

Learning Profile B6

- NUMBER PLACE VALUE
- NPV: I can read numbers up to 10 000 000
- NPV: I can write numbers up to 10 000 000
- NPV: I can represent numbers up to 10,000 000 in different ways
- NPV: I can compare numbers up to 10 000 000
- NPV: I can order numbers up to 10 000 000
- NPV: I can determine the value of each digit in numbers up to 10 000 000
- NPV: I can round any whole number to a required degree of accuracy
- NPV: I can use negative numbers in context
- NPV: I can calculate intervals across zero using number lines for support
- 4 Operations
- WAS: I can solve multi digit addition calculations using the column method
- WAS: I can solve multi digit subtraction calculations using the column method
- WAS: I can consider if the column method is always appropriate (e.g. when adding 999 is it easier to add 1000 then subtract 1)
- WAS: I can use my addition and subtraction skills to solve multi-step problems
- WMD: I can multiply multi-digit numbers up to 4 digits by a two-digit whole number using column multiplication
- WMD: I can use my column multiplication skills to solve multi-step problems
- WMD: I understand the grouping structure of division to divide by a 2 digit number using the short division method
- WMD: I can interpret remainders as whole number remainders, as appropriate for the context
- WMD: I can use my knowledge of factors to see the relationship between the dividend and the divisor using multiples of 10
- WMD: I can use my knowledge of factors to see the relationship between the dividend and the divisor using other multiples
- WMD: I can divide a 3 digit number by a 2 digit number without remainders using a more expanded method (with multiples shown)
- WMD: I can divide a 3 digit number by a two-digit whole number without remainders using the formal written method of long division
- WMD: I can divide a 4 digit number by a two-digit whole number without remainders using the formal written method of long division
- WMD: I can divide a 4 digit number by a two-digit whole number with remainders using the formal written method of long division
- WMD: I can understand when rounding is appropriate to use for interpreting the remainder
- WMD: I can identify common factors of two numbers using arrays or other representations
- MMD: I can identify common factors of two numbers using mental methods
- WMD: I can show common factors using venn diagrams and tables
- WMD: I can identify common multiples using visual representations for support
- MMD: I can identify common multiples using abstract methods
- MMD: I can use estimation to check answers to calculations
- MMD: I can use estimation to determine, in the context of a problem, an appropriate degree of accuracy

- WMD: I can identify prime numbers up to 100
- WMD: I can break down a prime number into its prime factors
- WMD: I can explore the relationship between square and cube numbers looking for patterns and relationships
- WMD: I can solve problems involving square and cube numbers
- AS/MD: I can explore how the order of operations in a calculation can affect the answer
- AS/MD: I understand that in mixed operation calculations operations are not carried out from left to right
- AS/MD: I understand the convention that when there is no operation sign written this means multiply (e.g. $4(2+1)$ means $4 \times (2+1)$)
- AS/MD: I can use my knowledge of the order of operations to carry out calculations involving the four operations
- MMD: I can perform mental calculations, including with mixed operations
- MMD: I can perform mental calculations, including with large numbers
- AS/MD: I can use known facts from one calculation to determine the answer of another similar calculation
- AS/MD: I can use reasoning and apply my understanding of commutativity and inverse operations to solve problems
- Ratio and percentage
 - RAP: I understand that a ratio shows the relationship between 2 values
 - RAP: I can make simple comparisons between 2 different quantities
 - RAP: I can recognise and use the ratio symbol (:) and use the language “to” when reading this symbol
 - RAP: I can begin to calculate ratio using bar models for support
 - RAP: I can enlarge 2D shapes using the term scale factor for this process
 - RAP: I can find scale factors when given similar shapes; using multiplication and division facts to calculate missing information
 - RAP: I can apply learnt skills to solve ratio and proportion problems in different contexts
- I can solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360]
 - RAP: I can solve problems involving the use of percentages for comparison
 - RAP: I can solve problems involving similar shapes where the scale factor is known or can be found
 - RAP: I can solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.
 - RAP: I can solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts
- Algebra

- ALG: I can explore one step function machines working both forward and backward through the machine
- ALG: I can explore the use of 2 step function machines
- ALG: I can use simple algebraic inputs (e.g. y) into a function machine to form simple algebraic expressions using concrete representations to support my understanding
- ALG: I can use basic algebraic expressions (e.g. $4y = 4 \times y$)
- ALG: I can substitute into simple expressions to find a particular value
- ALG: I can substitute into a familiar formulae (e.g. area)
- ALG: I can use simple formulae to work out values of everyday activities (e.g. cost of a taxi)
- ALG: I can form one step equations using algebraic expression using concrete materials for support
- ALG: I can solve simple one step equations involving the four operations using concrete materials for support
- ALG: I can solve two step equations involving the four operations using concrete and pictorial representations for support
- ALG: I can consider what possible values a pair of variables can take
- ALG: I can find possible solutions to equations which involve multiples of one or more unknown
- Fractions decimals and percentage
- FDP: I can use common factors to simplify fractions using pictorial representations for support
- FDP: I can use common multiples to express fractions in the same denomination
- FDP: I can compare and order fractions with the same denominator or denominators that are multiples of the same number
- FDP: I can use the divisions on a number line to find the difference between fractions
- FDP: I can use my knowledge of equivalent fractions to compare fractions where the denominators are not multiples of the same number
- FDP: I can find the lowest common multiple of the denominators in order to find equivalent fractions with the same denominator
- FDP: I can compare fractions with a common numerator
- FDP: I can consider the most efficient method to compare fractions – choosing to find a common numerator or common denominator
- FDP: I can add fractions within 1 where denominators are multiples of the same number
- FDP: I can subtract fractions within 1 where denominators are multiples of the same number
- FDP: I can use LCM and equivalent fractions to find a common denominator in order to add and subtract fractions where denominators are not multiples of the same number
- FDP: I can add mixed numbers using different methods depending upon whether the fractions total more than 1 using bar models for support
- FDP: I can subtract mixed numbers using different methods depending upon whether the fractions total more than 1 using bar models for support
- FDP: I can multiply fractions and mixed numbers by integers using diagrams to support my understanding
- FDP: I can partition mixed numbers into wholes and parts to multiply mixed numbers more effectively
- FDP: I can use concrete and pictorial representations to multiply fractions
- FDP: I can divide fractions by integers where the numerator is a multiple of the integer
- FDP: I can divide fractions by integers where the numerator is not a multiple of the integer
- FDP: I can use my knowledge of order of operations to solve calculations involving fractions
- FDP: I can calculate fractions of an amount using bar models for support
- FDP: I can find the whole amount from a known value of a fraction

- FDP: I can identify the value of each digit in numbers given to three decimal places using concrete resources to investigate exchanging between columns
- FDP: I can multiply numbers with up to 3 decimal places by 10, 100, 1000
- FDP: I can multiply numbers with up to 3 decimal places by multiples of 10, 100, 1000 (e.g. 2.4 X 20)
- FDP: I can divide numbers with up to 3 decimal places by 10, 100, 1000
- FDP: I can divide numbers with up to 3 decimal places by 10, 100, 1000 using the context of converting between units of measure
- FDP: I can multiply one-digit numbers with up to two decimal places by whole numbers using concrete materials for support
- FDP: I can divide one-digit numbers with up to two decimal places by whole numbers using concrete materials for support
- FDP: I can convert decimals into fractions
- FDP: I can recall common fractions (thirds, quarters, fifths, eighths) as decimals
- FDP: I can explore how finding an equivalent fraction where the denominator is 10, 100, 1000 makes it easier to convert from a fraction to a decimal
- FDP: I can convert fractions into decimals by dividing the numerator by the denominator
- FDP: I can multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$]
- FDP: I can recall that percent means out of 100
- FDP: I can convert fractions to equivalent fractions where the denominator is 100 to find the percentage equivalent
- FDP: I can convert between fractions, decimals and percentages to order and compare them
- FDP: I can use known fractional equivalences to find percentages of amounts using visual representations for support
- FDP: I can find multiples of 10% and other known percentages
- FDP: I can find the missing whole or missing percentage when other values are given using pictorial representations for support

Geometry position and shape

- GPS: I can recall and apply my skills of measuring angles using a protractor
- GPS: I can recall and apply my understanding the number of degrees in a right angle, on a straight line, around a point and apply this knowledge in different contexts (time, compass)
- GPS: I can use my knowledge of angles from B4/5 to calculate missing angles
- GPS: I can identify right angle notation on a diagram
- GPS: I recognise that vertically opposite angles share a vertex and are equal, I use this understanding to find missing angles
- GPS: I can practically explore interior angles of triangles and understand the angles will add up to 180 degrees
- GPS: I understand that angles on a point on a straight line add up to 180 degrees
- GPS: I can use hatch marks to denote equal lengths on a triangle
- GPS: I can use my understanding of properties of triangles to reason about angles in a triangle
- GPS: I recognise key features of specific types of triangles and use this knowledge to solve missing angle problems
- GPS: I can explore the interior angles in quadrilaterals
- GPS: I know that interior angles in quadrilaterals add up to 360 degrees
- GPS: I can find missing angles in regular polygons using my knowledge of specific shapes and their properties
- GPS: I understand the relationship between a rectangle, parallelogram, square and rhombus
- GPS: I use my knowledge of property of shape to explore interior angles of polygons.
- GPS: I can draw 2-D shapes using given dimensions on different grids (squared, dotted paper)
- GPS: I can draw 2D shapes using a protractor
- GPS: I can identify 3D shapes from their nets
- GPS: I can accurately draw nets of shapes using conventional markings and measuring tools
- Geometry position and direction
- GPD: I can draw simple shapes in the first quadrant from given co-ordinates
- GPD: I can plot coordinates in all four quadrants
- GPD: I understand the positive and negative parts of the axis
- GPD: I can find the length of a line by using the co-ordinates of its two endpoints
- GPD: I can translate simple shapes in all 4 quadrants.
- GPD: I can reflect simple shapes in both axis and in all 4 quadrants

Measure

- MEA: I can find and draw rectilinear shapes that have the same area
- MEA: I can use my knowledge of factors to draw rectangles with different areas
- MEA: I can calculate the area of a rectilinear shape using formula
- MEA: I recognise that shapes with the same areas can have different perimeters and vice versa
- MEA: I can calculate the area of triangles by counting squares
- MEA: I can calculate the area of a right angled triangle using formula linked to area of rectangles
- MEA: I can calculate the area of any triangle using formula
- MEA: I can calculate the area of a parallelogram using my knowledge of calculating the area of a rectangle
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- MEA: I can count cubes to find the volume of cubes and cuboids using standard units
- MEA: I can use a formula to find the volume of cubes and cuboids using standard units
- MEA: I can estimate volume of cubes and cuboids using standard units
 - MEA: I can compare volume of cubes and cuboids using standard units
 - MEA: I can read, write and recognise all metric measures for length, mass and capacity
 - MEA: I can use my estimation skills in context deciding which unit of measure is most appropriate
 - MEA: I can use my skills of multiplying and dividing by 10, 100, 1000 to convert between units of length, mass and capacity
 - MEA: I can apply my conversion skills in context using pictorial representations for support
 - MEA: I know that 5 miles is approximately 8Km
 - MEA: I can find approximate conversions between miles and KM
 - MEA: I know equivalent facts between imperial and metric measurement (e.g 1 foot = 12 inches)
 - MEA: I can convert within imperial measures
 - MEA: I can convert between imperial and metric measurements and vice versa
- Statistics
 - STA: I can draw a line graph deciding upon the most appropriate scale and interval to use
 - STA: I can use line graphs to solve problems including graphs that show more than one set of data
 - STA: I understand the terms *x* and *y* axis, frequency and data
 - STA: I can illustrate and name parts of circles using the words diameter, radius, centre and circumference
 - STA: I understand that the diameter is twice the length of the radius
 - STA: I can understand how to calculate fractions of amounts to interpret a simple pie chart
 - STA: I can apply my understanding of calculating percentages of amounts to interpret pie charts
 - STA: I know that the whole of a pie chart equals 100%
 - STA: I can construct a pie chart using a protractor to measure the angles
 - STA: I can apply addition and division skills to calculate the mean average in a variety of contexts

