Atherton State High School
On Eagles' Wings

Year 8 Mathematics
Learning and Assessment Overview 2021

Semester 1		Semester 2	
MAT 08.01 **Number and Place Value** **Congruent Figures** **Data Representation and Interpretation**	**MAT 08.02** **Rational Numbers** **Real Numbers & Exploring Irrational Numbers** **Perimeter and Area**	**MAT 08.03** **Patterns & Algebra** **Linear and Non-Linear Relationships** **Chance & Time**	**MAT 08.04** **Linear and Non-linear Relationships,** **Using Units of Measurement,** **Congruent Figures and Quadrilaterals**
Number and Place Value [Number and Algebra] – applying the four operations to integers and solving related problems, expressing numbers in index notation and establishing the index laws with whole number bases and positive integral indices. **Geometric Reasoning Measurement and Geometry]** – reviewing angle relationships and exploring congruent figures, and establishing and applying the congruence tests for triangles **Data Representation and Interpretation [Statistics and Probability]** – collecting, organising and displaying data, interpreting data displayed in tables and graphs, exploring the connection between samples and populations and the effect of sample size, calculation of measures of centre, identifying the effect of outliers and their effect on measures of centre, and identifying sources of bias and their effect on making hypotheses and drawing valid conclusions.	**Number and Place Value [Number and Algebra]** – applying the four operations to rational numbers [fractions], making connections between percentages, fractions and decimals, calculating a percentage of a quantity, percentage increase and decrease, discount, profit, loss , GST and related problems **Real Numbers [Number and Algebra]** – identifying terminating and recurring decimals, and exploring rational numbers such as pi **Using Units of Measurement [Measurement and Geometry]** – converting units of measure for length and area, reviewing perimeter and area of parallelograms and triangles, developing formulae to calculate perimeter and area of rhombuses, kites, trapezia and circles and related problems	**Patterns and Algebra [Number and Algebra]** – expanding and factorising algebraic expressions and applying number laws to algebraic expressions **Linear and Non-Linear Relationships [Number and Algebra]** – solving simple linear equations algebraically and graphically, connecting patterns, linear functions, tables of values, graphs, plotting coordinates on the Cartesian Plane and solving realistic related problems **Chance [Statistics and Probability]** – describing and calculating the probability of 'and', 'or', and 'not' events, representing events in Venn diagrams and two-way tables, identifying complementary events, using the sum of probabilities and solving related problems Using Units of Measurement [Measurement and Geometry] – solving problems involving time duration, for 12 and 24 hour formats, within a single time zone.	**Linear and Non-Linear Relationships [Number and Algebra]** – modelling situations involving proportional relationships, solving problems involving rates and ratios, interpreting, modelling and formulating patterns and relationships and representing them as rules, functions, tables and graphs and solving linear equations using graphical techniques. **Using Units of Measurement [Measurement and Geometry]** – converting units of measure for length, area and volume, developing formulae for volume and capacity of rectangular and triangular prisms, and solving related problems. **Geometric Reasoning [Measurement and Geometry]** – solving problems using the properties of congruent figures, applying understanding and reasoning of area, congruence of triangles and plane shapes to identify and develop the properties of quadrilaterals.
Unit Duration	**Unit Duration**	**Unit Duration**	**Unit Duration**
Weeks 1 - 10 (10 weeks)	Weeks 11 - 20 (10 weeks)	Weeks 21 - 30 (10 weeks)	Weeks 31 - 39 (9 weeks)
Assessment Task/s	**Assessment Task/s**	**Assessment Task/s**	**Assessment Task/s**
MAT 08.01.01 **Test** *Technique:* Examination *Mode:* Short response items *Conditions:* 60 mins *Issued:* n/a *Due:* Week 5	**MAT 08.01.02** **Test** *Technique:* Examination *Mode:* Short response items *Conditions:* 60 mins *Issued:* n/a *Due:* Week 10	**MAT 08.02.01** **Test** *Technique:* Examination *Mode:* Short response items *Conditions:* 60 mins *Issued:* n/a *Due:* Week 16	**MAT 08.02.02** **Investigation** *Technique:* Extended Response *Mode:* Written + Practical *Conditions:* 2 weeks classtime, 400-600 words *Issued:* Week 17 *Due:* Week 20	**MAT 08.03.01** **Test** *Technique:* Examination *Mode:* Short response items *Conditions:* 60 mins *Issued:* n/a *Due:* Week 26	**MAT 08.03.02** **Assignment** *Technique:* Extended Response *Mode:* Written + Practical *Conditions:* 2 weeks classtime, 400-600 words *Issued:* Week 27 *Due:* Week 29	**MAT 08.04.01** **Test** *Technique:* Examination *Mode:* Short response items *Conditions:* 60 mins *Issued:* n/a *Due:* Week 37	