LAP 2

LEARNING AND ASSESSMENT PLAN

**Stage 1 Earth and Environmental Science**

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** |  |  |  | **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 Earth and Environmental Science (10-credits)

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 all of the assessment design criteria.

| **Assessment Type and Weighting** | **Details of assessment** | **Assessment Design Criteria** | | | | **Assessment conditions**  (e.g. task type, word length, time allocated, supervision) | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **IAE** | | **KA** | |
| **Assessment Type 1: Investigations Folio**  Weighting  75 % | **SHE Investigation**  Students are to select one urban area in the world that is affected by an Earth hazard. Students act as a Scientist who will research the past and potential future harm of the Earth hazard. In a fictional setting, the location’s main Government has funding available to improve the safety of the area. The Scientist (student) needs to submit a proposal to the Government about how they think those funds would best be allocated.  The proposal will be presented to the class, who will represent the Government. The presentation should include:   * Identification of the location of a community affected by an Earth hazard * Reasons why people choose to live in this area * The past and potential effects of this hazard on the area * Explanation of the Earth processes that cause this hazard * Use of one or more aspect from the four categories of SHE ideas (from the subject outline) to explain how scientific knowledge is being used to benefit people living in this area; this could include techniques for monitoring and/or predicting the Earth hazard and an action plan for harm minimisation when the Earth hazard occurs * Justification for using the funding for your strategy to help minimise potential future harm to this area   A reference list and script of the presentation also needs to be submitted. | 3 | | 1, 3, 4 | | Students work individually to research background information. They can present their findings in a format of their own choice, with a maximum of 1000 words if written or a maximum of 6 minutes for an oral presentation, or the equivalent in multimodal form. | |
| **Design Practical Investigation**  Students are presented with a scenario in which an urban land space is under consideration for alternate uses, such as a vegetable garden or a trout farm. Individually students investigate soil properties that may affect the suitability of the site for particular purposes. Students formulate an investigable question related to the potential use of this land. Then they are provided with soil samples from the site and they design and implement a series of appropriate soil tests in order to provide a recommendation about the use of the land.  The practical report should include:   * introduction including an investigable question and the significance of relevant soil properties to the question * materials/apparatus, method/procedure outlining steps taken\* * identification and management of safety and/or ethical risks\* * results\* * analysis of results, identifying trends, and linking results to concepts * evaluation of procedures and data, identifying sources of uncertainty * conclusion with a justified recommendation * bibliography | 1, 2, 3, 4 | 1,2 | | Students work individually to research information and design their investigation. Students may work in pairs or threes to undertake the soil tests under supervision and then complete individual reports. The task is to be completed in two weeks.  The report should be a maximum of 1000 words, if written, or a maximum of 6 minutes for an oral presentation or the equivalent in multimodal form.  \*The materials/apparatus, method/procedure outlining steps to be taken, identification and management of safety and/or ethical risks, and results sections are excluded from the word count. | |
| **Albedo Investigation**  Students investigate how different types of surfaces influence albedo in the built environment. They carry out a laboratory activity to test albedo differences between various building and paving surfaces and draw a conclusion about their effects on albedo in the built environment.  The practical report should include:   * introduction including an investigable question and a description of how the scientific understanding of the albedo effect has been used to develop building materials with high albedo ratings. * materials/apparatus, method/procedure outlining steps taken\* * identification and management of safety and/or ethical risks\* * results\* * analysis of results, identifying trends, and linking results to concepts * evaluation of procedures and data, identifying sources of uncertainty * conclusion with a justified recommendation * bibliography | 2, 3 | 3, 4 | | Students work collaboratively in the laboratory but write individual reports. Students can present their findings in a format of their own choice, which should be a maximum of 1000 words, if written, or a maximum of 6 minutes for an oral presentation or the equivalent in multimodal form.  \*The materials/apparatus, method/procedure outlining steps to be taken, identification and management of safety and/or ethical risks, and results sections are excluded from the word count. | |
| **Assessment Type 2: Skills and Applications Tasks**  Weighting  25% | **Test**  Students demonstrate application of knowledge and understanding by answering questions and by testing samples to identify various rocks. Students record their observations and relate these to their knowledge of physical characteristics of rocks and minerals to identify specimens.  Students also demonstrate knowledge and understanding of the Rock Cycle and apply this knowledge to solve problems in the test. Students analyse earth and environmental problems and pose solutions using appropriate Earth system terms and conventions in multiple-choice and short-answer questions. | 3 | | 1, 2, 4 | | Written and practical: supervised, 60 minutes | |

***Four assessments.*** *Please refer to the draft Stage 1 Earth and Environmental Science subject outline.*