

2023 – Year 8 STEM Scope & Sequence

Faculty: Science & Mathematics

Subject: STEM

	1	2	3	4	5	6	7	8	9	10
Term 1	<p>SMALL BUSINESS: How can we make a profit?</p> <p>Content Focus: Percentages, Financial Mathematics & Earth and Space Outcomes: MA4-5NA, MA4-6NA, MA4-1WM, MA4-2WM & SC4-13ES (ES1), SC4-6WS, SC4-9WS</p> <p>Science Subject Specific Skills:</p> <ul style="list-style-type: none"> • Work collaboratively to conduct a range of investigations safely • Increase skills in performing firsthand investigations assembling and using appropriate equipment, following a planned procedure • Collect data from firsthand investigation with accuracy appropriate to the task • Make observations and measurements accurately, using appropriate units for physical quantities • analysing data and information <p>Mathematics Subject Specific Skills:</p> <ul style="list-style-type: none"> • operating with percentages; finding percentages of amounts • solving financial problems involving purchasing goods • When describing, representing, and explaining mathematical situations, concepts, methods and solutions to problem, using appropriate mathematical language terminology, tables, diagrams, graphs, symbols, notation and conventions • Formulate and solve problems when using mathematics to represent unfamiliar or meaningful situations, design investigations and plan their approaches, apply strategies and seek solutions, and verify that their answers are reasonable • Build a strong foundation that enables students to adapt and transfer mathematical concepts • Develop skills in choosing appropriate procedures, carrying out procedures flexibly, accurately, efficiently, and appropriately, and recalling factual knowledge and concepts readily <p>Literacy: subject specific terminology, using FoR to interpret problems</p> <p>Numeracy: Quantifying numbers, additive strategies, multiplicative strategies, operating with decimals, operating with percentages, understanding money</p> <p>4C's: collaboration, communication</p>								Project 2 commences	
								Practical Modelling Task		

	1	2	3	4	5	6	7	8	9	10
Te	ELEMENTS AND SHAPES: There's WHAT in the world?									

Content Focus: Rates and Ratios, Indices, Properties of Geometrical Figures, & The Chemical World

Outcomes: MA4-7NA, MA4-9NA, MA4-17MG, MA4-1WM, MA4-2WM & SC4-17CW (CW2, CW3, CW4), SC4-5WS, SC4-6WS, SC4-7WS

Science Subject Specific Skills:

- Work collaboratively to conduct a range of investigations safely
- Increase skills in performing firsthand investigations assembling and using appropriate equipment, following a planned procedure
- Collect data from firsthand investigation with accuracy appropriate to the task
- Make observations and measurements accurately, using appropriate units for physical quantities
- Communicate information, ideas and findings of investigation to others through appropriate representations and digital technologies
- Present information using appropriate scientific terminology
- Represent information in multi modal texts

Mathematics Subject Specific Skills:

- Operating with ratios and rates
- Operating with positive integer indices
- Describing and classifying triangles and quadrilaterals; determining if triangles are congruent
- When describing, representing, and explaining mathematical situations, concepts, methods and solutions to problem, using appropriate mathematical language terminology, tables, diagrams, graphs, symbols, notation and conventions
- Formulate and solve problems when using mathematics to represent unfamiliar or meaningful situations, design investigations and plan their approaches, apply strategies, and seek solutions, and verify that their answers are reasonable
- Build a strong foundation that enables students to adapt and transfer mathematical concepts
- Develop skills in choosing appropriate procedures, carrying out procedures flexibly, accurately, efficiently, and appropriately, and recalling factual knowledge and concepts readily
- Make connections between related concepts and progressively apply the familiar to build new ideas

Literacy: subject specific terminology, using FoR to interpret problems

Numeracy: additive strategies, multiplicative strategies, comparing units, understanding geometric properties

4C's: critical reflection, communication, collaboration

	Maths Quizzes					Science Quizzes			
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Term 3	1	2	3	4	5	6	7	8	9	10
	THE AMAZING RACE: Where can we explore maths and science around the world?									

	<p>Content Focus: Equations, Linear Relationships & The Physical World Outcomes: MA4-10NA, MA4-11NA, MA4-1WM, MA4-2WM, MA4-3WM & SC4-11PW (PW3, PW4), SC4-5WS, SC4-6WS, SC4-7WS, SC4-9WS</p> <p>Science Subject Specific Skills:</p> <ul style="list-style-type: none"> • Work collaboratively to conduct a range of investigations safely • Increase skills in performing firsthand investigations assembling and using appropriate equipment, following a planned procedure • Collect data from firsthand investigation with accuracy appropriate to the task • Make observations and measurements accurately, using appropriate units for physical quantities • Communicate information, ideas and findings of investigation to others through appropriate representations and digital technologies • Present information using appropriate scientific terminology • Represent information in multi modal texts • Organise and represent data and information to explain trends, patterns and relationships • Use critical thinking skills to analyse data and information, make predictions and evaluate evidence • Evaluate the quality of the data, information, processes and evidence • Use evidence to draw and justify conclusions <p>Mathematics Subject Specific Skills:</p> <ul style="list-style-type: none"> • simplifying algebraic expressions • solving algebraic equations • graphing and analysing linear relationships • When describing, representing, and explaining mathematical situations, concepts, methods, and solutions to problem, using appropriate mathematical language terminology, tables, diagrams, graphs, symbols, notation, and conventions. • Formulate and solve problems when using mathematics to represent unfamiliar or meaningful situations, design investigations and plan their approaches, apply strategies, and seek solutions, and verify that their answers are reasonable. • Develop an increasingly sophisticated capacity for logical thought and actions, such as analysing, proving, evaluating, explaining, inferring, justifying, and generalising • Develop an understanding of the relationships between the how and why of mathematics <p>Literacy: subject specific terminology, using FoR to interpret problems</p> <p>Numeracy: additive strategies, multiplicative strategies, number patterns and algebraic thinking, positioning and locating</p> <p>4C's: critical reflection, communication</p>								
							Project Portfolio		

Term 4	1	2	3	4	5	6	7	8	9	10
	<p>THE LIVING WORLD: How can we use data to protect species in our local area?</p> <p>Content Focus: Single Variable Data Analysis, Probability & The Living World Outcomes: MA4-20SP, MA4-21SP, MA4-1WM, MA4-2WM, MA4-3WM & SC4-15LW (LW4, LW5), SC4-7WS, SC4-9WS</p>									

