

## Year 9 Foundation Scheme of Work

### 7F Averages and Range

Learning Objectives	Sparx Topic Code
Types of data	U322
Census, sampling and bias	U162
Averages	M841, U260, M940, M934, U456, M328, U526
Averages from frequency tables	M127, U569

### 8F Area, Perimeter and Volume

Learning Objectives	Sparx Topic Code
Learn how to find the perimeter of a shape	M920, M635
Learn how to find the area of shapes	M900, M390, M635, M610, U945
Learn how to find the surface area of shapes	M534, U929, M661, U259
Learn how to find the volume of shapes	M765, U786, M722, U174
Learn how to identify and describe 3D shapes	M767, U719, M518, U761, M229, U743

### 9F Graphs

Learning Objectives	Sparx Topic Code
Identify and plot points on cartesian axes	M618, U789
Calculate the mid-point of a line segment	M622, U933
Calculate the gradient of a line segment	M544, U315
Understanding straight line graphs	M932, U741, M888, U669, M932, U741, M888, U377, U898
Understanding distance-time and speed-time graphs	M581, U914, M551, U403, M247, U462, M221, U966, U562, U562, U611
Interpret and draw real-life graphs	M771, U638, M843, U652, M205, U862, U896, M771, U638, M843, U652

### 10F Transformations

Learning Objectives	Sparx Topic Code
Translations	M139, U196
Reflections	M290, U799
Enlargements	M178, U519
Rotations	M910, U696
Describing transformations	M139, U196, M178, U519, U134, M290, U799, M910, U696
Invariance	M880, U799, U696, U134, U766
Combined transformations	M881, U766

### 11F Ratio and Proportion

Learning Objectives	Sparx Topic Code
Learn how to compare ratios of different quantities	M885, U687
Learn how to express ratios in their simplest form	M885, U687
Be able to express ratios as fraction and different proportions	M267, U176
Learn how to write a ratio in the form 1:n	M543, U687
Learn how to share an amount in a given ratio	M525, U577, M801, U753
To use direct and inverse proportion to solve problems	M478, M681, U610, U357
Learn how to use straight line graphs to support algebraic direct proportion	M472, U640
Learn how to use direct and inverse proportion to identify a graphical relationship	M448, U238

### 12F Right Angled Triangles

Learning Objectives	Sparx Topic Code
Learn how to apply Pythagoras' Theorem to solve different problems.	M677, U385,
Learn to apply the SOHCAHTOA equations to different problems	U605, U283, U545, U967
Learn the exact values for sine, cosine and tangent of the angles $0^\circ$ , $30^\circ$ , $45^\circ$ , $60^\circ$ and $90^\circ$ and use these to answer a range of questions	U627

### 13F Probability

Learning Objectives	Sparx Topic Code
Use the product Rule for counting	U369
Express probability in words and numbers	M655, U803, M941, M938, U408, U510
Calculate the probability of a single event and the probability of an event not happening	M941, M938, U408, U510, M755, U683
Understand what mutually exclusive events are	M755, U683
Calculate the expectation in a simple probability experiment	M206, U166
Calculate experimental probability and relative frequency and be able to test for bias.	M332, U580
Calculate the probability of more than one event	M718, U104
Learn how to calculate the probability of independent events and use of probability trees	M299, U558
Learn how to calculate conditional probability	M572, U729
Learn how to create and use frequency trees	U280
Solve problems involving Venn Diagrams and Set Notation	M829, M419, M834, U476, U748, U296