



COONABARABRAN HIGH SCHOOL

ASSESSMENT NOTIFICATION

SUBJECT: Year 8 Science

TEACHER: 8S1 Ms Moore, 8S2 Mr Deasey, 8S3 Mr McHugh

TOPIC: Energy Transformations

WEIGHTING: 15%

DATE OF NOTIFICATION: Tuesday 25th June, 2019

DATE OF TEST: Thursday 1st August, 2019

Task:

Much of the energy produced in Australia is used within households. We are becoming more and more dependent on energy to maintain a good standard of living. This is placing pressure on the Earth's resources, particularly with the burning of fossil fuels to produce energy (95% of Australia's energy comes from non-renewable sources). This combined with the increasing cost of electricity means that architects and scientists are continually researching and developing ways to increase energy efficiency in the home.

In this task you will research the use of insulation in the home to increase energy efficiency and then design and conduct an experiment to compare the effectiveness of at least two types of insulation.

You may complete this task individually or in a group of up to 3 people.

Presentation:

You will submit your work in the form of a typed scientific report. (If you are working in a group, you will work together to write the report and only need to submit one copy)

Outcomes Assessed:

SC4-1VA, SC5-1VA appreciates the importance of science in their lives and the role of scientific inquiry in increasing understanding of the world around them

SC4-4WS identifies questions and problems that can be tested or researched and makes predictions based on scientific knowledge

SC4-5WS collaboratively and individually produces a plan to investigate questions and problems

SC4-6WS follows a sequence of instructions to safely undertake a range of investigation types, collaboratively and individually

SC4-7WS processes and analyses data from a first-hand investigation and secondary sources to identify trends, patterns and relationships, and draw conclusions

SC4-9WS presents science ideas, findings and information to a given audience using appropriate scientific language, text types and representations

SC4-11PW discusses how scientific understanding and technological developments have contributed to finding solutions to problems involving energy transfers and transformations

Scientific Report Format

Section	Description
Introduction (maximum 250 words)	This is where you will research the effect of insulation. <ul style="list-style-type: none"> - What is the purpose of insulation? - Where is insulation usually located in a house? - What types of insulating materials are commonly used? Give a brief description about each type and its benefits or problems associated with its use.
Aim	What is it you want to investigate?
Hypothesis	This is a clear statement predicting the outcome of the investigation.
Materials	A complete and accurate list of all the things used in the experiment
Risk Assessment	Identify hazards and outline how the hazards will be reduced (RIP table – Risk, Injury, Prevention)
Variables	Identify all variables - Independent, Dependent, Controlled
Method	This is a thorough and logical list of the steps taken to conduct the experiment. It should be written in past tense. Labelled diagrams are beneficial
Results	Results should be in the form of a table and a graph. Photographs of the experiment are beneficial.
Discussion	Define and discuss the validity, reliability and accuracy of your experiment. Explain the results/ trends and discuss any difficulties encountered when performing the experiment. Were any modifications made? Are there any further improvements that could be made? Relate your first hand investigation to the research that you conducted for your introduction.
Conclusion	Did your results support your hypothesis?
Bibliography	This is a list of sites that you looked at in your research

Marking guidelines

Name/s _____

	10-9	8-7	6-5	4-3	2-1
<p><i>SC4-11PW discusses how scientific understanding and technological developments have contributed to finding solutions to problems involving energy transfers and transformations</i></p>	<p>Research includes accurate, succinct and relevant information</p> <p>Introduction is within the 250 word limit</p>	<p>Research correct information on the topic within the 150-250 word limit or has accurate information but is outside the word limit</p>	<p>Includes some relevant information. May also include irrelevant information.</p>	<p>Research some information on the topic.</p>	<p>Gives one or two relevant facts; or Includes large amounts of information that has been copied.</p>
<p><i>SC4-4WS identifies questions and problems that can be tested or researched and makes predictions based on scientific knowledge</i></p> <p><i>SC4-5WS collaboratively and individually produces a plan to investigate questions and problems</i></p> <p><i>SC4-6WS follows a sequence of instructions to safely undertake a range of investigation types, collaboratively and individually</i></p>	<ul style="list-style-type: none"> • Writes a relevant and logical aim • Writes a hypothesis in the correct format • Outlines at least 3 ways to reduce the risk to themselves and others in a RIP table • Includes all correct variables (dependent, independent and controlled) • Lists all appropriate equipment • Describes a thorough and logical procedure for undertaking a controlled experiment to collect valid first hand data and is correctly formatted • Includes repetition in method • Includes diagrams appropriately and refers to them in text 	<p>Writes an appropriate aim in correct format</p> <p>Writes a hypothesis in the correct format</p> <p>Outlines 3 ways to reduce the risk to themselves and others in a RIP table</p> <p>Correctly identifies 2 variables</p> <p>Lists appropriate equipment</p> <p>Describes a logical procedure for undertaking a controlled experiment to collect valid first hand data and is in the correct format</p> <p>Includes repetition in method</p> <p>Includes diagrams appropriately</p>	<p>Chooses a topic and writes an aim that can be tested</p> <p>Writes a hypothesis</p> <p>Outlines 2 ways to reduce the risk to themselves and others</p> <p>Correctly identifies 1 variable</p> <p>Lists appropriate equipment</p> <p>Describes a procedure for undertaking a controlled experiment and is mostly in the correct format</p> <p>Includes some diagrams</p>	<p>Chooses a topic and writes an aim or a hypothesis</p> <p>Outlines a way to reduce the risk to themselves and others</p> <p>Attempts variables</p> <p>Lists some equipment</p> <p>Describes a basic procedure for undertaking a simple experiment</p>	<p>Chooses a topic and writes either an aim or a hypothesis</p> <p>Lists some equipment</p> <p>Makes an attempt to describe a basic procedure for undertaking a simple experiment</p>

	10-9	8-7	6-5	4-3	2-1
<i>SC4-7WS processes and analyses data from a first-hand investigation and secondary sources to identify trends, patterns and relationships, and draw conclusions</i>	Identifies trends, patterns and relationships in data and gives a correct and logical explanation of results. Assesses the validity, reliability and accuracy of the final experiment Discusses suitable modifications to the method and materials to improve the experiment Complete an accurate conclusion which states the findings, identifies the trends and justifies the results	Identifies trends, patterns and relationships in data. Explains some results. Describes how they ensured validity, reliability and accuracy of the final experiment Outline suitable modifications to the method and materials to improve the experiment Completes a conclusion which states the findings and identifies the trends or gives a reason for the result	Identifies some trends, patterns or relationships in data Identifies the suitability of the final method and materials used Outlines how validity, reliability and/or accuracy of the final experiment were achieved. Completes a conclusion	Identifies the suitability of the final method or materials used Makes an attempt at outlining validity, reliability and/ or accuracy of the final experiment Makes an attempts to write a conclusion	Writes a statement related to what the results show. Write a final statement related in some way to the experiment
<i>SC4-9WS presents science ideas, findings and information to a given audience using appropriate scientific language, text types and representations</i>	Accurately tabulate all results from the experiment and draw graphs to show trends and patterns <i>where possible</i> . Makes and records detailed observations and accurate measurements including appropriate units Write a full scientific report using the headings from the table on page 2 Accurately completes a bibliography with at least 5 resources	Accurately tabulate results and draws a graph to show trends and patterns <i>where possible</i> . Makes and records accurate observations and measurements and includes appropriate units Write a scientific report with 7-8 of the headings from the table on page 2 Accurately completes a bibliography with at least 4 resources	Attempts to tabulate results or graph results. Makes and records observations and measurements. Writes a scientific report with 5-6 of the headings from the table on page 2 Draws tables and graphs with some parts correct Complete a bibliography mostly correctly using at least 3 resources	Writes results Writes a scientific report with 3-4 of the headings from the table on page 2 Draws tables or graphs with one part correct Completes a bibliography with some parts correct using at least 2 resources	Includes a result Write a scientific report with 1-2 of the headings from the table on page 2 Presents results in any format Names a resource

Comments:

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