



# MATHEMATICS

Year 7 Track 1



## Strand 1

**Learning Area Outcome: I understand the structure of the number system and the relationship between numbers**

**Subject Focus: Number – The number system**

1	🗣️ I can read and write whole numbers to 1000 in figures and words.
3	I can recognise the place value of any digit in a whole number up to 1000.
4	I can compare and order whole numbers up to 1000 and include symbols such as $<$ , $>$ or $=$ .
6	I can identify odd and even numbers.
10	I can recall the first 10 multiples of the numbers 2 to 10.
21	I can use decimal notation for tenths and hundredths and know what each digit represents.
22	From a one-digit number I can count forward and backwards in steps of 0.1, 0.2 and 0.5.
26	🔴 I can associate 0.5 with one half, 0.25 with one quarter and 0.75 with three quarters.
33	I can describe percentage as the number of parts in every hundred. Hence, I can represent 1% as a hundredth.
34	I can associate 25% with one quarter, 50% with one half and 75% with three quarters.
35	I can recognise the relationship between fractions (limited to $\frac{1}{2}$ , $\frac{1}{4}$ , and $\frac{3}{4}$ ), decimals and percentages.
<b>Assistive technology, mathematical resources and activities.</b>	
41	I can use assistive technology (e.g. tablets, computers & calculators) and other learning resources (e.g. Cuisenaire rods, Unifix cubes, base 10 blocks) to learn about numbers and their properties.
42	I can work on tasks, investigations and activities including worded problems that are related to mathematical content in this strand at this level.

## Strand 2

**Learning Area Outcome:** I can calculate using mental methods, pencil and paper methods, and, assistive technology methods. I can check calculations by rounding numbers and making rough approximations. I can calculate to the most appropriate level of accuracy. I can also check the reasonableness of answers.

**Subject focus: Number – Numerical calculations**

### Whole Numbers, Decimal Numbers & Fraction Numbers - The Four Operations

6	<p>● I can use column addition and subtraction with up to three-digit numbers.</p> <p>I can use assistive technology to add and subtract numbers that involve four or more digits.</p>
7	<p>● I can work through situations involving addition and subtraction of up to three-digit numbers.</p>
17	<p>I can multiply and divide by 10, 100 or 1000.</p>
18	<p>I recognise unit fractions (e.g. <math>\frac{1}{2}</math>, <math>\frac{1}{3}</math>, <math>\frac{1}{4}</math>, <math>\frac{1}{5}</math> <i>etc</i>) and use them to find fractions of shapes, numbers and quantities that are a multiple of the denominator.</p>
22	<p>● I can find remainders after division by numbers from 2 to 10.</p>
23	<p>I can work through two-step situations involving, addition, subtraction, multiplication and/or division of integers.</p> <p>I can also give a rough estimate of the answer of such situations and I can check the reasonableness of the answer.</p>
24	<p>I can round any whole number to the nearest ten, &amp; hundred.</p>
31	<p>● I can use column addition or subtraction methods using decimal numbers up to two decimal places.</p>
36	<p>I can use written methods for multiplication and division of numbers by 1-digit numbers.</p> <p>E.g.</p> <p><math>18.6 \times 2</math></p> <p><math>256 \div 8</math></p>
42	<p>I can find fractions of a number without using assistive technology where the number is a multiple of the denominator and up to ten times the denominator. e.g. find <math>\frac{3}{5}</math> of 45.</p>

44	I can reduce a fraction in its simplest form
46	 I can read and interpret scales involving decimals up to 1 d.p.
<b>Percentages</b>	
53	 I can find 25%, 50% and 75% of whole number quantities that are multiples of 4.
<b>Money &amp; Consumer Mathematics</b>	
67	I can work through simple situations involving personal and household finance (e.g. finding out how much it will cost to prepare a meal, calculating which item is the best buy when items come in various sizes e.g. oil in one litre bottles vs oil in two litre bottles.)
<b>Assistive technology, mathematical resources and activities.</b>	
76	I can use assistive technology (e.g. tablets, computers and calculators) and other resources (e.g. Cuisenaire rods, Unifix cubes, base 10 blocks) appropriate to this level to calculate and to learn about numerical calculations.
77	I can work on tasks, investigations and activities including worded problems that are related to mathematical content in this strand at this level.

<b>Strand 3</b>	
<b>Learning Area Outcome: I can recognise and describe patterns and relationships in various mathematical ways and can use algebraic manipulations.</b>	
<b>Subject Focus: Algebra – Fundamentals of Algebra</b>	
1	I can write a sequence given the first term and the rule.
6	 I can use algebraic notation to represent two unknown values in expressions involving +, -, x, and ÷.
14	I can evaluate linear expressions with at most two unknowns by substituting positive integers.
27	 I can plot points and read coordinates from a grid in the first quadrant.
46	I can work out the output of number (function) machines involving up to two operations.
<b>Assistive technology, mathematical resources and activities.</b>	
52	I can use assistive technology (e.g. tablets, computers and calculators) and other resources (e.g. algebra blocks) appropriate to this level to learn about the fundamentals of algebra.
53	I can work on tasks, investigations and activities including worded problems that are related to mathematical content in this strand at this level.

## Strand 4

**Learning Area Outcome:** I understand and can use forms of measurement and can make reasonable estimations.

**Subject Focus:** Shape, Space & Measures – Measures

### Angles

5  I can measure and draw angles up to  $180^\circ$  with a protractor.

6 I can identify and distinguish between right, acute, obtuse and reflex angles.

### Length, Area, Volume, Mass & Capacity

25 I can identify the perimeter of regular and irregular shapes and calculate their lengths.

26  I can work out the areas of regular shapes by counting squares on a grid.

27 I can work out the area of squares and rectangles by using the formula:  
Area = length  $\times$  breadth

29 I can calculate the area of compound shapes that are made up of squares and rectangles, given the length of all sides or counting squares on a grid.

33 I can calculate the volume of irregular shapes, cubes and cuboids by counting blocks.

### Time

43  I can read and write vocabulary related to time.

44 I can use standard units of time, (hours and minutes) and know the relationships between them.

49 I can read and use the 12-hour digital clock at 5-minute intervals.

50  I can read and use a calendar.

### Assistive technology, mathematical resources and activities.

54 I can use assistive technology (e.g. tablets, computers and calculators) and other resources (e.g. plastic money, cardboard clocks, 2D and 3D plastic shapes, measuring instruments) appropriate to this level to learn about measures.

55 I can work on tasks, investigations and activities including worded problems that are related to mathematical content in this strand at this level.

## Strand 5

**Learning Area Outcome:** I can recognise and describe the properties of shapes. I can use these properties to construct shapes using appropriate mathematical instruments and to prove given geometric statements.

**Subject Focus: Shape, Space & Measures – Euclidean Geometry**

### Lines & Line Segments

2 I can recognise examples of parallel lines.

### Triangles

7 I can classify triangles (scalene, isosceles, equilateral and right-angled triangles) according to the length of their sides, and the size of their angles.

8 I can deduce that the sum of the angles of a triangle is  $180^\circ$ . I can also work out the size of missing angles in triangles.

### Quadrilaterals

12   I can classify quadrilaterals (square and rectangle) according to the length of their sides and the size of their angles.

### Polygons

15   I can sort, name and classify polygons (pentagon, hexagon and octagon) using properties such as the number of sides.

16  I understand the terms 'regular polygon' and 'irregular polygon'

### 3D Shapes

18  I can recognize and name the simple 3D shapes: cube, cuboid.

20 I can identify and count faces, vertices and edges of cube, cuboid.

### Coordinate Geometry

27 I can use positive coordinates to plot points and draw shapes.

### Assistive technology, mathematical resources and activities.

34 I can use assistive technology (e.g. tablets and computers) and other resources (e.g. 2D and 3D plastic shapes) appropriate to this level to learn about properties of shapes.

35 I can work on tasks, investigations and activities including worded problems that are related to mathematical content in this strand at this level.

## Strand 6

**Learning Area Outcome:** I can describe position and movement of shapes in a plane

**Subject Focus:** Shape, Space & Measures – Transformation Geometry

### Movement

1  I can distinguish between right, left, up and down and can move an object in each of these directions. I can also describe the movement of the object in each of these directions.

3 I can describe and find the position of an object on a grid of squares eg. (B3)

### Reflections

5 I can identify and draw lines of symmetry in simple 2D shapes and pictures.

### Assistive technology, mathematical resources and activities.

21 I can use assistive technology (e.g. tablets and computers) and other resources (e.g. 2D and 3D plastic shapes) appropriate to this level to learn about transformation geometry.

22 I can work on tasks, investigations and activities including worded problems that are related to mathematical content in this strand at this level.

## Strand 7

**Learning Area Outcome:** I can collect, analyse, interpret and communicate statistical information

**Subject Focus:** Data Handling & Chance – Statistics

1 I can collect, sort, organise and classify data in a table.

3   I can construct a frequency table with ungrouped discrete data.

5    I can construct a bar chart using ungrouped discrete data from a frequency table.

6 I can extract data from frequency tables and bar charts.

### Assistive technology, mathematical resources and activities.

23 I can use assistive technology (e.g. tablets, computers and calculators) and other learning resources to learn about statistics.

24 I can work on tasks, investigations and activities including worded problems that are related to mathematical content in this strand at this level.

## Strand 8

**Learning Area Outcome:** I understand ideas of chance and uncertainty

**Subject Focus:** Data Handling & Chance – Probability

1   I can mention events that are certain to happen, and others that will not.

2     I can describe events as certain, likely, evens, unlikely, or impossible.

3   I can estimate a probability by experiment.

8 I can identify the set of all possible outcomes of a single event.

### Assistive technology, mathematical resources and activities.

14 I can use assistive technology (e.g. tablets, computers and calculators) and other learning resources to learn about probability.

15 I can work on tasks, investigations and activities including worded problems that are related to mathematical content in this strand at this level.