PRE-APPROVED LEARNING AND ASSESSMENT PLAN

**Stage 1 Essential Mathematics**

*This pre-approved learning and assessment plan is aligned with Stage 1 Essential Mathematics Program 2 – Semester 1 – Trade focus.*

Pre-approved learning and assessment plans are for *school use only*.

* Teachers may make changes to the plan, retaining alignment with the subject outline.
* The principal or delegate endorses the use of the plan, and any changes made to it, including use of an addendum.
* The plan does not need to be submitted to the SACE Board for approval.

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| School |  | Teacher(s) |  |

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| SACE  School Code | | |  | Year |  | Enrolment Code | | | | |  | Program Variant Code (A–W) |
| Stage | Subject Code | | | No. of Credits (10 or 20) |
|  |  |  |  | **1** | **M** | **E** | **M** | **10** |  |

**Addendum – changes made to the pre-approved learning and assessment plan**

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| Describe any changes made to the pre-approved learning and assessment plan to support students to be successful in meeting the requirements of the subject. In your description, please explain:   * what changes have been made to the plan * the rationale for making the changes * whether these changes have been made for all students, or for individuals within the student group. |

**Endorsement**

The use of the learning and assessment plan is approved for use in the school. Any changes made to the plan support student achievement of the performance standards and retain alignment with the subject outline.

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| Signature of principal or delegate |  | Date |  |

Stage 1 Essential Mathematics

Assessment Overview

The table below provides details of the planned tasks and shows where students have the opportunity to provide evidence for each of the specific features of both assessment design criteria.

| Assessment Type and Weighting | Name and details of assessment | Assessment Design Criteria | | Assessment conditions (e.g. task type, page limit, time allocated, supervision) |
| --- | --- | --- | --- | --- |
| C&T | R&C |
| Skills and Applications Tasks  Weighting 50% | **SAT One:** Students demonstrate mathematical knowledge and skills from **Topic One: Calculations, Time and Ratio**. The content covers key questions and key concepts within subtopics 1.1 and 1.2 (time). Students apply their knowledge and skills to a range of routine and complex questions in problems based on trade relevant contexts. This SAT will have two parts:  **Part A:** Non-calculator section (30 Minutes) and **Part B:** Calculator section (15 minutes)  Students will be required to use mathematical reasoning to draw conclusions and consider the appropriateness of solutions, particularly in questions using approximation techniques.  Clear and logical communication of solutions and correct use of notation and terminology are required. | 1, 2 | 1, 2, 3 | Supervised written assessment.  One A4 page of handwritten notes permitted.  Total time: 45 minutes  Appropriate calculator technology (graphics calculator is not required) |
| **SAT Two:** Key questions and key concepts from **Topic Two: Earning and Spending** are assessed in a guided investigation. Students require access to technology to find minimum wage information, and the pay rates for three different jobs. Links may be provided to the students to assist them in efficiently finding the pay rate information for two of the three jobs. They will use this information and provided hours of work to calculate weekly, fortnightly and annual incomes in spreadsheets that they create. This is extended to determining the tax payable either using an internet tool such as http://www.paycalculator.com.au or by hand. Most calculations require the aid of electronic technology. | 1, 3, 4 | 1, 3 | Supervised guided investigation.  Students will have access to excel and the internet throughout the task.  Total time: 3 lessons |
| Folio  Weighting 50% | In this folio task students consider key questions and key concepts from **Subtopic 1.2 – Time and Rates**. Students investigate filling containers at a constant rate with water, and use measurements taken to represent the change in the height of water in the container against the volume of water added graphically. Students investigate the link between the shape of the container filled and the resulting graph, and then use their investigations to make a prediction about the graph that would be produced from filling a more complicated container. Clear and logical communication of data collected and appropriate graphical representations are required in a basic report format. Students are encouraged to discuss their results. | 1, 3 | 1, 3, 4 | 3 weeks to complete. Class time is provided for the practical aspects of the investigation to be completed.  **Maximum of 6 A4 pages**  A basic investigation report format is required. |
| **Topic Three: Geometry**  In this folio task students are required to design a novelty container. They investigate a range of containers for products such as chocolates and other boxed items. They create their own novelty container design, and use construction techniques to create the 3D net for their novelty container. Students need to consider the placement of tabs to allow the novelty container to be constructed. Further scope for complexity can be provided by the consideration of innovations in the novelty container design such as mechanisms that hold their novelty container closed once it has been opened. Depending on the size of the novelty container designed, the net may need to be drawn over more than one piece of paper, and consideration given to how tabs will be used to attach the separate parts. Students consider the effectiveness of the net they have constructed, and discuss any problems they encountered. | 1, 2 | 3, 4 | 3 weeks to complete. Class time is provided.  Maximum of 1 A4 page of written response plus:   * a copy of the 3D net * the constructed novelty container.   appendices with sketches of possible novelty containers and nets |

***Four assessments.*** *Please refer to the Stage 1 Essential Mathematics subject outline.*