

Number Skills

Mathematics, Year 7 unit 1

What previous learning am I building on?	What am I learning that is new?		
<ul style="list-style-type: none"> • Fluency in addition, subtraction, multiplication, and division with whole numbers. • Recognising prime numbers and their significance. • Recognising negative numbers on a number line. • Understanding how to order and compare positive and negative numbers. • Estimation to check the reasonableness of answers 	<p>By the end of this unit, I will:</p> <p>Understand [factors, multiples, prime numbers, square numbers, negative numbers, estimation and rounding]</p> <p>Know</p> <ul style="list-style-type: none"> • Multiplication facts up to 10×10 • How to multiply and divide by 10, 100, and 1000 by shifting place values • How to round numbers to the nearest 10, 100, and 1000. • The properties of factors, multiples, and prime numbers. • The definitions of square numbers, square roots • The rules for ordering and calculating with positive and negative numbers. • How to interpret a calculator display and apply it to real-world problems. <p>Be able to</p> <ul style="list-style-type: none"> • Use written methods to add, subtract, multiply, and divide whole numbers. • Estimate answers and check calculations using rounding. • Order and compare positive and negative numbers. • Perform operations with negative numbers, including addition, subtraction, and basic multiplication. • Solve problems involving time and money using a calculator. 		
Learning Journey – lesson title and main activities			
<ul style="list-style-type: none"> • Recall multiplication facts up to 10×10. • Multiply and divide by 10, 100, 1000. • Round whole numbers to the nearest 10, 100, 1000. • Check answers using estimation. 			
<ul style="list-style-type: none"> • Add and subtract whole numbers using written methods. • Multiply whole numbers using a written method. • Divide whole numbers using a written method 			
<ul style="list-style-type: none"> • Order positive and negative numbers. • Add and subtract positive and negative numbers. • Begin to multiply with negative numbers 			
<ul style="list-style-type: none"> • Identifying and understanding factors, multiples and prime numbers. • Recognise and use square numbers, square roots and triangle numbers 			
<ul style="list-style-type: none"> • Interpret a calculator display • Solve problems involving time and money using a calculator 			
How will I be assessed at the end of this unit?			
Baseline early in September, Unit test in December			
How will my literacy skills be developed?	What homework will I be set?	How can I learn more/stretch myself?	Where can I go for more help?
<ul style="list-style-type: none"> • Use think-pair- share to encourage discussion of problem-solving strategies. • Use vocabulary walls or glossaries for students to refer to. 	Sparx HW every week due on Sunday 8 pm	Junior Maths Challenge.	<ul style="list-style-type: none"> • Sparx Club Tuesdays lunchtime in room 8 • Maths Club Wednesdays 3:05-4:05 in room 3

Expressions and Formulae

Mathematics, Year 7 unit 2

What previous learning am I building on?	What am I learning that is new?		
<p>Confident use of the four operations (+, −, ×, ÷) with whole numbers.</p> <ul style="list-style-type: none"> • Understanding and applying the order of operations (BIDMAS/BODMAS). • Recall and use multiplication facts up to 10×10. • Read and interpret simple mathematical vocabulary and symbols (e.g. =, +, −, ×, ÷). • Recognise and work with patterns and number sequences (e.g. input/output). • Experience with basic word problems involving operations and unknowns. • Understand the concept of variables (unknowns represented by letters). • Add and subtract positive and negative numbers. 	<p>By the end of this unit, I will:</p> <p>Understand</p> <ul style="list-style-type: none"> • Identify variables and use letter symbols • Identify formulae and functions • Identify the unknowns in a formula and a function <p>Know</p> <ul style="list-style-type: none"> • Know how to find outputs of simple functions expressed in words • Know how to find outputs of more complex functions expressed in words • Know how to find outputs of simple functions in words and symbols • Know how to describe simple functions in words <p>Be able to:</p> <ul style="list-style-type: none"> • Simplify simple linear algebraic expressions by collecting like terms • Use arithmetic operations with algebra • Use arithmetic operations with algebra, including decimals • Simplify more complex linear algebraic expressions by collecting like terms • Begin to multiply a positive integer over a bracket containing linear terms • Construct expressions from worded description, using addition and subtraction • Construct expressions from worded description, using addition, subtraction and multiplication • Substitute positive integers into simple formulae expressed in words • Substitute integers into simple formulae expressed in letter symbols • Substitute positive integers into simple formulae expressed in letter symbols • Substitute integers into more complex formulae expressed in letter symbols • Derive simple formulae expressed in letter symbols 		
Learning Journey – lesson title and main activities			
<ul style="list-style-type: none"> • Find outputs of simple functions written in words and using symbols. • Describe simple functions in words. • Simplify simple algebraic expressions by collecting like terms. • Use arithmetic operations with algebra. 			
<ul style="list-style-type: none"> • Simplify more complicated expressions by collecting like terms. • Write expressions from word descriptions using addition, subtraction and multiplication 			
<ul style="list-style-type: none"> • Substitute positive integers into simple formulae written in words. • Substitute integers into formulae written in letter symbols. • Identify variables and use letter symbols. • Write simple formulae using letter symbols. • Identify formulae and functions. • Identify the unknowns in a formula and a function. 			
How will I be assessed at the end of this unit?			
Test at the end of the unit.			
How will my literacy skills be developed?	What homework will I be set?	How can I learn more/stretch myself?	Where can I go for more help?
<ul style="list-style-type: none"> • Use think-pair- share to encourage discussion of problem-solving strategies. 	Sparx HW every week due on Sunday 8 pm	Junior Maths Challenge.	<ul style="list-style-type: none"> • Sparx Club Tuesdays lunchtime in room 8

<ul style="list-style-type: none">• Use vocabulary walls or glossaries for students to refer to.			<ul style="list-style-type: none">• Maths Club Wednesdays 3:05-4:05 in room 3
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Decimals and Measures

Mathematics, Year 7 unit 3

What previous learning am I building on?	What am I learning that is new?
<ul style="list-style-type: none"> • Understand place value in whole numbers and decimals. • Recall and use multiplication and division facts confidently. • Read and use common metric units (mm, cm, m, g, kg, ml, l). • Use a ruler accurately to measure and draw lines in cm and mm. • Compare and order whole numbers and simple decimals. • Understand how to round whole numbers. • Read and interpret simple scales on measuring instruments. • Recognise and plot coordinates in the first quadrant. • Use basic mental and written strategies for adding and subtracting numbers. • Know how to count squares to estimate area and calculate perimeter by adding side length 	<p>By the end of this unit, I will:</p> <p>Understand</p> <ul style="list-style-type: none"> • Understand that when comparing measurements, they must be converted into the same units • Understand the effect of multiplying and dividing decimals by 10, 100, and 1000 • Understand coordinates and the concept of four quadrants • Understand perimeter and area as measures of length and space • Understand the meaning of rounding decimals appropriately • Understand what it means for a result to be of the right order of magnitude • Understand what a coordinate represents on a grid (x and y axes) • Understand how units relate in metric conversion (e.g. $\text{cm} \leftrightarrow \text{m} \leftrightarrow \text{km}$) <p>Know</p> <ul style="list-style-type: none"> • Know multiplication and division facts involving decimals and powers of 10 • Know the metric units of measurement for length, area, and capacity • Know how to convert between whole number metric units • Know how to convert between decimal metric units • Know the formulae to calculate the area of a square or rectangle • Know that area can be estimated by counting squares • Know that the perimeter is the total distance around a shape • Know how to interpret calculator displays in different contexts (including decimals) <p>Be able to</p> <ul style="list-style-type: none"> • Round, add, subtract, multiply and divide decimals, using mental methods, written methods, and calculators. • Convert between metric units (whole number and decimal) and apply these conversions to solve measurement problems. • Use coordinates to read and plot points in the first quadrant and all four quadrants. • Use a calculator effectively, including interpreting results and entering numbers in different contexts. • Read scales and measuring instruments accurately in real-life situations. • Calculate and solve problems involving perimeter and area, including for compound shapes and those involving decimals. • Apply formulas and reasoning skills to solve simple geometrical problems involving length, area, and perimeter.
Learning Journey – lesson title and main activities	
<ul style="list-style-type: none"> • Measure and draw lines to the nearest millimetre. • Write decimals in order of size. • Round decimals to the nearest whole number and to one decimal place. • Round decimals to make estimates and approximations of calculations. • Compare measurements by converting them into the same units. • Solve simple problems involving units of measurement in the context of length • Convert between metric units of length, mass and capacity. 	
<ul style="list-style-type: none"> • Read scales on a range of measuring equipment. • Interpret the display of a calculator in different contexts. • Interpret metric measures displayed on a calculator. 	

- Plot and read coordinates in all four quadrants.

- Multiply decimals mentally.
- Check a result by considering whether it is of the right order of magnitude.
- Understand where to position the decimal point by considering equivalent calculations.
- Add and subtract decimals.
- Multiply and divide decimals by **single-digit whole numbers.**

- Work out the perimeters of shapes.
- Solve perimeter problems.
- Find areas by counting squares.
- Calculate the areas of squares and rectangles.
- Calculate the areas of shapes made from rectangles.
- Solve problems involving area.

How will I be assessed at the end of this unit?

Unit Test

How will my literacy skills be developed?	What homework will I be set?	How can I learn more/stretch myself?	Where can I go for more help?
Use think-pair- share to encourage discussion of problem-solving strategies. Use vocabulary walls or glossaries for students to refer to.	Sparx HW every week due on Sunday 8 pm	Junior Maths Challenge	Sparx Club Tuesdays lunchtime in room 8 Maths Club Wednesdays 3:05-4:05 in room 3

Fractions

Mathematics, Year 7 unit 4

What previous learning am I building on?	What am I learning that is new?		
<ul style="list-style-type: none"> • Understanding of basic fractions (e.g., halves, quarters) and what they represent. • Ability to identify equal parts of a whole using shapes and simple visual models. • Knowledge of multiplication and division facts to support calculations with fractions and percentages. • Familiarity with place value in whole numbers and decimals up to two decimal places. • Experience reading and writing simple fractions and decimals (e.g., 0.5, $\frac{1}{4}$). • Understanding that fractions, decimals, and percentages are different ways to represent parts of a whole. • Ability to compare and order numbers, including whole numbers and decimals. • Experience using number lines to place and compare fractions and decimals. • Confidence in mental arithmetic, particularly addition, subtraction, multiplication, and division. • Basic calculator skills, including how to enter numbers and interpret results. 	<p>By the end of this unit, I will:</p> <p>Understand</p> <ul style="list-style-type: none"> • Understand and use decimal notation and place value • Understand percentage as ‘the number of parts per 100’ • Recognise the equivalence of percentages, fractions and decimals • Recognise and identify equivalent fractions • Compare unit fractions and fractions with the same denominators <p>Know</p> <ul style="list-style-type: none"> • Use fraction notation to describe parts of shapes • Know that percentages are out of 100 • Know that decimals, fractions, and percentages can show the same value <p>Be able to:</p> <ul style="list-style-type: none"> • Change an improper fraction to a mixed number • Simplify fractions by cancelling common factors • Calculate with fractions mentally • Use different strategies to calculate with fractions mentally • Begin to add and subtract simple fractions • Calculate simple fractions of quantities • Express one number as a fraction of another • Convert a percentage to a number of hundredths or tenths • Find simple percentages of whole number quantities • Calculate simple percentages • Interpret the display of a calculator in different contexts (percentages) • Calculate with percentages mentally • Use different strategies to calculate with percentages mentally • Express one number as a percentage of another 		
Learning Journey – lesson title and main activities			
<ul style="list-style-type: none"> • Use fraction notation to describe parts of a shape. • Compare simple fractions. • Use a diagram to compare two or more simple fractions. • Simplify fractions by cancelling common factors. • Identify equivalent fractions. 			
<ul style="list-style-type: none"> • Work with equivalent fractions and decimals. • Write one number as a fraction of another. • Understand percentage as ‘the number of parts per 100’. • Convert a percentage to a number of hundredths or tenths. • Work with equivalent percentages, fractions and decimals. 			
<ul style="list-style-type: none"> • Use different strategies to calculate with percentages. • Express one number as a percentage of another. 			
How will I be assessed at the end of this unit?			
Unit Test			
How will my literacy skills be developed?	What homework will I be set?	How can I learn more/stretch myself?	Where can I go for more help?
Use think-pair- share to encourage discussion of problem-solving strategies.	Sparx HW every week due on Sunday 8 pm	Junior Maths Challenge	Sparx Club Tuesdays lunchtime in room 8 Maths Club Wednesdays 3:05-

Use vocabulary walls or glossaries for students to refer to.			4:05 in room 3
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Probability

Mathematics, Year 7 unit 5

What previous learning am I building on?	What am I learning that is new?		
<ul style="list-style-type: none"> • Basic understanding of chance and uncertainty using everyday language (e.g. "likely", "unlikely", "certain", "impossible"). • Experience making and testing predictions in simple contexts (e.g. predicting outcomes of coin flips or dice rolls). • Ability to count and list outcomes of simple events (e.g. how many sides on a die, how many colours in a spinner). • Understanding of number lines and the concept of 0 and 1 as start and end points. • Familiarity with simple sorting and categorising of events or objects based on attributes. 	<p>By the end of this unit, I will:</p> <p>Understand</p> <ul style="list-style-type: none"> • Understand and use the probability scale from 0 to 1 • Use the vocabulary of probability • Use a probability scale with words <p>Know</p> <ul style="list-style-type: none"> • Identify all possible mutually exclusive outcomes of a single event • Know that the sum of probabilities of all mutually exclusive outcomes is 1 <p>Be able to</p> <ul style="list-style-type: none"> • Find and justify probabilities based on equally likely outcomes in simple contexts • Use a probability scale with words (in context) • Identify and describe outcomes using appropriate vocabulary 		
Learning Journey – lesson title and main activities			
<ul style="list-style-type: none"> • List and count outcomes. • Calculate probability of A or B happening by counting outcomes 			
<ul style="list-style-type: none"> • Calculate the probability of an event not happening. • Record data from a simple experiment 			
<ul style="list-style-type: none"> • Estimate probability based on experimental data. • Make conclusions based on the results of an experiment. 			
How will I be assessed at the end of this unit?			
Unit Test			
How will my literacy skills be developed?	What homework will I be set?	How can I learn more/stretch myself?	Where can I go for more help?
Use think-pair- share to encourage discussion of problem-solving strategies. Use vocabulary walls or glossaries for students to refer to.	Sparx HW every week due on Sunday 8 pm	Junior Maths Challenge	Sparx Club Tuesdays lunchtime in room 8 Maths Club Wednesdays 3:05-4:05 in room 3

Ratio and Proportions

Mathematics, Year 7 unit 6

What previous learning am I building on?	What am I learning that is new?		
<ul style="list-style-type: none"> • Understand basic number operations (addition, subtraction, multiplication, division). • Know how to find factors and multiples of numbers. • Be able to simplify fractions to their lowest terms. • Recognise equivalent fractions. • Understand basic fraction terminology (numerator, denominator). • Understand what a percentage is and how to convert between percentages, decimals, and fractions. • Be able to interpret and use simple mathematical language and symbols. • Understand and calculate with whole numbers and simple decimals. • Be familiar with simple word problems and how to extract key information. • Understand the concept of equality and balancing equations (e.g., maintaining equality when performing operations on both sides). 	<p>By the end of this unit, I will:</p> <p>Understand</p> <ul style="list-style-type: none"> • Understand and use the relationship between ratio and proportion • Recognise the links between ratio and fractional notation <p>Know</p> <ul style="list-style-type: none"> • Use ratio notation • Reduce a ratio to its simplest form • Reduce a three-part ratio to its simplest form by cancelling <p>Be able to</p> <ul style="list-style-type: none"> • Use direct proportion in simple contexts • Use the unitary method to solve simple word problems involving direct proportion • Use the unitary method to solve simple word problems involving ratio and direct proportion • Use the unitary method to solve simple word problems involving ratio • Divide a quantity into two parts in a given ratio where ratio is given in worded form • Divide a quantity into two parts in a given ratio, where the ratio is given in ratio notation • Use fractions that require cancelling to compare proportions • Use percentages to compare simple proportions 		
Learning Journey – lesson title and main activities			
<ul style="list-style-type: none"> • Use direct proportion in simple contexts. • Solve simple problems involving direct proportion. • Use the unitary method to solve simple word problems involving direct proportion. 			
<ul style="list-style-type: none"> • Use ratio notation. • Reduce a ratio to its simplest form. • Reduce a three-part ratio to its simplest form by cancelling. • Divide a quantity into two parts in a ratio given in words. • Divide a quantity into two parts in a given ratio. • Solve word problems involving ratio 			
<ul style="list-style-type: none"> • Use fractions to describe and compare proportions. • Understand and use the relationship between ratio and proportion. • Use percentages to describe proportions. • Use percentages to compare simple proportions. • Understand and use the relationship between ratio and proportion. 			
How will I be assessed at the end of this unit?			
Unit Test			
How will my literacy skills be developed?	What homework will I be set?	How can I learn more/stretch myself?	Where can I go for more help?
Use think-pair- share to encourage discussion of problem-solving strategies. Use vocabulary walls or glossaries for students to refer to.	Sparx HW every week due on Sunday 8 pm	Junior Maths Challenge	Sparx Club Tuesdays lunchtime in room 8 Maths Club Wednesdays 3:05-4:05 in room 3

Sequences and Graphs

Mathematics, Year 7 unit 7

What previous learning am I building on?	What am I learning that is new?		
<ul style="list-style-type: none"> • Count forwards and backwards in whole numbers and decimals. • Recognise and describe simple patterns in numbers. • Understand the meaning of "term" in a sequence. • Identify the position of a number in a list or sequence (1st, 2nd, etc.). • Understand and apply simple addition and subtraction facts. • Use multiplication and division facts for familiar tables. • Understand the concept of a rule or instruction being applied repeatedly. • Begin to recognise arithmetic patterns (e.g. adding the same number each time). • Be able to write numbers in order and identify missing numbers in a sequence. 	<p>By the end of this unit, I will:</p> <p>Understand</p> <ul style="list-style-type: none"> • Understand how coordinates represent positions in all four quadrants • Understand the concept of a linear rule in sequences • Understand that shapes can be defined by plotted points on a coordinate grid <p>Know</p> <ul style="list-style-type: none"> • Know how to find the midpoint of line segments • Know the layout and labelling of axes in all four quadrants <p>Be able to</p> <ul style="list-style-type: none"> • Recognise and extend number sequences by counting in decimals • Generate terms of simple sequences using term-to-term rule • Generate terms of more complex sequences using term-to-term rule • Generate terms of linear sequences using term-to-term rule involving positive or negative integers • Read x- and y- coordinates in all four quadrants • Generate first quadrant coordinates that satisfy a simple linear rule • Plot points on a grid and identify resulting geometric shapes • Find coordinates of points determined by geometric information • Plot x- and y- coordinates in all four quadrants 		
Learning Journey – lesson title and main activities			
<ul style="list-style-type: none"> • Revisit sequences including term-to-term rules. • Develop the use of mathematical language to describe sequences. • Demonstrate how sequences can be used as a mathematical model to describe patterns. • Generate sequences from practical sequences, describing how patterns grow. • Continue sequences arising from practical contexts and use them to answer questions. • Recognise geometric sequences and appreciate other sequences that arise. 			
<ul style="list-style-type: none"> • Read, generate and plot coordinates. • Recognise geometric shapes drawn on coordinate grids and find coordinates of points using geometric information. • Find and calculate the midpoints of a line segment. 			
How will I be assessed at the end of this unit?			
Unit Test			
How will my literacy skills be developed?	What homework will I be set?	How can I learn more/stretch myself?	Where can I go for more help?
Use think-pair-share to encourage discussion of problem-solving strategies. Use vocabulary walls or glossaries for students to refer to.	Sparx HW every week due on Sunday 8 pm	Junior Maths Challenge	Sparx Club Tuesdays lunchtime in room 8 Maths Club Wednesdays 3:05-4:05 in room 3

Lines and Angles

Mathematics, Year 7 unit 8

What previous learning am I building on?	What am I learning that is new?
<ul style="list-style-type: none"> • Know how to measure and draw angles accurately using a protractor. • Understand and use basic angle types: acute, right, obtuse, and straight angles. • Know that a straight line equals 180° and a full turn equals 360°. • Be able to name and classify common 2D shapes, including triangles and quadrilaterals. • Understand basic properties of triangles, such as having 3 sides and 3 angles. • Understand basic symmetry, including line symmetry in shapes. • Know how to use a ruler and compass for simple constructions. • Understand how to label and interpret angles and sides on diagrams. • Be familiar with basic units of measurement (e.g. degrees for angles, cm for length). 	<p>By the end of this unit, I will:</p> <p>Understand</p> <ul style="list-style-type: none"> • Understand and can identify the perpendicular distance from a point to a line as the shortest distance • Identify angle, side, and symmetry properties of simple quadrilaterals • Identify and begin to use angle, side, and symmetry properties of quadrilaterals • Identify interior and exterior angles in a shape <p>Know</p> <ul style="list-style-type: none"> • Know the sum of angles in a triangle • Use units of measurement to calculate and solve problems in everyday contexts involving angles • Identify angle, side, and symmetry properties of simple quadrilaterals (also fits under "understand") <p>Be able to</p> <ul style="list-style-type: none"> • Solve simple geometrical problems using properties of triangles • Solve simple geometrical problems using properties of quadrilaterals • Calculate angles in a triangle • Calculate angles in a quadrilateral • Solve geometric problems using side and angle properties of equilateral triangles • Accurately use a ruler and compass to construct perpendicular bisectors, perpendicular lines, and angle bisectors • Use units of measurement to calculate and solve problems in everyday contexts involving angles (also fits under "know")
Learning Journey – lesson title and main activities	
<ul style="list-style-type: none"> • Describe and label lines, angles and triangles. • Identify angle, side and symmetry properties of triangles. • Use a protractor to measure and draw angles. • Estimate the size of angles. • Solve problems involving angles. • Use a ruler and protractor to draw triangles accurately. • Solve problems involving angles and triangles. • Use the rule for angles on a straight line, angles around a point and vertically opposite angles. • Solve problems involving angles. 	
<ul style="list-style-type: none"> • Use the rule for the sum of angles in a triangle. • Calculate interior and exterior angles. • Solve angle problems involving triangles. 	
<ul style="list-style-type: none"> • Identify and name types of quadrilaterals. • Use the rule for the sum of angles in a quadrilateral. • Solve angle problems involving quadrilaterals. 	
<ul style="list-style-type: none"> • Derive and use the standard ruler and compass constructions (perpendicular bisector of a line segment, constructing a perpendicular to a given line from/at a given point, bisecting a given angle); • Recognise and use the perpendicular distance from a point to a line as the shortest distance to the line. • Identify and construct congruent triangles, and construct similar shapes by enlargement, with and without coordinate grids 	
How will I be assessed at the end of this unit?	
End of year	

How will my literacy skills be developed?	What homework will I be set?	How can I learn more/stretch myself?	Where can I go for more help?
Use think-pair- share to encourage discussion of problem-solving strategies. Use vocabulary walls or glossaries for students to refer to.	Sparx HW every week due on Sunday 8 pm	Junior Maths Challenge	Sparx Club Tuesdays lunchtime in room 8 Maths Club Wednesdays 3:05-4:05 in room 3

Transformations

Mathematics, Year 7 unit 9

What previous learning am I building on?	What am I learning that is new?		
<ul style="list-style-type: none"> • Understand and use basic 2D shape names (e.g. square, rectangle, triangle). • Recognise equal sides and angles in simple shapes. • Be able to measure and draw lines and angles accurately using a ruler and protractor. • Understand the concept of mirror(line) symmetry in 2D shapes. • Know how to plot and read coordinates in the first quadrant. • Be able to identify horizontal and vertical lines (e.g. $x=2$, $y=-1$). • Understand the term rotation and identify basic clockwise/anticlockwise turns (90°, 180°). • Be familiar with simple enlargements by whole-number scale factors using grids. • Recognise basic transformations: reflection, rotation, translation. • Understand that some transformations (like reflection and rotation) do not change shape or size. 	<p>By the end of this unit, I will:</p> <p>Understand</p> <ul style="list-style-type: none"> • Know and understand the term ‘congruent’ • Understand and use the language associated with reflections • Understand and use the language associated with rotations • Use the language and notation associated with enlargement • Know that translations, rotations and reflections preserve length and angle • Recognise and visualise the symmetry of a shape – rotation about a given point outside the shape • Recognise and visualise the line symmetry of a 2D shape • Recognise and visualise the translation of a 2D shape <p>Know</p> <ul style="list-style-type: none"> • Know that in congruent shapes, corresponding sides and angles are equal • Identify all the symmetries of 2D shapes • Identify reflection symmetry in 3D shapes <p>Be able to</p> <ul style="list-style-type: none"> • Identify congruent shapes • Enlarge a shape on squared paper using a given scale factor • Identify scale factor from an object and its image, by comparing lengths • Reflection on a coordinate grid • Describe a reflection, giving the equation of the line of reflection • Reflection on a coordinate grid in $y = x$, $y = -x$ • Rotation on a coordinate grid • Rotation and translation on a coordinate grid • Transform 2D shapes by simple combinations of rotations, reflections and translations, using ICT 		
Learning Journey – lesson title and main activities			
<ul style="list-style-type: none"> • Identify congruent shapes. • Enlarge shapes using given scale factors. • Work out the scale factor given an object and its image • Recognise line and rotational symmetry in 2D shapes. • Identify all the symmetries of 2D shapes. • Identify reflection symmetry in 3D shapes 			
<ul style="list-style-type: none"> • Recognise and carry out reflections in a mirror line. • Reflect a shape on a coordinate grid. • Describe a reflection on a coordinate grid. • Describe and carry out rotations on a coordinate grid 			
<ul style="list-style-type: none"> • Translate 2D shapes. • Combine transformations. 			
How will I be assessed at the end of this unit?			
Formative assessment/peer assessment.			
How will my literacy skills be developed?	What homework will I be set?	How can I learn more/stretch myself?	Where can I go for more help?
Use think-pair- share to encourage discussion of problem-solving strategies. Use vocabulary walls or glossaries for students to refer to.	Sparx HW every week due on Sunday 8 pm	Junior Maths Challenge	Sparx Club Tuesdays lunchtime in room 8 Maths Club Wednesdays 3:05-4:05 in room 3

Analysing and Displaying Data

Mathematics, Year 7 unit 10

What previous learning am I building on?	What am I learning that is new?		
<ul style="list-style-type: none"> • Understand and use basic 2D shape names (e.g. square, rectangle, triangle). • Understand and use basic number operations (addition, subtraction, multiplication, division). • Be able to organise data in tables or tally charts. • Recognise and understand bar charts and how to read values from them. • Know how to count and compare frequencies in simple datasets. • Understand basic vocabulary such as "mean", "mode", "range", and "median". • Be able to interpret scales on simple graphs (e.g. counting in 2s, 5s, 10s). • Understand position and ordering of numbers (helpful for finding medians). • Be able to plot and read coordinates in the first quadrant. • Understand that data can be grouped or ungrouped, and that different types of graphs are used accordingly 	<p>By the end of this unit, I will:</p> <p>Understand</p> <ul style="list-style-type: none"> • Draw conclusions from simple statistics for a single distribution • Draw conclusions based on the shape of line graphs • Choose and justify appropriate diagrams, graphs and charts, using ICT as appropriate, to illustrate a short report of a statistical enquiry • Interpret simple real-life graphs • Interpret simple diagrams and charts <p>Know</p> <ul style="list-style-type: none"> • Know how to find the range of a small set of data • Know how to calculate the median of a set of data (up to 10 items) • Know how to find the mode and range for a small set of discrete data • Know how to calculate the median of a set of data (up to 20 items) • Know how to calculate the mean of a set of data • Know how to calculate the median of a set of data <p>Be able to</p> <ul style="list-style-type: none"> • Answer simple questions about 'most likely' from simple tally charts • Answer simple questions about 'most likely' from simple bar charts or bar-line charts • Find the mode from any bar chart • Interpret frequency tables • Interpret data from simple compound and comparative bar charts • Construct and interpret dual bar charts • Construct and interpret line graphs 		
Learning Journey – lesson title and main activities			
<ul style="list-style-type: none"> • Find the mode of a set of data, numerical and non-numerical. • Find the median of a set of data (odd and even number of values). • Find the range of a set of data. 			
<ul style="list-style-type: none"> • Read and draw pictograms, bar charts and bar-line charts. • Read and construct tally charts and frequency tables. • Find the mode and range from a chart or table. • Read and draw a line graph. • Read and draw a dual bar chart. • Read and draw a compound bar chart 			
<ul style="list-style-type: none"> • Enter data into a spreadsheet program. • Use a spreadsheet to calculate the mode, median, mean and range. • Use a spreadsheet to draw bar charts, dual bar charts, compound bar charts, grouped bar charts and line graphs. 			
How will I be assessed at the end of this unit?			
Formative assessment/peer assessment in class.			
How will my literacy skills be developed?	What homework will I be set?	How can I learn more/stretch myself?	Where can I go for more help?
Use think-pair- share to encourage discussion of problem-solving strategies. Use vocabulary walls or glossaries for students to refer to.	Sparx HW every week due on Sunday 8 pm	Junior Maths Challenge	Sparx Club Tuesdays lunchtime in room 8 Maths Club Wednesdays 3:05-4:05 in room 3