 Student portfolio

Year 11 investigating science

Depth study assessment task

Student name:

Student number:

Class:

Teacher:

Signature verifies that all the work contained in the portfolio is my own, in accordance with the NESA 'HSC: All my own work' standards

Instructions

1. Work through each page/section in order and have it signed and dated by your teacher before progressing to the next section.
2. As each page is signed and dated, file it into your A4 display folder which is to be kept in class by your teacher.
3. Only work completed at school and signed by your teacher can be placed into your portfolio as part of your depth study.

Section 1: Brainstorm of Ideas

In the space below brainstorm ideas including questions you have always wanted to answer, ideas you find interesting, areas you want to understand better, etc.

Discuss these early ideas with your peers and teacher. Clarify whether one is suitable for you to build a working model of.

Teacher signature:

Date:

Section 2: The use of models in science

Using the knowledge you have gained in class, answer the following questions. Once you have written answers have your teacher sign and date this work.

1. What is a model?

1. What is a working model?

1. Why are models used in Science?

1. What are the advantages of using models?

1. Why did you choose your concept to make a model of?

1. How do you believe a model can be used to demonstrate this idea?

1. Using diagrams/photos describe the overall design for your model

Teacher signature:

Date:

Section 3: Title page

Create a page that includes words and ideas to summarise the scientific concept you are going to make a model for. Include an image that you believe represents this concept. This will be the front page in your portfolio. Have your teacher sign and date this page.

Teacher signature:

Date:

Section 4: Background research

Read widely on your topic using the internet, books and scientific journals. Keep a note of any references you find useful. Answer the following questions and submit this page with your bibliography which should use Harvard referencing or another appropriate referencing style.

1. How did you decide your references were i) relevant and ii) reliable?

1. For all your references write an annotation or summary of the information you gained from it. Each annotation should be approximately 150-200 words.
2. Include your reference list (this may be added to as the depth study continues)

Teacher signature:

Date:

Section 5: Plans for my model

1. Explain what medium you are going to use for your model.

1. List any materials needed and include their approximate cost and where you will get them from

Draw a diagram of your model or use photos to show how it is going to be put together. Include size measurements.

Teacher signature:

Date:

Section 5: Making my model (prototype)

During the construction you must take at least 3 progress photos which include a date and time. These will need to be printed and put into your portfolio.

Once the model is constructed have your teacher sign and date this page.

Teacher signature:

Date:

Section 6: Evaluation of my model.

1. How successful is your model in demonstrating your concept?

1. Does it help to explain the concept?

1. How would you like to change the model to improve it?

1. Explain how you will make these changes, include any materials that will be needed and their cost and supplier. Before you change your model have your teacher sign and date this page.

Teacher signature:

Date:

Section 7: Final model

You will have       lessons to make your final model which will be on display in the Science Fair. Remember it will be reviewed by peers and your teachers. Take at least 3 photos of the changes you made and under each explain the change to your audience and why you made it. These need to be printed and signed by your teacher. This page needs to be submitted with your final model on      .

Teacher signature:

Date:

Section 8: Science fair display

Your model will be put on display in the Science Fair on       . Remember your model should explain the concept you should not have to explain it to the audience.