YEAR 8 2023-2024 SUMMER TERM 2

'An ambitious curriculum that meets the needs of all'

Medium Term Planning

15. Symmetry and reflection 16. The data handling cycle 17. Measures of location

Curriculum Intent

Skills/Assessment Objective Links

UNIT 15: Symmetry and Reflection - (3/4 lessons)

Previously met:

- Met in Year 6

To be able to:

- Recognise line symmetry
- Reflect a shape in a horizontal or vertical line 1 (shape touching the line)
- Reflect a shape in a horizontal or vertical line 2 (shape not touching the line)
- Reflect a shape in a diagonal line 1 (shape touching the line
- Reflect a shape in a diagonal line 2 (shape not touching the line)
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REMDINER – Strategies for teaching.

- When dealing with diagonal reflections, turn the page so that the diagonal line now is vertical.

Links and interleaving

- Congruent shapes

UNIT 16: The Data Handling Cycle - (10/11 lessons)

Previously met:

- Problem solving with addition and subtraction **(Year 7 Spr 1).**
- Problem solving with multiplication and division **(Year 7 Spr 1).**

To be able to:

- Set up a statistical Enquiry
- Design and criticise questionnaires
- Draw and Interpret pictograms, bar charts and vertical line charts (R)
- Draw and Interpret multiple bar charts
- Draw and Interpret pie charts (R)
- Draw and Interpret line graphs
- Choose the most appropriate diagram for a given set of data
- Represent and Interpret grouped quantitative data
- Find and interpret the range
- Compare distributions using charts

	• Identify misleading graphs **REMDINER – Strategies for teaching.** • Use contexts to questions that students can relate to. Could you use data **Links and interleaving** • Averages • Science cross-over: setting up and investigating hypotheses ## UNIT 17: Measures of Location - (7 lessons) ### *Previously met:* • Problem solving with addition and subtraction **(Year 7 Spr 1).** • Problem solving with multiplication and division **(Year 7 Spr 1).** • The data handling cycle **(Year 8 Sum 2).** To be able to: • Understand and use the mean, median and mode • Choose the most appropriate average • **Find the mean from an ungrouped frequency table (H)** • **Find the mean from a grouped frequency table (H)** • Identify Outliers • Compare distributions using averages and the range **REMDINER – Strategies for teaching.** • Use pre-printed axes as students do not need to draw their own axes for the maths GCSE • For weaker classes get students to turn the data from a table into a list. Examples will need to be chosen careful with small frequencies. **Links and interleaving** • Science and geography cross-overs involving graphs, outliers and interpreting data and graphs
Spiritual, moral, social, and cultural development	**SMSC:** Making choices, looking for patterns which may reflect the natural world, supporting and collaborating with each other, realisation that mathematics is an international language and making cultural links as we explore the history of mathematics. **PSHE/British Values:** Working collaboratively, being respectful during discussion and valuing contributions made by others **Skills Builder: Key skills in numeracy used in all topic areas.**
Numeracy	**Focus on key skills.**
Literacy	**Vocabulary Tier 2: Command words displayed in the classroom and italicized/bold font used in shared resources/presentations. These are a constant focus in discussion and questioning,** **Vocabulary Tier 3: Title slide in all shared resource presentations show the key vocabulary for each topic.** **Reading: Underlining command words,** **Writing: Modelling solutions** **Oracy: Think, pair, share, discussion, verbal feedback (peer to peer), questioning, student modelling**

Becoming future ready	**Personal Skills:** As a Mathematics student you will learn many skills: you will gain opportunities to listen to others supportively and to use questioning to develop your own understanding, you will learn how to cope with challenging questions and how to build up your resilience, you will get the chance to work on your own and with others. You will develop problem solving skills and you will learn how to break a problem down into smaller more manageable steps. You will learn how to collaborate with others when solving problems and you will learn how to articulate your solution to a problem. **Employability**: Mathematical skills are invaluable in the workplace. There are many transferable skills which are much valued by employers. Specific career paths for each topic are discussed at the beginning of each unit of work.
Adaptation **QFT/SEND Provision**	• By progressive questioning: exploring pupils' understanding through interactive dialogue. • By outcome: different learners will produce different outcomes. • By resource: worksheets are clearly presented and accessible. • By intervention: by providing different levels of supervision and support. • By grouping/setting: according to prior attainment, gender, social preference, preferred learning style. • By offering optional activities**:** In class or as homework, to extend learning.
Implementation Curriculum Delivery **Learning Outcomes (Most Powerful Knowledge)**	Support (S), Core (C), Extension (E). **Line Symmetry and Reflection- small steps** • Recognise line symmetry (S) • Reflect a shape in a horizontal or vertical line 1 (shape touching the line) (S/C) • Reflect a shape in a horizontal or vertical line 2 (shape not touching the line) (S/C/E) • Reflect a shape in a diagonal line 1 (shape touching the line) (C/E) • Reflect a shape in a diagonal line 2 (shape not touching the line) (C/E) <u>Extension</u> • Multiple reflections • Translations **The data Handling Cycle** • Set up a statistical Enquiry (S/C/E) • Design and criticise questionnaires (S/C/E) • Draw and Interpret pictograms, bar charts and vertical line charts (S) • Draw and Interpret multiple bar charts(S/C) • Draw and Interpret pie charts (S/C) • Draw and Interpret line graphs (S/C/E) • Choose the most appropriate diagram for a given set of data (C/E) • Represent and Interpret grouped quantitative data (E) • Find and interpret the range (S/C/E) • Compare distributions using charts (C/E) • Identify misleading graphs (S/C/E) <u>Extension</u> • Histograms and frequency density **Measures of location -small steps** • Understand and use the mean, median and mode (S) • Choose the most appropriate average (C/E) • Find the mean from an ungrouped frequency table (S/C) • Find the mean from a grouped frequency table (E) • Identify Outliers (C/E) • Compare distributions using averages and the range (C/E) <u>Extension</u>

	• Reverse Mean problems
Current learning to be developed in the future within:	<u>Line Symmetry and Reflection</u> • Rotation and Translation **(Year 9 Spr 2)** • Gradients and lines **(Year 11 Aut 1)** • Transforming and Constructing **(Year 11 Spr 1)** <u>The data Handling Cycle</u> • Measures of location **(Year 8 Sum 2)** • Collecting, representing and interpreting data **(Year 10 Sum 1)** <u>Measures of Location</u> • Collecting, representing and interpreting data **(Year 10 Sum 1)**
Assessment	Refer to assessment maps for formative and summative assessment opportunities.
Impact	Attainment and Progress – Refer to assessment results / data review documentation.