

Maths Curriculum Mapping

Staged Scheme of Learning

The students follow a SoL based around a series of stages. Each stage covers the same topics but with increasing levels of challenge, deeper understanding, and more advanced concepts. The fact that every group is studying the same topic at (approximately) the same time eases set movements and facilitates pedagogical discussions within the department. The repetition of each stage means that key areas are regularly revisited before being extended, improving retention and confidence amongst the students.

	Year 7	Year 8	Year 9	Year 10	Year 11
NURTURE	NURTURE				
STAGE 1	LA	NURTURE			
STAGE 2	MA	LA	NURTURE		
STAGE 3	UA	MA	LA	NURTURE	
STAGE 4		UA	MA	LA	NURTURE
STAGE 5			UA	MA	LA
STAGE 6				UA	MA
STAGE 7					UA

The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.

The three Assessment Objectives (Use and apply standard techniques; Reason, interpret and communicate Mathematically; Solve problems within mathematics and in other contexts) are covered within each topic. Students will move from practicing the standard technique and understanding the mathematical processes (AO1), discussing and explaining their reasoning when answering questions (AO2), and tackling questions set in unfamiliar contexts (AO3) at every stage and every topic.

Homeworks focus on consolidating core mathematical skills in Years 7 to 10 using the Sparx platform. Year 11s prioritize exam question practice, working through a two-week cycle of a half GCSE paper and Sparx consolidation.

- 1 Number Properties 1
- 2 Number Properties 2
- 3 Approximation
- 4 FDP
- 5 Ratio
- 6 Proportion and scale
- 7 Data
- 8 Probability
- 9 Algebra 1 (manipulation)
- 10 Algebra 2 (solving linear)
- 11 Sequences and graphs
- 12 Straight line graphs
- 13 Algebra 3 (quadratics)
- 14 G & M (angles)
- 15 G & M (area and volume)
- 16 Circles
- 17 Transformations
Pythagoras &
- 18 Trigonometry
- 19 Other graphs and calculus
- 20 Algebra 4 (functions)
- 21 Constructions and Loci



JUSTICE



COMPASSION

'You yourselves like living stones are being built up as a spiritual house.' 1 Peter 2.5
'Your present circumstances don't determine where you can go; they merely determine where you start.'



FORGIVENESS



TRUST



An example of how one of our Units (6. Proportion and Scale) progresses through the stages.

KEY: blue boxes denote higher only content

Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Stage 7
Measure and draw lines with a ruler	Interpret scales on various measuring instruments (Including units: mm, cm, m, km, ml, cl, l, mg, g, kg and tonnes.)	Use of unit pricing to solve worded problems including which is better value.	Best Buys/Unitary method	Compound measures (SDT/MDV/PFA)	Be able to solve a direct or indirect proportion problem when the information is given as a formula and involves squares, square roots etc. (α) (H)	Match graphs of direct or inverse proportion with the algebraic formula and the real life context it is representing. (H)
Interpret scales on various measuring instruments (Including units: mm, cm, m, km, ml, cl, l, mg, g, kg and tonnes.)	Recognise when measurements may be inaccurate or rounded, and understand the possible errors involved.	solve problems involving proportions of quantities (e.g. recipes)	Understand the meaning of congruency and similarity and be able to recognise examples of both.	Use ratio to solve problems involving similar shapes; for length, areas and volumes. (H)	Recognise graphs that represent direct and inverse proportion. (H)	
Recognise when measurements may be inaccurate or rounded, and understand the possible errors involved.	Construct & interpret simple scale drawings (simple enlargements of shapes)	Exchange Rates	Able to find missing lengths & angles in similar shapes.	Be able to solve a direct proportion problem when the information is given as a formula. (α) (H)		
	Solve basic problems involving proportions of quantities (e.g. double quantities in a recipe)	Construct, use & interpret scale drawings	Solve '3 line problems' using both direct and inverse proportion. E.g. 3 men take 4 days to build a particular wall. How long would 2 men take to build a similar wall?	Be able to solve an indirect proportion problem when the information is given as a formula. (α) (H)		
	Use conversion and other similar graphs.					





An example of Topic 6, Proportion and Scale from Stage 4

6. Proportion & Scale

Prior Stage Objectives	SPARX
Use of unit pricing to solve worded problems including which is better value.	M681 ▼
solve problems involving proportions of quantities (e.g. recipes)	M478
Exchange Rates	
Construct, use & interpret scale drawings	M112

Stage 4 Objectives	SPARX
Best Buys/Unitary method	M681
Understand the meaning of congruency and similarity and be able to recognise examples of both.	M124, M377
Able to find missing lengths & angles in similar shapes.	M324
Solve '3 line problems' using both direct and inverse proportion. E.g. 3 men take 4 days to build a particular wall. How long would 2 men take to build a similar wall?	

Vocabulary	Department definition	Example
Unit pricing	How much one unit of something might cost	If 5 books cost £20, the unit pricing for a book is £4.
Similar	Shapes that have the same shape but different sizes, with corresponding angles equal and sides proportional.	Two triangles with the same shape but different sizes are similar.
Congruent	Shapes that are the same size and shape, with corresponding sides and angles equal.	Two triangles with all sides and angles equal are congruent.

