4.n.npv.4** ■

Order and compare numbers beyond 1,000
**4.n.npv.5** ■

Identify, represent and estimate numbers using different representations
**4.n.npv.6** ■

Round any number to the nearest 10, 100 or 1,000
**4.n.npv.7** ■

Read Roman numerals to 100 (I to C).
**4.n.npv.9** ■

Convert between different units of measure.
**4.m.1** ■

Measure and calculate the perimeter of a rectilinear figure (including squares).
**4.m.2** ■

Find the area of rectilinear shapes by counting squares
**4.m.3** ■

Add and subtract durations
**4.m.4** ■

Add and subtract units of measure
**4.m.4** ■

Order, compare money, time and weight
**4.m.4** ■

Read, write and convert time between analogue and digital 12- and 24- hour clocks.
**4.m.5** ■

Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate.
**4.n.as.1** ■

Estimate and use inverse operations to check answers to a calculation
**4.n.as.2** ■

Solve addition and subtraction two-step problems in contexts, deciding which operations to use and why.
**4.n.as.3** ■

Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.
**4.g.ps.1** ■

Identify acute and obtuse angles and compare and order angles up to two right angles by size
**4.g.ps.2** ■

Identify one or no lines of symmetry
**4.g.ps.3** ■

Identify two lines of symmetry
**4.g.ps.3** ■

Identify a shape by a specific number of lines of symmetry
**4.g.ps.3** ■

Complete a simple symmetric figure with respect to a specific line of symmetry.
**4.g.ps.4** ■

Use place value, known and derived facts to multiply and divide mentally.
**4.n.md.2** ■

Recognise and use factor pairs and commutativity in mental calculations
**4.n.md.3** ■

▶

Multiply two-digit and three-digit numbers by a one-digit number using formal written layout
**4.n.md.4** ■

Solve problems involving multiplying and adding including using the distributive law, integer scaling problems and harder correspondence problems.
**4.n.md.5** ■

Describe positions on a 2-D grid as coordinates in the first quadrant.
**4.g.pd.1** ■

Describe movements between positions as translations of a given unit to the left/right and up/down
**4.g.pd.2** ■

Plot specified points and draw sides to complete a given polygon
**4.g.pd.3** ■

Recognise and show, using diagrams, families of common equivalent fractions
**4.n.f.1** ■

Count up and down in hundredths.
**4.n.f.2** ■

Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities
**4.n.f.3** ■

Add and subtract fractions with the same denominator
**4.n.f.4** ■

Recognise and write decimal equivalents of any number of tenths or hundredths
**4.n.f.5** ■

Recognise and write decimal equivalents to quarter, half, three quarters.
**4.n.f.6** ■

Find the effect of dividing a one- or two-digit number by 10 and 100.
**4.n.f.7** ■

Round decimals with one decimal place to the nearest whole number
**4.n.f.8** ■

Compare numbers with the same number of decimal places up to two decimal places
**4.n.f.9** ■

Solve simple measure and money problems involving fractions and decimals to two decimal places.
**4.n.f.10** ■

Interpret and present discrete and continuous data using appropriate graphical methods.
**4.s.1** ■

Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs
**4.s.2** ■

**Highlight and annotate me**

**Strands:** ■ Number (n)  ■ Geometry (g)  ■ Measurement (m)  ■ Statistics (s)  ■ Ratios & Proportion (rp)  ■ Algebra (a)

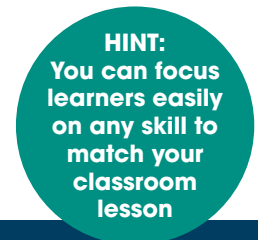**HINT:** You can focus learners easily on any skill to match your classroom lesson

Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit

**5.n.npv.1** ■

Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000

**5.n.npv.2** ■

Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero

**5.n.npv.3** ■

Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000

**5.n.npv.4** ■

Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.

**5.n.npv.6** ■

Convert between different units of metric measure.

**5.m.1** ■

Understand and use approximate equivalences between metric units and common imperial units.

**5.m.2** ■

Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.

**5.m.3** ■

Calculate and compare the area of rectangles, and estimate the area of irregular shapes.

**5.m.4** ■

Estimate volume and capacity.

**5.m.5** ■

Solve problems involving converting between units of time.

**5.m.6** ■

Use all four operations to solve problems involving measure, including scaling.

**5.m.7** ■

Add and subtract whole numbers with more than 4 digits, including using formal written methods.

**5.n.as.1** ■

Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy

**5.n.as.3** ■

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

**5.n.as.4** ■

Identify 3-D shapes, including cubes and other cuboids, from 2-D representations.

**5.g.ps.1** ■

Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.

**5.g.ps.2** ■

Draw given angles (measure in degrees)

**5.g.ps.3** ■

Identify: angles at a point and one whole turn; angles at a point on a straight line and half a turn; other multiples of 90 degrees.

**5.g.ps.4** ■

Distinguish between regular and irregular polygons based on about equal sides and angles.

**5.g.ps.6** ■

Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers

**5.n.md.1** ■

▶

**Highlight and annotate me**

**Strands:** ■ Number (n)  ■ Geometry (g)  ■ Measurement (m)  ■ Statistics (s)  ■ Ratios & Proportion (rp)  ■ Algebra (a)

**HINT:** You can focus learners easily on any skill to match your classroom lesson

Know and use the vocabulary of prime numbers, prime factors and composite (nonprime) numbers
**5.n.md.2** ■

Establish whether a number up to 100 is prime and recall prime numbers up to 19
**5.n.md.3** ■

Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method.
**5.n.md.4** ■

Multiply and divide numbers mentally drawing upon known facts
**5.n.md.5** ■

Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders.
**5.n.md.6** ■

Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000
**5.n.md.7** ■

Recognise and use square number and cube numbers, and the notation for squared and cubed.
**5.n.md.11** ■

Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes
**5.n.md.8** ■

Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign
**5.n.md.9** ■

Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.
**5.n.md.10** ■

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.
**5.g.pd.1** ■

Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.
**5.n.f.2** ■

Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number.
**5.n.f.3** ■

Add and subtract fractions with the same denominator and denominators that are multiples of the same number.
**5.n.f.4** ■

Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.
**5.n.f.5** ■

Read and write decimal numbers as fractions.
**5.n.f.6** ■

Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents,
**5.n.f.7** ■

Round decimals with two decimal places to the nearest whole number and to one decimal place.
**5.n.f.8** ■

▶

**Highlight and annotate me**

**Strands:** ■ Number (n) ■ Geometry (g) ■ Measurement (m) ■ Statistics (s) ■ Ratios & Proportion (rp) ■ Algebra (a)

**HINT:** You can focus learners easily on any skill to match your classroom lesson
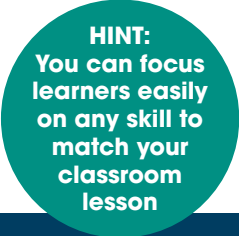
Read, write, order and compare numbers with up to three decimal places.
**5.n.f.9** ■

Solve problems involving number up to three decimal places.
**5.n.f.10** ■

Solve problems which require knowing percentage and decimal equivalents of a half, quarter, fifth, two fifths, four fifths , and those fractions with a denominator of a multiple of 10 or 25.
**5.n.f.12** ■

Solve comparison, sum and difference problems using information presented in a line graph.
**5.s.1** ■

Calculate the difference between elapsed and unlisted times.
**5.s.2** ■

Read timetables
**5.s.2** ■

Choose between options on a timetable
**5.s.2** ■

**Highlight and annotate me**

**Strands:** ■ Number (n)  ■ Geometry (g)  ■ Measurement (m)  ■ Statistics (s)  ■ Ratios & Proportion (rp)  ■ Algebra (a)

**HINT:** You can focus learners easily on any skill to match your classroom lesson

Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit.
**6.n.npv.1** ◼

Round any whole number to a required degree of accuracy.
**6.n.npv.2** ◼

Use negative numbers in context, and calculate intervals across zero.
**6.n.npv.3** ◼

Solve number and practical problems that involve all of the above.
**6.n.npv.4** ◼

Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.
**6.m.1** ◼

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.
**6.m.2** ◼

Convert between miles and kilometres.
**6.m.3** ◼

Recognise when it is possible to use formulae for area and volume of shapes.
**6.m.5** ◼

Calculate the area of parallelograms and triangles.
**6.m.6** ◼

Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres and  cubic metres, and extending to other units.
**6.m.7** ◼

Divide numbers up to 4 digits by a two-digit whole number using the format written method of long division.
**6.n.asmd.2** ◼

Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate; interpreting remainders according to the context.
**6.n.asmd.3** ◼

Identify common factors, common multiples and prime numbers.
**6.n.asmd.5** ◼

Use their knowledge of the order of operations to carry out calculations involving the four operations.
**6.n.asmd.6** ◼

Solve addition and subtraction multi-step problems in contexts, deciding which operations to use and why.
**6.n.asmd.7** ◼

Positive and negative numbers: Addition within 100
**6.n.asmd.8** ◼

Positive and negative numbers: Subtraction within 100
**6.n.asmd.8** ◼

Find unknown values when adding and subtracting integers
**6.n.asmd.8** ◼

▶

**Highlight and annotate me**

**Strands:** ◼ Number (n)  ◼ Geometry (g)  ◼ Measurement (m)  ◼ Statistics (s)  ◼ Ratios & Proportion (rp)  ◼ Algebra (a)

**HINT: You can focus learners easily on any skill to match your classroom lesson**

Solve multi-step division or multiplication problems (within 10,000)
**6.n.asmd.8** ■

Write two step questions from description
**6.n.asmd.8** ■

Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.
**6.n.asmd.9** ■

Generate and describe linear number sequences.
**6.a.2** ■

Express missing number problems algebraically.
**6.a.3** ■

Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.
**6.n.f.1** ■

Compare and order fractions, including fractions > 1.
**6.n.f.2** ■

Add fractions
**6.n.f.3** ■

Subtract fractions
**6.n.f.3** ■

Multiply simple pairs of proper fractions, writing the answer in its simplest form.
**6.n.f.4** ■

Divide proper fractions by whole numbers.
**6.n.f.5** ■

Associate a fraction with division and calculate decimal fraction equivalents for a simple fraction.
**6.n.f.6** ■

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.
**6.n.f.7** ■

Multiply one-digit numbers with up to two decimal places by whole numbers.
**6.n.f.8** ■

Use written division methods in cases where the answer has up to two decimal places.
**6.n.f.9** ■

Solve problems which require answers to be rounded to specified degrees of accuracy.
**6.n.f.10** ■

Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.
**6.n.f.11** ■

Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons.
**6.g.ps.3** ■

Recognise, describe and build simple 3-D shapes, including making nets.
**6.g.ps.2** ■

Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.
**6.g.ps.4** ■

Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.
**6.g.ps.5** ■

▶

**Highlight and annotate me**

**Strands:** ■ Number (n)  ■ Geometry (g)  ■ Measurement (m)  ■ Statistics (s)  ■ Ratios & Proportion (rp)  ■ Algebra (a)
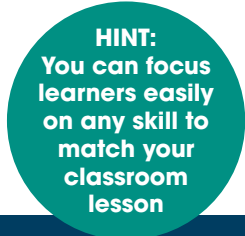
**HINT: You can focus learners easily on any skill to match your classroom lesson**
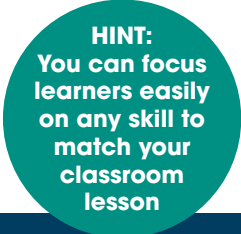
Solve problems involving the relative of two quantities where missing values can be found by using integer multiplication and division facts.
**6.rp.1** ■

Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison.
**6.rp.2** ■

Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.
**6.rp.4** ■

Describe positions on the full coordinate grid (all four quadrants).
**6.g.pd.1** ■

Identify and solve problems with coordinates
**6.g.pd.2** ■

Identify reflection
**6.g.pd.2** ■

Write coordinates
**6.g.pd.2** ■

Interpret and construct pie charts and line graphs and use these to

solve problems
**6.s.1** ■

Calculate and interpret the mean as an average.
**6.s.2** ■

**Highlight and annotate me**

**Strands:** ■ Number (n)  ■ Geometry (g)  ■ Measurement (m)  ■ Statistics (s)  ■ Ratios & Proportion (rp)  ■ Algebra (a)

**HINT:** You can focus learners easily on any skill to match your classroom lesson

Recognise a statistical question
**ks3.s.001** ■

Describe simple probabilities
**ks3.s.002** ■

Identify greatest common factors and least common multiples
**ks3.n.003** ■

Introduction to scatterplots
**ks3.s.004** ■

Find volume for composite shape
**ks3.m.005** ■

Statistical measure
**ks3.s.006** ■

Fluency with 1 decimal place arithmetic
**ks3.n.007** ■

Gradient and y-intercept
**ks3.a.008** ■

Line of best fit
**ks3.s.009** ■

Function introduction
**ks3.a.010** ■

Understanding basic probability
**ks3.s.011** ■

Cross-section of 3D solid
**ks3.m.012** ■

Factorising and expanding brackets
**ks3.a.013** ■

Solve and compare for perimeter, area and volume
**ks3.m.014** ■

Triangle angles, congruence, & similarity
**ks3.g.015** ■

Proportion introduction
**ks3.n.016** ■

Determine simple probability
**ks3.s.017** ■

Expressing inequalities
**ks3.a.018** ■

Relationships between variables
**ks3.a.019** ■

Solve for elapsed time with mixed units
**ks3.m.020** ■

Arithmetic with complex graphs
**ks3.s.021** ■

Identify linear and non-linear functions
**ks3.a.022** ■

Identify proportions
**ks3.n.023** ■

Using scale in calculations
**ks3.n.024** ■

Using simple probability
**ks3.s.025** ■

Calculating unknown angles with parallel lines
**ks3.g.026** ■

Solve for volume with fractional dimensions
**ks3.m.027** ■

Compare rate of change
**ks3.n.028** ■

Multiply and divide integers
**ks3.n.029** ■

Determine median and mode for a list of data
**ks3.s.030** ■

Measures of central tendency – median, mode and range
**ks3.s.031** ■

Fluency with algebraic expressions
**ks3.a.032** ■

Fluency with addition and subtraction of integers
**ks3.n.033** ■

Calculate with rational numbers
**ks3.n.034** ■

Determine the probability of compound events
**ks3.s.035** ■

▶

**Highlight and annotate me**

**Strands:** ■ Number (n)  ■ Geometry (g)  ■ Measurement (m)  ■ Statistics (s)  ■ Ratios & Proportion (rp)  ■ Algebra (a)

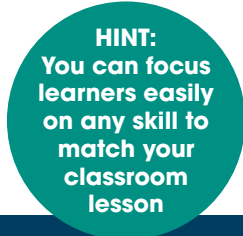**HINT:** You can focus learners easily on any skill to match your classroom lesson

Surface area of 3d solids
**ks3.m.036** ■

Volume for prisms
**ks3.m.037** ■

Substitute values into equations with one variable
**ks3.a.038** ■

Standard form
**ks3.n.039** ■

Describe a data set
**ks3.s.040** ■

Rational expressions
**ks3.a.041** ■

Calculate circumference and area of circles
**ks3.m.042** ■

Exponent laws
**ks3.n.043** ■

Fluency with multiplication and division of integers
**ks3.n.044** ■

Computing unit rates with ratios of fractions
**ks3.n.045** ■

Solve linear inequalities
**ks3.a.046** ■

Convert fractions and repeating decimals
**ks3.n.047** ■

Solve with numbers in standard form
**ks3.n.048** ■

Multi-step ratio
**ks3.n.049** ■

Construct a linear equation
**ks3.a.050** ■

Compare numbers in standard form
**ks3.n.051** ■

Roots
**ks3.n.052** ■

Pythagorean Theorem
**ks3.g.053** ■

**Highlight and annotate me**

**Strands:** ■ Number (n)  ■ Geometry (g)  ■ Measurement (m)  ■ Statistics (s)  ■ Ratios & Proportion (rp)  ■ Algebra (a)

**HINT:** You can focus learners easily on any skill to match your classroom lesson

Using our assessment library, you can select a pre-made low-stakes test that is matched to the Programme of study for Mathematics from the National Curriculum. You can also find tests aligned to the ready-to-progress criteria, White Rose Maths and the NCETM Checkpoints.

We have an assessment for each unit of the National Curriculum and have mapped them to our progression framework. Our detailed assessment report can easily be exported and printed to save for your tracking and monitoring evidence.

| | | |
|---|---|---|
| **KS1** | Year 1 | 5 Tests |
| | Year 2 | 6 Tests |
| **KS2** | Year 3 | 7 Tests |
| | Year 4 | 7 Tests |
| | Year 5 | 7 Tests |
| | Year 6 | 8 Tests |
| **KS3** | Years 7–9 | 18 Tests |

**REMEMBER:**
You can also create your own custom tests on Sumdog, selecting the exact skills you want to assess.

# Teacher Planning Template

**Class/Pupil Name:**

**Year Group:**

| | TERM 1 | TERM 2 | TERM 3 |
|---|---|---|---|
| **Sumdog Homework** | | | |
| **Challenges** | | | |
| **Focus Skills** | | | |
| **Sumdog Tests** | | | |
| **Teacher Notes** | | | |

Have any questions about our scheme of learning?
Call 0131 266 1511 or visit www.sumdog.com to find out more.