
















Lanyon High School



Year 9 – Australian Curriculum: Mathematics

| | | | | | | | | | |
|---|---|---|--|--------|---|--------------|--|--------|---------------------------------------|
| Identify curriculum | Achievement standard | <p>By the end of Year 9, students solve problems involving simple interest. They interpret ratio and scale factors in similar figures. Students explain similarity of triangles. They recognise the connections between similarity and the trigonometric ratios. Students compare techniques for collecting data from primary and secondary sources. They make sense of the position of the mean and median in skewed, symmetric and bi-modal displays to describe and interpret data.</p> <p>Students apply the index laws to numbers and express numbers in scientific notation. They expand binomial expressions. They find the distance between two points on the Cartesian plane and the gradient and midpoint of a line segment. They sketch linear and non-linear relations. Students calculate areas of shapes and the volume and surface area of right prisms and cylinders. Students calculate relative frequencies to estimate probabilities, list outcomes for two-step experiments and assign probabilities for those outcomes. They construct histograms and back-to-back stem-and-leaf plots.</p> | | | | | | | |
| Teaching and learning | Term overview | Term 1 | | Term 2 | | Term 3 | | Term 4 | |
| | NUMBER AND ALGEBRA <ul style="list-style-type: none"> - Apply index laws to numbers and express numbers in scientific notation. - Expand binomial expressions. | | MEASUREMENT AND GEOMETRY <ul style="list-style-type: none"> - Interpret ratio and scale factors in similar figures. - Explain similarity of triangles. - Recognise connections between similarity and trigonometric ratios. - use Pythagoras' Theorem and trigonometry to find unknown sides of right-angled triangles. | | NUMBER AND ALGEBRA <ul style="list-style-type: none"> - Graphing linear and nonlinear relations. - Finding the distance between two points and find the gradient and midpoint of a line segment. NUMBER AND ALGEBRA <ul style="list-style-type: none"> - Solving problems involving simple interest. | | MEASUREMENT AND GEOMETRY <ul style="list-style-type: none"> - Calculate the area, surface area and volume of right prisms and cylinders. STATISTICS AND PROBABILITY <ul style="list-style-type: none"> - Comparing data collection techniques. - Analysing data and displays to interpret data. - Estimate probability and relative frequency. - Construct histograms and back-to-back stem-and-leaf plots. | | |
| | General capabilities and Cross curriculum priorities  | |  | |  | |  | | |
|  Literacy  Numeracy  ICT capability  Critical and creative thinking  Ethical behaviour  Personal and social capability  Intercultural understanding   Aboriginal and Torres Strait Islander histories and cultures  Asia and Australia's engagement with Asia  Sustainability | | | | | | | | | |
| Develop assessment | Assessment | Term 1 | | Term 2 | | Term 3 | | Term 4 | |
| | | Week | Assessment instrument | Week | Assessment instrument | Week | Assessment instrument | Week | Assessment instrument |
| | | 4 | Index laws/Scientific Notation Test | 13 | Ratio and Similarity Assignment | 3 | Linear and nonlinear Test | 14 | Measurement Test |
| | | 9 | Algebra - Expand Binomial expressions Test | 18 | Pythagoras' Theorem and Trigonometry to find sides Test | 7 | Coordinate Geometry Test | 17 | Statistics and Probability Assignment |
| | | All semester | Ongoing continuous assessment | 9 | Financial Literacy Assignment | All semester | Ongoing continuous assessment | | |
| Make judgments and use feedback | Moderation | Term 1 | | Term 2 | | Term 3 | | Term 4 | |
| | | Teachers moderate assessment task to enures consistency of judgments.. | | | | | | | |