PRE-VOCATIONAL MATHEMATICS

COURSE AND ASSESSMENT OUTLINE
<table>
<thead>
<tr>
<th>WEEK</th>
<th>TOPIC</th>
<th>KEY LEARNINGS</th>
<th>ASSESSMENT</th>
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</table>
| 1 to 5 | NUMBERS and FRACTIONS | • Number facts \( \times, \div, +, - \); rounding  
• Types of fractions, decimals, percentage  
• Simple calculator operations for fractions  
• Use number skills to solve everyday problems  
• Convert between fractions  
• Use calculator to solve everyday problems involving fractions  
• Use appropriate maths language to explain everyday situations | In-class hand-in tasks based on a variety of interesting topics (F – K)  
Practical application scenarios (S – K, A, E) |
| 6 to 10 | NUMBER – RATIO and RATES | • Ratio symbol, equivalent ratios, everyday ratios  
• Rates (examples), Direct and Inverse proportion  
• Use calculator to carry out calculations involving rates  
• Solve simple Rates problems  
• Draw and interpret graphs involving proportion  
• Solve simple proportion problems  
• Explain solutions in words | In-class hand-in tasks (F – K)  
Practical application scenarios (S – K, A, E) |
| 11 to 20 | FINANCE - SPENDING BUDGETS | • Use calculator to find percentage discount, mark-ups, mark-downs, profit  
• Credit / debit cards and fees  
• GST  
• Budgeting  
• Methods of payment – cash, cheque, electronic  
• Types of loans  
• Simple and compound interest  
• Risks of borrowing  
• Create a budget  
• Interpret different types of credit  
• Explain comparisons between different types of payment | Prepare a budget (F - K, A, E)  
In-class hand-in tasks (S – K, A)  
Buying a Car exercise (S - K, A, E) |
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<tbody>
<tr>
<td>1 TO 8</td>
<td>FINANCE – EARNING</td>
<td>• Forms of income – wages / salary, casual, contract</td>
<td><strong>FOLIO 1</strong></td>
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<td>• Small business – incomes and outgoings</td>
<td>In-class hand-in tasks (F – K)</td>
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<td>• Taxation – rates</td>
<td>In-class hand-in tasks (S – K, A, E)</td>
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<td>• Social security payments</td>
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<td>• Interpret payslips</td>
<td>Tax calculation exercise (S – K, A, E)</td>
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<td>• Award wages, compare wages from different jobs</td>
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<td>• Calculate earnings</td>
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<td>• Calculate tax payable</td>
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<td>• Explain various modes of gaining income</td>
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<td>• Explain basis of social security payments</td>
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<td>9 TO 18</td>
<td>LOCATION and TIME</td>
<td>• Read a range of maps</td>
<td><strong>FOLIO 2</strong></td>
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<td>• Units of time (calculations)</td>
<td>In-class exercise using timetables and map interpretation (S – K, A, E)</td>
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<td>• 12 / 24 hour time</td>
<td>Using ICTs:</td>
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<td>• timetables</td>
<td><strong>REPORT</strong></td>
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<td>• time Zones</td>
<td>Plan and cost a road trip within Australia (S – K, A, E)</td>
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<td>• Plan travel using maps and timetables</td>
<td><strong>INVESTIGATION</strong></td>
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<td>• calculating time taken</td>
<td>Plan a world trip including time zones. (S – K, A, E)</td>
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<td>• solve problems relating to time zones</td>
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<td>• Calculate costs of trips</td>
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<td>• Justify a particular route to be taken in planning a trip</td>
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| 1 to 5 | MEASUREMENT – UNITS | • Units of measurement (length, area, volume, mass, temperature, tyre pressure)  
• Use of scales, gauges and meters  
• Use a calculator for conversions between units  
• Select and use appropriate equipment for measurement  
• Select and apply appropriate units  
• Explain a method of measuring a given unknown  
• Explain appropriateness of estimations | TEST A  
In-class test on units (S – K, A, E)  
POSTER DISPLAY  
Research various instruments (F - K) |
| 6 to 14 | MEASUREMENT – 2D SHAPES and REGULAR SOLIDS | • Perimeters of irregular and regular shapes  
• Areas of 2D shapes  
• Volumes of regular solids  
• Scales – reductions and enlargements  
• Draw scale drawings  
• Calculate perimeters, areas and volumes for use in practical applications e.g. paving  
• Apply knowledge of scales to draw plans e.g. floor plans, parking areas etc.  
• Explain the interpreting of plans | TEST B  
In-class assessment tasks (S – K, A, E)  
IN-CLASS PROJECT  
Draw plans for a cottage and cost the building of it (S – K, A, E) |
| 15 to 20 | LOCATION | • Compass points  
• Read a range of maps  
• Map conventions (scales/distance, grid references, latitude and longitude, keys and legends)  
• Interpret location and direction from maps  
• Draw a ‘mud map’  
• Explain terrain from a map | ASSIGNMENT  
Map reading and map drawing exercise (S - K, A, E) |
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| 1 to 9 | DATA | • Collection of data (observation, survey, sampling)  
• Recording data (tables)  
• Range, bias, mean, median  
• Displaying data (reading tables and graphs)  
• Draw tables and graphs (manual and ICT)  
• Misuse of data  
• Apply procedures to collect data  
• Interpret data and make predictions  
• Identify flaws and bias  
• Select accepted methods to display data  
• Extract data from graphs  
• Use appropriate language regarding data  
• Discuss appropriate methods of collecting data  
• Explain statistical distortions | FORMATIVE  
In-class theoretical and practical assessment tasks (S – K, A, E)  
SURVEY (7 weeks)  
Carry out a comprehensive survey and present findings as class talk or powerpoint (S – K, A, E) |
| 10 to 13 | FINANCE – INVESTMENT | • Types of investment (term deposit, shares, managed funds, real estate (and associated risks.))  
• Effects of changing interest rates  
• Calculate simple interest  
• Interpret financial statements  
• Identify and assess risks  
• Compare costs of different types of investment  
• Select most suitable investment strategy for a given scenario  
• Explain ‘for-and-against’ of various investment types | INVESTIGATION  
In-class tasks based on newspaper and other articles. (S – K, A, E)  
plus Share trading scenario (S – K, A, E) |
| 14 to 16 | MEASUREMENT – REGULAR SOLIDS | • Draw nets for solid shapes | IN-CLASS PROJECT  
Plan and construct a 3D model of a regular solid that will have a practical use (S - K, A) |