Year 5/6 AUTUMN – PLACE VALUE

Year 5 National Curriculum Objectives

- read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit
- count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000
- interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers through zero
- round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000
- solve number problems and practical problems that involve all of the above
- read Roman numerals to 1000 (M) and recognise years written in Roman numerals

Year 6 National Curriculum Objectives

- read, write, order and compare numbers up to 10 000 000 and determine the value of each digit
- round any whole number to a required degree of accuracy
- use negative numbers in context, and calculate intervals across zero
- solve number and practical problems that involve all of the above.

Year 5 Small Steps

- Step 1 Roman numerals to 1,000
- Step 2 Numbers to 10,000
- Step 3 Numbers to 100,000
- Step 4 Numbers to 1,000,000
- Step 5 Read and write numbers to 1,000,000
- Step 6 Powers of 10
- Step 7 10/100/1,000/10,000/100,000 more or less
- Step 8 Partition numbers to 1,000,000
- Step 9 Number line to 1,000,000
- Step 10 Compare and order numbers to 100,000
- Step 11 Compare and order numbers to 1,000,000
- Step 12 Round to the nearest 10, 100 or 1,000
- Step 13 Round within 100,000
- Step 14 Round within 1,000,000

Year 6 Small Steps

- Step 1 Numbers to 1,000,000
- Step 2 Numbers to 10,000,000
- Step 3 Read and write numbers to 10,000,000
- Step 4 Powers of 10
- Step 5 Number line to 10,000,000
- Step 6 Compare and order any integers
- Step 7 Round any integer
- Step 8 Negative numbers

Domain Links

- Measures – practical length/ weight/ capacity
- Ordering & comparing < > =

Practise & Consolidate

- Fractions

Key Skills

- Representing numbers to 1000 (place value grid/ pv counters/ number lines/ dienes) (1 000 000 Y6)
- Partitioning numbers into Th H T ones
- Compare & order numbers to 1000 (1 000 000 Y6)
- Use < > = to compare numbers
- Count in 10s, 100s & 1000s from any given number (forward & backwards)
- Rounding to the nearest 10, 100, 1000 (1 000 000 Y6)

Vocabulary

- Powers
- Partition
- Compare/order
- Round
- Integer
- Negative
- Roman numerals

Year 5/6 AUTUMN – ADDITION & SUBTRACTION

Year 5 National Curriculum Objectives	Year 6 National Curriculum Objectives
• add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) • add and subtract numbers mentally with increasingly large numbers • use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy • solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	• solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why • solve problems involving addition, subtraction, multiplication and division • use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy • perform mental calculations, including with mixed operations and large numbers
Year 5 Small Steps Step 1 Mental strategies Step 2 Add whole numbers with more than four digits Step 3 Subtract whole numbers with more than four digits Step 4 Round to check answers Step 5 Inverse operations (addition and subtraction) Step 6 Multi-step addition and subtraction problems Step 7 Compare calculations Step 8 Find missing numbers	**Year 6 Small Steps** Step 1 Add and subtract integers
Domain Links • Measures length/ weight/ capacity • Money	**Practise & Consolidate** • Roman numerals • Place value • Negative numbers (Y6)
Key Skills • Number bonds to 10 & 20 □ use for complements to 100 • Mentally add 10/ 100/ 1000 to a 3 & 4 digit numbers • Understand addition / subtraction inverse relationship (establish related facts) • Column addition & subtraction secure • Rounding to the nearest 10, 100, 1000	**Vocabulary** • Add/plus/more/sum • Subtract/minus/less • Integers • Whole numbers • Digits • Round • Inverse • Multi-step

Year 5/6 AUTUMN – MULTIPLICATION & DIVISION (A FOR Y5)

Year 5 National Curriculum Objectives

- identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.
- know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers
- establish whether a number up to 100 is prime and recall prime numbers up to 19
- multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers
- multiply and divide numbers mentally drawing upon known facts
- divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context
- multiply and divide whole numbers and those involving decimals by 10, 100 and 1000
- recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)
- Solve problems involving addition, subtraction, multiplication and division including using their knowledge of factors and multiples, squares and cubes
- solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign
- solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.

Year 6 National Curriculum Objectives

- multiply digits by a two-digit whole number using the formal written method of long multiplication
- 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
- perform mental calculations, including with mixed operations and large numbers
- identify common factors, common multiples and prime numbers
- use their knowledge of the order of operations to carry out calculations involving the four operations

Year 5 Small Steps

- Step 1 Multiples
- Step 2 Common multiples
- Step 3 Factors
- Step 4 Common factors
- Step 5 Prime numbers
- Step 6 Square numbers
- Step 7 Cube numbers
- Step 8 Multiply by 10, 100 and 1,000
- Step 9 Divide by 10, 100 and 1,000
- Step 10 Multiples of 10, 100 and 1,000

Year 6 Small Steps

- Step 1 Add and subtract integers
- Step 2 Common factors
- Step 3 Common multiples
- Step 4 Rules of divisibility
- Step 5 Primes to 100
- Step 6 Square and cube numbers
- Step 7 Multiply up to a 4-digit number by a 2-digit number
- Step 8 Solve problems with multiplication
- Step 9 Short division
- Step 10 Division using factors
- Step 11 Introduction to long division
- Step 12 Long division with remainders
- Step 13 Solve problems with division
- Step 14 Solve multi-step problems
- Step 15 Order of operations
- Step 16 Mental calculations and estimation
- Step 17 Reason from known facts

Domain Links

- Measures – money, length, weight & capacity
- Algebra - Missing number calculations
- Scaling up & down

Practise & Consolidate

- Place value
- Addition/subtraction

Key Skills

- Short multiplication & long multiplication - especially multiplying by tens number
- Understand multiplication/ division inverse relationship (establish related facts)
- Times table knowledge & related facts
- Multiply & divide by 10/ 100/ 1000
- Multiples
- Using related facts (2x6 → 20 x60) & partitioning
- Short division
- Doubles & halves (use related facts)
- Factors
- Identify prime numbers, prime factors, composite numbers
- Squared & cubed numbers
- Estimation

Vocabulary

- Multiples/factors
- Common multiples/common factors
- Prime numbers
- Square numbers
- Cube numbers
- Multiply
- Divide
- Formal method – short/long
- Remainders
- Order of operations
- Product

Year 5/6 AUTUMN – FRACTIONS (A FOR Y5)

Year 5 National Curriculum Objectives

- compare and order fractions whose denominators are all multiples of the same number
- identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths
- recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number (e.g. 2/5 + 4/5 = 6/5 = 11/5)
- add and subtract fractions with the same denominator and multiples of the same number
- multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams
- read and write decimal numbers as fractions (e.g. 0.71 = 71/100)
- recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents
- round decimals with two decimal places to the nearest whole number and to one decimal place
- read, write, order and compare numbers with up to three decimal places
- solve problems involving number up to three decimal places
- recognise the per cent symbol (%) and understand that per cent relates to "number of parts per hundred", and write percentages as a fraction with denominator hundred, and as a decimal fraction
- solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and those with a denominator of a multiple of 10 or 25

Year 6 National Curriculum Objectives

- use common factors to simplify fractions; use common multiples to express fractions in the same denomination
- compare and order fractions, including fractions >1
- add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions
- multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. 1/4 × 1/2 = 1/8)
- divide proper fractions by whole numbers (e.g. 1/3 ÷ 2 = 1/6)
- associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. 3/8)
- identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places
- multiply one-digit numbers with up to two decimal places by whole numbers
- use written division methods in cases where the answer has up to two decimal places
- solve problems which require answers to be rounded to specified degrees of accuracy
- recall and use equivalences between simple fractions, decimals and percentages, including in different contexts

Year 5 Small Steps

Step 1 Find fractions equivalent to a unit fraction
Step 2 Find fractions equivalent to a non-unit fraction
Step 3 Recognise equivalent fractions
Step 4 Convert improper fractions to mixed numbers
Step 5 Convert mixed numbers to improper fractions
Step 6 Compare fractions less than 1
Step 7 Order fractions less than 1
Step 8 Compare and order fractions greater than 1
Step 9 Add and subtract fractions with the same denominator
Step 10 Add fractions within 1
Step 11 Add fractions with total greater than 1
Step 12 Add to a mixed number
Step 13 Add two mixed numbers
Step 14 Subtract fractions
Step 15 Subtract from a mixed number
Step 16 Subtract from a mixed number - breaking the whole
Step 17 Subtract two mixed numbers

Year 6 Small Steps

Step 1 Equivalent fractions and simplifying
Step 2 Equivalent fractions on a number line
Step 3 Compare and order (denominator)
Step 4 Compare and order (numerator)
Step 5 Add and subtract simple fractions
Step 6 Add and subtract any two fractions
Step 7 Add mixed numbers
Step 8 Subtract mixed numbers
Step 9 Multi-step problems
Step 1 Multiply fractions by integers
Step 2 Multiply fractions by fractions
Step 3 Divide a fraction by an integer
Step 4 Divide any fraction by an integer
Step 5 Mixed questions with fractions
Step 6 Fraction of an amount
Step 7 Fraction of an amount - find the whole

Domain Links

- 2D shape properties
- Length – measuring, converting between units
- Measures – 3 ½litres

Practise & Consolidate

- Times tables and related division facts
- Roman numerals
- Multiplying & dividing by 10 & 100 & 1000

Key Skills

- Factors & multiples
- Common factors
- Equivalent fractions
- Representing fractions on a bar model (understanding of the size of the whole)/ & other representations
- Ordering fractions – positioning on number line
- Comparing fractions
- Add & subtract fractions with same denominator & multiples of the denominator
- Multiplying fractions by whole numbers
- Finding fractions of amounts using bar model
- length equivalences
- multiplying/dividing by 10/ 100/ 1000

Vocabulary

- Equivalent
- Simplify
- Unit/non-unit fractions
- Improper/mixed number
- Convert/order/compare

Year 5/6 AUTUMN – CONVERTING UNITS

<table>
<tr>
<td>Year 5 National Curriculum Objectives
convert between different units of metric measure (e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)
solve problems involving converting between units of time
use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling.</td>
<td>Year 6 National Curriculum Objectives
solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate
use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places
convert between miles and kilometres</td>
</tr>
<tr>
<td>Year 5 Small Steps
Step 1 Kilograms and kilometres
Step 2 Millimetres and millilitres
Step 3 Convert units of length
Step 4 Convert between metric and imperial units
Step 5 Convert units of time
Step 6 Calculate with timetables</td>
<td>Year 6 Small Steps
Step 1 Metric measures
Step 2 Convert metric measures
Step 3 Calculate with metric measures
Step 4 Miles and kilometres
Step 5 Imperial measures</td>
</tr>
<tr>
<td>Domain Links
Four number operation
Place Value</td>
<td>Practise & Consolidate
Position and Direction</td>
</tr>
<tr>
<td>Key Skills
know all metric measures for weight, length, capacity
know measure equivalences
** reading scales – length/ weight/ capacity
Multiplying & dividing by 10, 100, 1000
Place value – 0 as a place holder
Place value – three decimals
Key time facts (seconds, minutes, hours, days, weeks, years)
24 hour clock, time duration</td>
<td>Vocabulary
Kilograms/kilometers
Grams/litres/metres
Millilitres/milimetres
Miles
Metric
Convert</td>
</tr>
</table>

Year 5/6 SPRING – DECIMALS & PERCENTAGES

Year 5 National Curriculum Objectives

- compare and order fractions whose denominators are all multiples of the same number
- identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths
- recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number (e.g. $^2/_5 + {}^4/_5 = {}^6/_5 = 1^1/_5$)
- add and subtract fractions with the same denominator and multiples of the same number
- multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams
- read and write decimal numbers as fractions (e.g. 0.71 = $^{71}/_{100}$)
- recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents
- round decimals with two decimal places to the nearest whole number and to one decimal place
- read, write, order and compare numbers with up to three decimal places
- solve problems involving number up to three decimal places
- recognise the per cent symbol (%) and understand that per cent relates to "number of parts per hundred", and write percentages as a fraction with denominator hundred, and as a decimal fraction
- solve problems which require knowing percentage and decimal equivalents of $^1/_2$, $^1/_4$, $^1/_5$, $^2/_5$, $^4/_5$ and those with a denominator of a multiple of 10 or 25.

Year 6 National Curriculum Objectives

- use common factors to simplify fractions; use common multiples to express fractions in the same denomination
- compare and order fractions, including fractions >1
- add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions
- multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. $^1/_4 \times {}^1/_2 = {}^1/_8$)
- divide proper fractions by whole numbers (e.g. $^1/_3 \div 2 = {}^1/_6$)
- associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $^3/_8$)
- identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places
- multiply one-digit numbers with up to two decimal places by whole numbers
- use written division methods in cases where the answer has up to two decimal places
- solve problems which require answers to be rounded to specified degrees of accuracy
- recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.

Year 5 Small Steps

Step 1 Decimals up to 2 decimal places
Step 2 Equivalent fractions and decimals (tenths)
Step 3 Equivalent fractions and decimals (hundredths)
Step 4 Equivalent fractions and decimals
Step 5 Thousandths as fractions
Step 6 Thousandths as decimals
Step 7 Thousandths on a place value chart
Step 8 Order and compare decimals (same number of decimal places)
Step 9 Order and compare any decimals with up to 3 decimal places
Step 10 Round to the nearest whole number
Step 11 Round to 1 decimal place
Step 12 Understand percentages
Step 13 Percentages as fractions
Step 14 Percentages as decimals
Step 15 Equivalent fractions, decimals and percentages

Year 6 Small Steps

Step 1 Place value within 1
Step 2 Place value — integers and decimals
Step 3 Round decimals
Step 4 Add and subtract decimals
Step 5 Multiply by 10, 100 and 1,000
Step 6 Divide by 10, 100 and 1,000
Step 7 Multiply decimals by integers
Step 8 Divide decimals by integers
Step 9 Multiply and divide decimals in context
Step 1 Decimal and fraction equivalents
Step 2 Fractions as division
Step 3 Understand percentages
Step 4 Fractions to percentages
Step 5 Equivalent fractions, decimals and percentages
Step 6 Order fractions, decimals and percentages
Step 7 Percentage of an amount — one step
Step 8 Percentage of an amount — multi-step
Step 9 Percentages — missing values

Domain Links

Measures - length/ weight/ capacity
Money

Practise & Consolidate

- Place value – tenths, hundredths
- Multiplying & dividing by 10
- Times table knowledge and related division facts (2,5,10,3,4,8,6,7,9)
- Multiples

Key Skills

- place value - decimals as tenths, hundredths & thousandths
- convert decimals to fractions (1/10 & 1/100)
- fraction-decimal equivalents ¼ ½ ¾
- round decimals (1dp) to the nearest whole number
- compare & order decimal numbers (1dp, 2dp)
- estimation –decimals on a number line
- Number bonds to 10, 100, 1000
- Multiply & divide by 10, 100, 1000
- Times tables & related division facts

Vocabulary

- Decimals, fractions, percentages, integers
- Tenths, hundredths, thousandths
- Convert
- Round
- Compare and order
- Decimal places
- Equal to

Year 5/6 SPRING – NEGATIVE NUMBERS (Y5)

<table>
<tr><td>Year 5 National Curriculum Objectives
interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through 0</td><td>Year 6 National Curriculum Objectives</td></tr>
<tr><td>Year 5 Small Steps
Step 1 Understand negative numbers
Step 2 Count through zero in 1s
Step 3 Count through zero in multiples
Step 4 Compare and order negative numbers
Step 5 Find the difference</td><td>Year 6 Small Steps</td></tr>
<tr><td>Domain Links
Place value</td><td>Practise & Consolidate
Four operations
Fractions
Converting units</td></tr>
<tr><td>Key Skills
Counting forwards and backwards, bridging zero
Adding and subtracting, bridging zero</td><td>Vocabulary
Positive/negative numbers
Multiples
Compare/order
Difference</td></tr>
</table>

Year 5/6 SPRING – RATIO (Y6)

<table>
<tr><td>Year 5 National Curriculum Objectives</td><td>Year 6 National Curriculum Objectives
solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts
solve problems involving the calculation of percentages (e.g. of measures) such as 15% of 360 and the use of percentages for comparison
solve problems involving similar shapes where the scale factor is known or can be found
solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.</td></tr>
<tr><td>Year 5 Small Steps</td><td>Year 6 Small Steps
Step 1 Add or multiply?
Step 2 Use ratio language
Step 3 Introduction to the ratio symbol
Step 4 Ratio and fractions
Step 5 Scale drawing
Step 6 Use scale factors
Step 7 Similar shapes
Step 8 Ratio problems
Step 9 Proportion problems
Step 10 Recipes</td></tr>
<tr><td>Domain Links
Measure
Money</td><td>Practise & Consolidate
compare and order fractions, including fractions >1
add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions
multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. 1/4 × 1/2 = 1/8)
divide proper fractions by whole numbers (e.g. 1/3 ÷ 2 = 1/6)</td></tr>
<tr><td>Key Skills
times tables & related division facts</td><td>Vocabulary
Relative
Fractions
Multiples
Ratio
Scale
Proportion</td></tr>
</table>

Year 5/6 SPRING – ALGEBRA (Y6)

<table>
<tr><td>Year 5 National Curriculum Objectives</td><td>Year 6 National Curriculum Objectives
generate and describe linear number sequences
express missing number problems algebraically
find pairs of numbers that satisfy number sentences involving two unknowns
enumerate all possibilities of combinations of two variables.</td></tr>
<tr><td>Year 5 Small Steps</td><td>Year 6 Small Steps
Step 1 1-step function machines
Step 2 2-step function machines
Step 3 Form expressions
Step 4 Substitution
Step 5 Formulae
Step 6 Form equations
Step 7 Solve 1-step equations
Step 8 Solve 2-step equations
Step 9 Find pairs of values
Step 10 Solve problems with two unknowns</td></tr>
<tr><td>Domain Links
Area/perimeter/volume
Missing number calculations (four operations)</td><td>Practise & Consolidate
Using related facts
Doubles & halves
Column addition & subtraction
Short multiplication & division
Long multiplication
Long division
Multiples</td></tr>
<tr><td>Key Skills
Using related facts</td><td>Vocabulary
Algebra
Functions
Expressions
Substitution
Formula
Equations
Value</td></tr>
</table>

Year 5/6 SPRING – AREA, PERIMETER & VOLUME

Year 5 National Curriculum Objectives

- convert between different units of metric measure (e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)
- understand and use equivalences between metric units and common imperial units such as inches, pounds and pints
- measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres
- calculate and compare the area of rectangles (including squares) and including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes
- estimate volume (e.g. using 1 cm3 blocks to build cubes and cuboids) and capacity (e.g. using water)
- solve problems involving converting between units of time
- use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling.

Year 6 National Curriculum Objectives

- recognise that shapes with the same areas can have different perimeters and vice versa
- recognise when it is possible to use formulae for area and volume of shapes
- calculate the area of parallelograms and triangles
- calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm3) and cubic metres (m3), and extending to other units such as mm3 and km3.

Year 5 Small Steps

Step 1 Perimeter of rectangles
Step 2 Perimeter of rectilinear shapes
Step 3 Perimeter of polygons
Step 4 Area of rectangles
Step 5 Area of compound shapes
Step 6 Estimate area

Step 1 Cubic centimetres
Step 2 Compare volume
Step 3 Estimate volume
Step 4 Estimate capacity

Year 6 Small Steps

Step 1 Shapes - same area
Step 2 Area and perimeter
Step 3 Area of a triangle — counting squares
Step 4 Area of a right-angled triangle
Step 5 Area of any triangle
Step 6 Area of a parallelogram
Step 7 Volume - counting cubes
Step 8 Volume of a cuboid

Domain Links

- Shape
- Length – measuring
- Converting between units

Practise & Consolidate

- Multiplying and dividing by 10, 100, 1000

Key Skills

- Understand area & perimeter
- Find perimeter of compound shapes
- Find area of squares & rectangles
- Shape knowledge (triangles, parallelogram)
- Factors
- Times tables
- Doubles & halves

Vocabulary

- Perimeter
- Area
- Rectilinear
- Polygon
- Compound shapes
- Parallelogram
- Volume
- Cubic

Year 5/6 SPRING – STATISTICS

<table>
<tr>
<td>Year 5 National Curriculum Objectives
● solve comparison, sum and difference problems using information presented in a line graph
● complete, read and interpret information in tables, including timetables.</td>
<td>Year 6 National Curriculum Objectives
● interpret and construct pie charts and line graphs and use these to solve problems
● calculate and interpret the mean as an average.</td>
</tr>
<tr>
<td>Year 5 Small Steps
Step 1 Draw line graphs
Step 2 Read and interpret line graphs
Step 3 Read and interpret tables
Step 4 Two-way tables
Step 5 Read and interpret timetables</td>
<td>Year 6 Small Steps
Step 1 Line graphs
Step 2 Dual bar charts
Step 3 Read and interpret pie charts
Step 4 Pie charts with percentages
Step 5 Draw pie charts
Step 6 The mean</td>
</tr>
<tr>
<td>Domain Links
• Addition & subtraction
• Percentages</td>
<td>Practise & Consolidate
● Place value – representing numbers in different ways
● Rounding to the nearest 10, 100, 1000</td>
</tr>
<tr>
<td>Key Skills
● Count in scaled steps (2, 5, 10, 3, 4, 8, 6, 7, 9 ? link to times tables knowledge)
● Estimations – where numbers are positioned on a scaled axis
● 24hour time (minutes in an hour, time duration) for timetables
● Percentages of amounts
● Angles around a point</td>
<td>Vocabulary
• Graph
• Table
• Bar chart
• Pie charts
• Mean/average</td>
</tr>
</table>

Year 5/6 SUMMER – SHAPE

Year 5 National Curriculum Objectives

- identify 3-D shapes, including cubes and other cuboids, from 2-D representations
- know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles
- draw given angles, and measure them in degrees (o)

Identify:

- angles at a point and one whole turn (total 360o)
- angles at a point on a straight line and ½ a turn (total 180o)
- other multiples of 90o
- use the properties of rectangles to deduce related facts and find missing lengths and angles
- distinguish between regular and irregular polygons based on reasoning about equal sides and angles.

Year 6 National Curriculum Objectives

- draw 2-D shapes using given dimensions and angles
- recognise, describe and build simple 3-D shapes, including making nets
- compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons
- illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius
- recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.

Year 5 Small Steps

Step 1 Understand and use degrees
Step 2 Classify angles
Step 3 Estimate angles
Step 4 Measure angles up to 180
Step 5 Draw lines and angles accurately
Step 6 Calculate angles around a point
Step 7 Calculate angles on a straight line
Step 8 Lengths and angles in shapes
Step 9 Regular and irregular polygons
Step 10 3-D shapes

Year 6 Small Steps

Step 1 Measure and classify angles
Step 2 Calculate angles
Step 3 Vertically opposite angles
Step 4 Angles in a triangle
Step 5 Angles in a triangle — special cases
Step 6 Angles in a triangle — missing angles
Step 7 Angles in quadrilaterals
Step 8 Angles in polygons
Step 9 Circles
Step 10 Draw shapes accurately
Step 11 Nets of 3-D shapes

Domain Links

- Perimeter
- Area
- Scaling up/down

Practise & Consolidate

- Place value (including decimals)
- Rounding to the nearest 10, 100, 1000
- Multiplying & dividing by 10, 100, 1000
- Times tables & division related facts
- Using known facts to calculate larger facts (e.g.70x60)

Key Skills

- Angles – acute, obtuse & right angles
- Angles at a point and one whole turn (total 360°)
- angles at a point on a straight line and ½ a turn (total 180°)
- Vocabulary (shape names & properties)
- 2D lines of symmetry
- Estimation of size of angles
- Using a protractor to draw angles

Vocabulary

- 2D/3D
- Properties
- Angles (right/acute/obtuse/reflex)
- Degrees
- Polygon
- Radius/diameter/circumference

Year 5/6 SUMMER – POSITION & DIRECTION

<table>
<tr>
<td>Year 5 National Curriculum Objectives
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.</td>
<td>Year 6 National Curriculum Objectives
describe positions on the full coordinate grid (all four quadrants)
draw and translate simple shapes on the coordinate plane and reflect them in the axes.</td>
</tr>
<tr>
<td>Year 5 Small Steps
Step 1 Read and plot coordinates
Step 2 Problem solving with coordinates
Step 3 Translation
Step 4 Translation with coordinates
Step 5 Lines of symmetry
Step 6 Reflection in horizontal and vertical lines</td>
<td>Year 6 Small Steps
Step 1 The first quadrant
Step 2 Read and plot points in four quadrants
Step 3 Solve problems with coordinates
Step 4 Translations
Step 5 Reflections</td>
</tr>
<tr>
<td>Domain Links
2D shape</td>
<td>Practise & Consolidate
read, write, order and compare numbers up to 10 000 000 and determine the value of each digit
round any whole number to a required degree of accuracy
times tables & division related facts
using known facts to calculate larger facts (e.g.70x60)
fractions</td>
</tr>
<tr>
<td>Key Skills
positional language
reflection
translation
co-ordinates (reading & plotting)</td>
<td>Vocabulary
reflection
translation
coordinates
quadrants
symmetry
horizontal
vertical</td>
</tr>
</table>

Year 5/6 SUMMER – MULTIPLICATION & DIVISION B (Y5)

Year 5 National Curriculum Objectives

- identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.
- know and use the vocabulary of
- prime numbers, prime factors
- and composite (non-prime) numbers
- establish whether a number up to 100 is prime and recall prime numbers up to 19
- multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers
- multiply and divide numbers mentally drawing upon known facts
- divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context
- multiply and divide whole numbers and those involving decimals by 10, 100 and 1000
- recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)
- Solve problems involving
- addition, subtraction, multiplication and division including using their knowledge of factors and multiples, squares and cubes
- solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign
- solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.

Year 6 National Curriculum Objectives

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Year 5 Small Steps

Step 1 Multiply up to a 4-digit number by a 1-digit number
Step 2 Multiply a 2-digit number by a 2-digit number (area model)
Step 3 Multiply a 2-digit number by a 2-digit number
Step 4 Multiply a 3-digit number by a 2-digit number
Step 5 Multiply a 4-digit number by a 2-digit number
Step 6 Solve problems with multiplication
Step 7 Short division
Step 8 Divide a 4-digit number by a 1-digit number
Step 9 Divide with remainders
Step 10 Efficient division
Step 11 Solve problems with multiplication and division

Year 6 Small Steps

Domain Links

- Measures (decimals)
- Money
- Area
- Perimeter
- Shape

Practise & Consolidate

- Factor pairs
- Prime numbers
- Square & cube numbers
- Shape

Key Skills

- Times table knowledge and related division facts (2,5,10,3,4,8,6,7,9)
- Multiplying & dividing by 10 & 100
- Short multiplication

Vocabulary

- Multiples
- Factors
- Factor pair
- Prime/composite
- Short method
- Long multiplication/division
- Square numbers
- Cube numbers

Year 5/6 SUMMER – FRACTIONS & DECIMALS (Y5)

Year 5 National Curriculum Objectives

- compare and order fractions whose denominators are all multiples of the same number
- identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths
- recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number (e.g. 2/5 + 4/5 = 6/5 = 11/5)
- add and subtract fractions with the same denominator and multiples of the same number
- multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams
- read and write decimal numbers as fractions (e.g. 0.71 = 71/100)
- recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents
- round decimals with two decimal places to the nearest whole number and to one decimal place
- read, write, order and compare numbers with up to three decimal places
- solve problems involving number up to three decimal places .

Year 6 National Curriculum Objectives

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Year 5 Small Steps

- Step 1 Multiply a unit fraction by an integer
- Step 2 Multiply a non-unit fraction by an integer
- Step 3 Multiply a mixed number by an integer
- Step 4 Calculate a fraction of a quantity
- Step 5 Fraction of an amount
- Step 6 Find the whole
- Step 7 Use fractions as operators
- Step 1 Use known facts to add and subtract decimals within 1
- Step 2 Complements to 1
- Step 3 Add and subtract decimals across 1
- Step 4 Add decimals with the same number of decimal places
- Step 5 Subtract decimals with the same number of decimal places
- Step 6 Add decimals with different numbers of decimal places
- Step 7 Subtract decimals with different numbers of decimal places
- Step 8 Efficient strategies for adding and subtracting decimals
- Step 9 Decimal sequences
- Step 10 Multiply by 10, 100 and 1,000
- Step 11 Divide by 10, 100 and 1,000
- Step 12 Multiply and divide decimals - missing values

Year 6 Small Steps

Domain Links

- Measure
- Time
- Converting units
- Money

Practise & Consolidate

- Times table knowledge and related division facts
- Multiples
- Time
- Converting Units

Key Skills

- equivalent fractions
- counting in fraction steps
- add & subtract fractions with the same denominator
- finding fractions of amounts – using bar model to represent

Vocabulary

- Decimals, fractions, percentages, integers
- Tenths, hundredths, thousandths
- Convert
- Round
- Compare and order
- Decimal places
- Equal to