JOHN EDMONDSON HIGH SCHOOL

Assessment Notification

Faculty: Science **Course: Science** **Year: 10**

Assessment Task: Task 3 – Depth Study – First-hand investigation

Assessment Weighting: 25%

Due: Term 3 Week 5 Date: Thursday 22/8/24 on CANVAS by 8:25 am

Task Type: Hand in Task ☒ In Class Task ☒ Practical Task ☒

Outcomes assessed (NESA)

A student:
SC5-4WS develops questions or hypotheses to be investigated scientifically
SC5-5WS produces a plan to investigate identified questions, hypotheses or problems, individually and collaboratively
SC5-6WS undertakes first- hand investigations to collect valid and reliable data and information, individually and collaboratively
SC5-7WS processes, analyses and evaluates data from first-hand investigations and secondary sources to develop evidence-based arguments and conclusions
SC5-8WS applies scientific understanding and critical thinking skills to suggest possible solutions to identified problems
SC5-9WS presents science ideas and evidence for a particular purpose and to a specific audience, using appropriate scientific language, conventions and representations

Task Description/Overview

You will be assessed on your ability to:
 Plan and conduct an appropriate and safe investigation
 Use scientific terminology appropriately
 Communicate effectively
 Write in a logical and sequential manner

In order to do this task, you need to:
 Perform a first-hand investigation based on an Aim and a Hypothesis
 Produce a set of observations and/or data
 Analyse results and make a number of deductions
 Produce an experimental record in the form of a Scientific Report

You are required to submit a complete scientific investigation report at the completion of your Depth Study.

- You will receive **Depth Study booklet** scaffold to guide your planning process
- Your final report is then to be TYPED on the provided report template on CANVAS and submitted on CANVAS before the due date: Thursday 22/8/23 by 8:25 am

Any assessment task submitted after 8.25am, must complete a misadventure/illness form and attach any relevant documents to Ms Young.

Detailed Assessment Task Description

You are to plan and conduct a Depth Study, following the guide below:

- **Step 1: Idea/inquiry question.**

You are required to choose a topic area that interests you, research and investigate (do experimental work). You must get approval of your idea from your science teacher.

Recommended websites to view for gathering ideas:

- https://www.sciencebuddies.org/science-fair-projects/science-projects
- https://www.sciencemadesimple.com/

- **Step 2: Research**

Once you have decided on your research question, you will need to do some background research regarding your question. Remember focus on collecting your information from reliable sources.

- **Step 3: Design and document your experiment.**

Design your investigation, experiment to produce reliable results. You will need to do at least **5 trials** to obtain consistent results.
You will receive a Depth Study booklet that provides scaffolds, step by step instructions, as well as information to guide you and help in planning your investigation. In addition, you will receive a Scientific Report template to complete all work and to be submitted.

- **Step 4: Get feedback on your method and table of results for your teacher.**

Your Depth Study Log Booklet must be submitted to your teacher for feedback on your method and table of results.

- **Step 5: Perform and document your experiment.**

You are required to carry out your experiment at home. Have someone take photos of YOU carrying out your experiment. These are proof that you did the experiment and MUST be glued or inserted into the “results" section of the final report with a brief description of what you are doing.

- **Step 6: Record Results.**

You will need to enter and represent your data collected in a table/s and graph/s. You must include at least **5 trials and calculate the average.**

Step 7: Submit Depth Study Report on CANVAS.

Once you completed the Final Report you are required to submit on CANVAS before the due date.

Important to note:

- **8 periods** in class will be allocated – You MUST bring your Depth Study booklet to class on those days.
- Late submissions- You must submit an Illness Misadventure Form to Ms Young on date of your return to school.
- Work that is plagiarised will receive a mark of ZERO and will need to be resubmitted. By submitting on CANVAS it will go through a plagiarism check.
- Sources that have been used in your assignment need to be acknowledged in a reference list (Bibliography). You must include at least 3 sources, correctly referenced.

Computer malfunctions are not considered a valid excuse for submitting an assessment late. You can submit your Depth Study early and multiple times on CANVAS to check that it works.

Possible Investigations	**Possible Internet search ideas**
The chemical composition and properties of various drinks to find out which is best.	Cordial or fresh orange' which is best?
Least foaming shampoo/body wash/ different height of foam	What are bubbles? What is shampoo? What causes detergents to foam?
Which washing powder is most effective?	How do detergents work? What are fillers?
Which food preserving technique works the best on apples?	What different food preparation methods are there? Which methods are used commercially?
Which is the strongest brand of sticky tape?	What type of plastic and glue are used? Are there different grades industrial, offices, home?
Which brand of paper towel is most absorbent?	What makes materials more absorbent than others?
Which sanitary products are most absorbent?	What makes materials more absorbent than others?
Which detergent solutions blow the biggest bubbles/bubbling height	What are bubbles? Why do some last longer than others? Why do bubbles rise?
Does mass affect the swing time of a pendulum.	What is a pendulum? Where are they used? What makes it keep swinging? What affects how low it takes to swing?
Who can accelerate the fastest on a mountain bike? (Use an accelerometer app).	What is acceleration? How do mountain bikes work?
Which garbage bags are the strongest?	What is plastic? What are its properties eg thickness, colour how far can it stretch?
Does your height affect how high or how far you can jump?	Do taller people have longer muscles and leg bones?
Which disposable nappies absorb the most?	How do water absorbing materials work? How much can they absorb?
Which materials insulate the best?	What are the best insulators? What insulators are used for insulating rooves? How much energy is saved with insulation?
How does soil salinity affect the growth of plants?	What is salinity?
Comparing water samples from 3 different sources and determine which is the cleanest.	What is pH. Define turbidity, suspended solids, and dissolved solids.
How much water can different soils hold?	What are some common types of soil?
Which type of paper aeroplane flies the furthest?	How are different types of paper made? How do planes fly?

Assessment Criteria		
Grade	**Description**	**Mark Range**
Outstanding (O)	The student has an extensive knowledge and understanding of the content and can readily apply this knowledge. In addition, the student has achieved a very high level of competence in the processes and 79.5-100 % skills and can apply these skills to new situations.	**84.5-100**
High (H)	The student has a sound knowledge and understanding of the content and has achieved a good level of competence in the processes and skills.	**69.5-84**
Sound (S)	The student has a sound knowledge and understanding of the content and has achieved a good level of competence in the processes and skills.	**49.5-69**
Basic (B)	The student has a basic knowledge and understanding of the content and has achieved a basic level of competence in the processes and skills.	**27.5-49**
Limited (L)	The student has an elementary knowledge and understanding in a few areas of the content and still requires further work to achieve competence in the processes and skills.	**0-27**

Satisfactory completion of courses

A course has been satisfactorily completed, when the student has:

- Followed the course developed/endorsed by the NSW Educational Standards Authority (NESA)
- Applied himself/herself with diligence and sustained effort to the set tasks and experiences provided in the course.
- Achieved some or all of the course outcomes