

Year 12 – 2023/2024
INVESTIGATING SCIENCE
M EAGLES



Task Number: 3
Weight: 30%

Notification Date: 4/12/23
Due Date: Thursday 25th July 2024
Must be handed in to Ms Eagles by 3.20pm.

OUTCOMES ASSESSED

INS12-1 develops and evaluates questions and hypotheses for scientific investigation
 INS12-2 designs and evaluates investigations in order to obtain primary and secondary data and information
 INS12-3 conducts investigations to collect valid and reliable primary and secondary data and information
 INS12-7 communicates scientific understanding using suitable language and terminology for a specific audience or purpose
 INS12-13 describes and explains how science drives the development of technologies
 INS12-14 uses evidence-based analysis in a scientific investigation to support or refute a hypothesis

TASK DESCRIPTION

Your portfolio needs to be a collection of work from across the course. The list below must be included but you may supply other evidence to help meet the marking criteria for each outcome. If other evidence is provided, you must include for which outcomes you wish for it to be assessed against.

TASK INSTRUCTIONS

The following must be included in your portfolio:

- From Assessment Task 1 – Aspirin Graph – your original attempt plus re-attempt of the graph (blank copies of the task are available)
- From Assessment Task 1 – van Helmont drawing based on the explanation - your original attempt plus re-attempt of the diagram (blank copies of the task are available)
- Biodot Practical
- Terrarium Practical
- Microwave Practical
- Are the Claims True? Practical
- Depth Study - Aspirin Practical
- A mind map of vaccination that include ethical, social, economic and political issues
- From Assessment Task 2 - A description of the impact on each ethics, political, social and economic on your topic area based on the information obtained from your articles and other research. You will need to expand on your original attempt.

Information for how each task will be marked can be found in the marking guidelines.

Teacher's signature: _____

M.Eagles

Head Teacher's signature _____

M.Eagles

Deputy Principal's signature _____

A. Lawrence

MARKING GUIDELINES

Outcome being Assessed						
<p>INS12-1 develops and evaluates questions and hypotheses for scientific investigation</p> <p>Tasks being assessed BioDot Practical Aspirin Practical</p>	<p>Section not answered or not present. (0)</p>	<p>Writes basic aims AND/OR hypotheses</p>	<p>Writes basic aims AND/OR hypotheses. Attempts to address either the aim of hypothesis in conclusions.</p>	<p>Writes aims and hypotheses. In conclusions, addresses whether the aim has been met using an explanation OR Evaluates hypotheses and attempts to rewrite based on their evidence.</p>	<p>Writes aims and hypotheses. In conclusions, addresses whether the aim has been met using an explanation. Evaluates hypotheses and attempts to rewrite based on their evidence.</p>	<p>Writes clear and comprehensive aims and hypotheses. In conclusions, addresses whether the aim has been met using an explanation. Evaluates hypotheses and writes modifications based on their findings.</p>
<p>INS12-2 designs and evaluates investigations in order to obtain primary and secondary data and information</p> <p>Tasks being assessed BioDot Practical Aspirin Practical Terrarium Observation</p>	<p>Section not answered or not present. (0)</p>	<p>Writes a basic method.</p>	<p>Writes procedures that follow the scientific method with some errors.</p>	<p>Writes procedures that follow the scientific method with some errors. In discussions writes an evaluation of the methodology and provides some ways the method could be improved</p>	<p>Writes procedures that follow the scientific method. In discussions writes an evaluation of the methodology and provides some ways the method could be improved</p>	<p>Writes procedures that follow the scientific method. In discussions writes an evaluation of the methodology and provides clear modifications to show how the method can be improved so to obtain reliable and valid data.</p>
<p>INS12-3 conducts investigations to collect valid and reliable primary and secondary data and information</p> <p>Tasks being assessed BioDot Practical Aspirin Practical Terrarium Observation Microwave Practical</p>	<p>Section not answered or not present. (0)</p>	<p>Attempts to show that they worked safely.</p>	<p>One of the following is shown – Evidence of employing safe working practices and management of risks. Uses appropriate techniques and/or technologies to ensure accuracy. Evaluates the techniques employed. Collects and organizes data into information sets relevant for the task.</p>	<p>Two of the following are shown – Evidence of employing safe working practices and management of risks. Uses appropriate techniques and/or technologies to ensure accuracy. Evaluates the techniques employed. Collects and organizes data into information sets relevant for the task.</p>	<p>Three of the following are shown – Evidence of employing safe working practices and management of risks. Uses appropriate techniques and/or technologies to ensure accuracy. Evaluates the techniques employed. Collects and organizes data into information sets relevant for the task.</p>	<p>Evidence of employing safe working practices and management of risks. Uses appropriate techniques and/or technologies to ensure accuracy. Evaluates the techniques employed. Collects and organizes data into information sets relevant for the task.</p>

<p>INS12-7 communicates scientific understanding using suitable language and terminology for a specific audience or purpose</p> <p>Tasks being assessed AT1 – Aspirin Graph AT1 – van Helmont Drawing Vaccination Mind map</p>	<p>Section not answered or not present. (0)</p>	<p>Some skill development is shown in the re-attempt of van Helmont diagram and Aspirin Graph.</p>	<p>Some skill development is shown in the re-attempt of van Helmont diagram and Aspirin Graph. Mind map on vaccination has been attempted.</p>	<p>One of the following are shown – Select and use suitable forms of digital, visual, written and/or oral forms of communication. Select and apply appropriate scientific notations, nomenclature and scientific language to communicate in a variety of contexts Construct evidence-based arguments to evaluate an argument or conclusion.</p>	<p>Two of the following are shown – Select and use suitable forms of digital, visual, written and/or oral forms of communication. Select and apply appropriate scientific notations, nomenclature and scientific language to communicate in a variety of contexts Construct evidence-based arguments to evaluate an argument or conclusion.</p>	<p>Select and use suitable forms of digital, visual, written and/or oral forms of communication. Select and apply appropriate scientific notations, nomenclature and scientific language to communicate in a variety of contexts Construct evidence-based arguments to evaluate an argument or conclusion.</p>
<p>INS12-13 describes and explains how science drives the development of technologies</p> <p>Tasks being assessed AT2 A description of the impact on each ethics, political, social and economic on your topic</p>	<p>Section not answered or not present. (0)</p>	<p>Attempts to describe how science drives technology</p>	<p>Attempts to describe and explain how science drives technology.</p>	<p>Writes clear descriptions and explanation of how science has driven the development of scientific technologies. Response includes some mistakes.</p>	<p>Writes clear descriptions and explanation of how science has driven the development of scientific understanding, inventions or technologies.</p>	<p>Writes clear and comprehensive descriptions and explanation of how science has driven the development of scientific understanding, inventions or technologies.</p>
<p>INS12-14 uses evidence-based analysis in a scientific investigation to support or refute a hypothesis</p> <p>Tasks being assessed Are the Claims True?</p>	<p>Section not answered or not present. (0)</p>	<p>Attempts to analysis hypotheses.</p>	<p>Analyses hypotheses and attempt to use results to support or refute.</p>	<p>Analyses hypotheses and attempt to use investigation results and secondary information to support or refute.</p>	<p>Uses some scientific data and information to evaluate hypothesis. Attempts to use evidence to support or refute the hypothesis.</p>	<p>Uses some scientific data and information to evaluate hypotheses. As a result of the evidence to support or refute the hypothesis.</p>

Task Mark	Task Rank	Cumulative Rank

Comment

Teacher signature _____

Date _____