TOPIC OVERVIEW DOCUMENT

YEAR 8

TOPIC OVERVIEW:
In Year 8, Students develop confidence across **number, geometry and problem solving**. They strengthen skills with fractions, decimals, percentages, standard form and number sense, while learning to estimate, choose efficient methods and check the reasonableness of answers. Students also develop their understanding of angles, polygons, area, circles and symmetry, applying mathematical rules and properties accurately. Together, these topics build fluency, reasoning and problem-solving skills, providing a strong foundation for future GCSE Maths.

Key Vocabulary (T2)	Key Vocabulary (T3)	Core knowledge	Disciplinary Skills
Interpret, represent, organise, compare, identify, recognise, relationship, pattern, justify, explain, calculate, solve, apply, generalise, predict, analyse, evaluate, accurate, logical, method, strategy, conclusion.	Fraction. Percentage. Multiplier. Standard form. Conversion Angle. Polygon. Area. Trapezium. Reflection.	Students develop a broad range of numerical and geometrical skills. In number, they strengthen their understanding of fractions, decimals and percentages, including conversions, calculations, percentage change and multipliers. They learn to use standard form to represent and calculate with very large and very small numbers, while developing number sense through place value, estimation and rounding. This supports students in selecting efficient methods and checking whether answers are reasonable. In geometry, students develop their understanding of angles in parallel lines, using corresponding, alternate and co-interior angle rules to solve problems. They explore the properties of regular and irregular polygons, including interior and exterior angles, and develop their ability to calculate the area of trapezia and circles using appropriate formulas. Students also investigate reflective and rotational symmetry, identifying lines of symmetry and recognising how shapes change under reflection.	Students develop a secure understanding of number and geometry. In number, they strengthen their skills with fractions, decimals and percentages, including conversions, calculations, percentage change and multipliers. They also learn to work with standard form, estimation and rounding, helping them choose efficient methods and check whether answers are reasonable. In geometry, students develop their understanding of angles in parallel lines, using corresponding, alternate and co-interior angle rules to solve problems. They explore interior and exterior angles in polygons and learn to calculate the area of trapezia and circles using appropriate formulas. Students also develop their understanding of reflective and rotational symmetry. Across these topics, students build accuracy, numerical fluency, spatial reasoning and problem-solving skills, providing a strong foundation for Y9.

Checkpoint: Vocab/ Knowledge/ Disciplinary skill(s)	What does this assessment look like?	Which disciplinary skills do I need to be successful?

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Checkpoint 1: Fractions and percentages	You will complete a skills check You will be reassessed during the Mastery lesson	You need to simplify and compare fractions, convert between fractions, decimals and percentages, and calculate percentages of amounts and percentage change. You should be able to select efficient methods, apply them accurately and use your number sense to check that answers are reasonable
Checkpoint 2: Standard index form	You will complete a skills check You will be reassessed during the Mastery lesson	You need to convert between ordinary numbers and standard index form, compare values, and perform calculations using powers of ten. You should be able to apply index laws accurately, estimate the size of numbers and check that your answers are reasonable.
Checkpoint 3: Number sense	You will complete a skills check You will be reassessed during the Mastery lesson	You need to understand place value, estimate and round accurately, recognise numerical patterns, and compare the size of numbers. You should be able to choose efficient strategies, make sensible estimates and check whether your answers are reasonable.
Checkpoint 4: Angles in parallel lines and polygons	You will complete a skills check You will be reassessed during the Mastery lesson	You need to identify and use angle rules in parallel lines, recognise properties of polygons, and calculate missing angles accurately. You should be able to select the correct angle rule, justify your reasoning and apply your knowledge to solve geometric problems.
Checkpoint 5: Area of trapezia and circles	You will complete a skills check You will be reassessed during the Mastery lesson	You need to identify and use the correct formulae for the area of trapezia and circles, substitute values accurately, and work confidently with π. You should be able to select appropriate methods, use correct units and apply your knowledge to solve geometric problems.
Checkpoint 6; Line symmetry and reflection	You will complete a skills check You will be reassessed during the Mastery lesson	Students develop their understanding of line symmetry and reflection by identifying lines of symmetry and reflecting shapes accurately on grids and coordinate axes. They learn to use mathematical language, recognise patterns and check accuracy, strengthening their spatial reasoning and providing an important foundation for geometry and transformations at GCSE.

Milestone assessment:

The average of the following skills checks :

Fractions and percentages; Standard index form; Number sense; Angles in parallel lines and polygons; Area of trapezia and circles; Line symmetry and reflection

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Vocab quiz:	**Knowledge tasks:**	**Disciplinary tasks:**
Fraction. Percentage. Multiplier. Standard form. Conversion Angle. Polygon. Area. Trapezium. Reflection.	Students develop confidence in number and geometry, including fractions, decimals, percentages, standard form, angles, shapes, area and symmetry. They learn to calculate accurately, choose efficient methods and apply mathematical rules to solve problems. These skills strengthen number sense, reasoning and problem solving, providing a strong foundation for future GCSE Maths.	Students develop confidence in number and geometry, strengthening their skills with fractions, decimals, percentages, standard form, estimation and rounding. They also learn to **use** angle rules, properties of polygons, area formulae and symmetry to solve problems. These topics develop accuracy, reasoning and problem-solving skills**,** providing a strong foundation for Year 9 Maths**.**

How can I achieve in this topic?

Complete tasks on SPARX
Engage 100% in lessons
Make good notes/examples in lessons and use them

Further research:

Home | NRICH
Maths - BBC Bitesize