Year 8 Scheme of Work

3H: Fractions, Percentages & Ratios

Learning objectives	Sparx Topic Code
Understanding Fractions	M158
Comparing & Manipulating Fractions	M410, M335, M671, M939
Mixed & Improper Fractions	M601
Adding, Subtracting, Multiplying & Dividing Fractions	M835, M931, M157, M197, M110
Using Fractions to problem solve	M695, M684
Converting between fractions, decimals & percentages	M958, M264, M922, U689
Using percentages of amounts to solve problems with and without a calculator	M437, M905
To answer real life problems involving Percentages	U332, U533, U988
Comparing quantities with ratios	M885
Learn how to share in a given ratio	M525, M801
Learn what direct and inverse proportion is and how to use them to solve problems	M478. M681, U721
Learn how to calculate ingredients needed from a recipe using direct proportion	M478, U721
Learn how to solve more complex ratio problems	U753, U921, U577, U865

4H: Interpreting & Representing Data

Learning objectives	Sparx Topic Code
Types of data	U322
Data collection sheets (tally charts)	M597, M945
Grouped frequency tables	M945, U120
Averages	M841, M940, M934, M328
Averages from frequency tables	M127, M287
Two-way tables	M899
Bar charts	M460, M738
Pictograms	M644
Pie charts	M196, M574
Stem & Leaf Diagrams	M648, M210
Cumulative Frequency diagrams	-
Frequency Polygons	U840
Histograms	-
Time Series Charts	M140
Scatter Graphs	M769, M596

5H: Angles & Trigonometry

Learning objectives	Sparx Topic Code
Estimate the size of angles, using their appropriate name and labelling	M541, M502
Measure acute, obtuse and reflex angles using a protractor	M780, U477
Measure angles in shapes and draw angles using a protractor.	M331
Identify types of triangle	M276
Identify types of quadrilateral	M276, M618
Identify lines of symmetry and rotational symmetry	M523
Find missing angles using properties of angles on a straight line	M818
Find missing angles around a point (using algebra)	M818
Learn how to find missing angles in triangles	M351
Using rules to find angles in parallel lines	M606
Apply angle rules to advanced scenarios	M319
Find missing angles in quadrilaterals	M679
Find interior and exterior angles in polygons	M653
Use Pythagoras' Theorem to find the side lengths of a right angled triangle	M677
Prove Pythagoras' Theorem	M677
Apply Pythagoras' Theorem to problems	M677
Apply Pythagoras' Theorem to 3D shapes	M147
Using trigonometry to find missing sides and angles	U605, U283, U545
Applying trigonometry to multi-step problems	U545, U627
Evaluate trigonometric ratios	U627

6H: Graphs

Learning objectives	Sparx Topic Code
Identify and plot points on cartesian axes	M618, M797
Calculate the mid-point of a line segment	M622
Calculate the gradient of a line segment	M544, U315
Plot straight lines from coordinates and tables of values	M932
Identify the gradient and y-axis intercept from the equation of a line	M888
Draw straight lines given their equation in the form y = mx + c	M932
Identify the equation of a line in the form y = mx + c from a graph	M932
Identify the equations of parallel and perpendicular lines in the form y = mx + c	U377, U898
Interpret and draw distance-time graphs	M581, M551
Calculate speed from distance-time graphs	M247
Complete distance-time graphs given information about speed, time and/or distance	M247
Interpret and draw speed-time graphs	M221
Calculate acceleration and distance travelled from speed-time graphs	U562
Interpret and draw real-life graphs	M771, M205
Identify sketch graphs involving rate of change	M843
Draw sketch graphs involving rate of change	U896
Plot graphs of quadratic equations from tables of values	U989
Identify key points on a quadratic graph from its equation	U667
Plot graphs of cubic equations from tables of values	U980
Recognise and sketch graphs of cubic equations	U980
Plot graphs of reciprocal functions from tables of values	U593
Recognise and sketch graphs of reciprocal functions	U593