JUNIOR ASSESSMENT TASK – STAGE 5 Part 1 and 2

Faculty – Science	Stage 5 – Year 10	Topic: Individual Student Research Project

Task Description:

This is a practical task that require you to conduct a major project on an area of your choosing.

Your project must be based on one of the four major disciplines of science:

- Physics
- Chemistry
- Biology
- Earth and Environmental Science (including Marine studies)

The project must fall into one of the following categories:

- A scientific investigation
- Model/Diorama (of a theoretical concepts or idea)
- Invention (solution to a specified problem)

If you have an idea that does not fit into one of the above categories you must get approval from your class teacher or Mr Shea

Presentation of project: (What do you need to hand in?)
All students must submit the following:

Part 1

A portfolio of their project. The portfolio must be in the form of an A4 plastic display folder and submitted for approval and review at the end of term 1 as well as being submitted with the completed project. (see additional information for specific requirements) **DUE DATE Term 1 Week 10, Thursday 4th April**

Part 2

Submit a revised portfolio with improvements made from feedback given by your teacher in part 1. In addition, the project must be able to be displayed. Students will need to have some form of display for their project. This could take the form of a poster, model, interactive media, a combination of these types or any other form of display. **Note:** All projects will be displayed in the ***Orange High School Science Fair*** during National Science Week. Each student is allocated a display area of 1.0m x 1.0m If your display requires more space you must speak to Mr Shea
Due Date Term 3 Week 4 Date (TBA)

Date Given: Week 2 Term 1 (7th February – 8th February)	DUE DATES - **Part 1 Portfolio:** Week 10 Term 1 Thursday 4th April - **Part 2 Project:** Week 4 Term 3 Date Wednesday 14th Aug

Outcomes to be Assessed:

WS5.2 Students plan first-hand investigations by:
a. planning and selecting appropriate investigation methods, including fieldwork and laboratory experimentation, to collect reliable data
d. specifying the dependent and independent variables for controlled experiments
WS5.3 Students choose equipment or resources for an investigation by:
a. identifying appropriate equipment and materials
b. identifying the appropriate units to be used in collecting data
WS6 Students conduct investigations by:
a. individually and collaboratively using appropriate investigation methods, including fieldwork and laboratory experimentation, to collect reliable data
b. safely constructing, assembling and manipulating identified equipment
f. evaluating the effectiveness of the planned procedure, considering risk factors and ethical issues, and suggesting improvements as appropriate
WS7.2 Students analyse data and information by:
a. analysing patterns and trends, including identifying inconsistencies in data and information
b. describing relationships between variables
c. assessing the validity and reliability of first-hand data
d. using knowledge of scientific concepts to draw conclusions that are consistent with evidence

Task Guidelines:

You will be expected to:

- **Individually complete a Scientific Research Project**
- **Submit a portfolio of the project in an A4 plastic display folder**
- **Present the project in a manner that allows it to be displayed as part of the Orange High School Science Fair**

Penalties:

Failure to complete the task with a sustained and diligent effort or because you are absent may lead to:

- **A zero mark**
- **The issuing of a warning letter explaining that you have not met the course learning outcomes according to the requirements of the NSW Board of Studies**

Please note: that plagiarism, the using of the work of others without acknowledgement, will incur serious penalties and may result in zero award. Any cheating will also incur penalties.

Part 1: Portfolio Outline

- Title: Clear statement of the intent of your project.

- Abstract: A short paragraph that highlights the different problems that will need to be overcome in order for your project to be a success.

- Purpose: Construct a sentence using appropriate scientific terminology to describe what it is that you are attempting to complete.

- Expectation
  - **For Inventions or Models/Diorama**: A statement of intent: Describe what you are attempting to complete.
  - **For Investigations:** Hypothesis: For those conducting an investigation an If... then statement is required.

- Materials used:
  - **For Inventions or Models/Diorama**: This also including research that you have completed
  - **For Investigations:** This section of the report should list all the materials that you are intending to use. This list can be added to should your project take an unforeseen turn later on, however, should contain all major pieces, including where they were obtained.

- Risk assessment: Your safety assessment should be detailed, including **hazards/dangers**, **risks** and **precautions** to be taken to minimise them.
  Note: Models/diorama/invention: you need to create some potential risk associated with your research e.g. risk of infection from a disease you are researching

- Progress journal: The journal should have in it, dates that relate to the work completed so far, such as, gathering information, development of ideas, purchase of equipment, setting aside an area to conduct the project, etc.

- Procedural writing: Written using appropriate scientific terminology and structures. The procedure should be a working outline of how you are going to conduct, make or design the project, including any diagrams and can be considered as a work in progress, not the finished outline.

  For those doing an **investigation** this procedure should include an outline of your results table, ready to collect data in part 2.