ORANGE HIGH SCHOOL

ASSESSMENT TASK

Assessment 1 - Planning and Conducting a First-Hand Investigation

Part 2: Conducting an Investigation/Scientific Report

Conduct the investigation you designed in Part 1. Present and analyse the information, results and data that you have collected from your investigation in a Scientific Report (Use the table below to help you complete a Scientific Report)

Scientific Report Format

Section	What needs to be included in this section?
Title	• What is the name of the investigation?
Results	• Put the results in a **table.** • **Label each column** with appropriate headings and units. • Show ALL results in the table. • Calculate the average for the results and put in a column in the table.
	• Present the results in an appropriate **graph** for the data collected. • Make sure there are correct scales and labels on each axis on the graph. • Put a cross when plotting the data (results) • Always include a straight or curved line of best fit in the graph
Discussion	This should be the main part of the report. The discussion is where you analyse the results of the experiment AND evaluate the effectiveness of the investigation (e.g. was it a fair test?) **In a discussion you should always include the following paragraphs:** <u>Paragraph 1:</u> Interpret the results from the investigation (what you think happened) • What where the main findings from your investigation? *This mean you have to identify what your results show you.* • Give specific examples from the data, results or your graph. • What do these results mean? *How is your heart rate linked to exercise* • How do your results link to your research on the topic or to what you already know about the topic? • Is there a real world application for your results? *How do you think you or others could use the results you have found* <u>Paragraph 2:</u> Assess (make a judgement about) the reliability (get the same results every time) of the investigation • Make a judgement about the reliability of the results. (*Could you give your investigation to someone else and they will get the same results?*) • How do you know your results are reliable*? (Give specific examples from your investigation)* • How do your results compare with other scientist research or results

	<u>Paragraph 3:</u> Evaluate the investigation and discuss if it was a fair test. • Make a judgement about whether the investigation was a fair test. • How do you know if it was a fair test? • What variable did you change? • What variables did you control *(keep the same)* and how did you control them? • What problems did you have with your investigation that may affect whether it was a fair test?
Conclusion	• A clear summary statement of the main results from your investigation. • How did the **changed variable** (the one thing you changed) affect the **measured variable** (the one thing you measured)? Be specific and give examples from your results. • Did your results support or disprove your hypothesis? Make sure you refer to your hypothesis in your conclusion.

Reflection	What could you do to improve this experiment to make it of better quality? *Explain why this would be an improvement.*

Extension	Briefly describe another experiment you could perform that relates to the conclusion you have made in your experiment.

Part 2 – Scientific Report: Marking Rubric:

Criteria:	Outstanding (A)	High (B)	Sound (C)	Basic (D)	Limited (E)
Results – Table (SC4-7WS)	– Presented in an appropriate table – Has appropriate headings and correct units – No units present on the data in the table (in heading only) – Averages included and correct – Neatly presented and at an extensive level. **5 marks**	Any 4 of the previous at thorough level. **4 marks**	Any 3 of the previous at high level. **3 marks**	Any 2 of the previous at basic level. **2 marks**	Any 1 of the previous at elementary level. **1 mark**
Results – Graph (SC4-7WS)	– Presented in an appropriate graph for the data collected – Correct scales – Axis' are labelled correctly – Units included on the correct axis' – Data plotted correctly and at an extensive level. **5 marks**	Any 4 of the previous at thorough level. **4 marks**	Any 3 of the previous at high level. **3 marks**	Any 2 of the previous at basic level. **2 marks**	Any 1 of the previous at elementary level. **1 mark**
Discussion – Section 1 (SC4-7WS)	– A summary of the main findings of the investigation given, including trends. – Results are interpreted and specific examples from the data given – Results link to research on the topic. – Real world applications discussed for the results? – Scientific terms used and at an extensive level. **5 marks**	Any 4 of the previous at thorough level. **4 marks**	Any 3 of the previous at high level. **3 marks**	Any 2 of the previous at basic level. **2 marks**	Any 1 of the previous at elementary level. **1 mark**
Discussion – Section 2 (SC4-7WS)	– A judgement about the reliability of the investigation is given. – How/how not explained in terms of reliability? – Explanation of what makes an investigation (any) reliable? – Specific examples from the investigation to support the assessment of the reliability of the results given. – Scientific terms used and at an extensive level. **5 marks**	Any 4 of the previous at thorough level. **4 marks**	Any 3 of the previous at high level. **3 marks**	Any 2 of the previous at basic level. **2 marks**	Any 1 of the previous at elementary level. **1 mark**
Discussion – Section 3 (SC4-7WS)	– A judgement about whether the investigation was a fair test? – Explains if investigation was a fair test? What makes an investigation a fair test? – Explains what variables are controlled and how they were controlled – Problems with the investigation discussed and linked to the investigation as a fair test. – Specific examples from the investigation to support the assessment of the results as a fair test and scientific terms used and at an extensive level. **5 marks**	Any 4 of the previous at thorough level. **4 marks**	Any 3 of the previous at high level. **3 marks**	Any 2 of the previous at basic level. **2 marks**	Any 1 of the previous at elementary level. **1 mark**

Discussion – Section 4 (SC4-7WS)	– Explains if results match with other scientists' research – Explains how they were similar or different, – Specific examples used – Explains how the results can be used in society or by other scientists – Scientific terms used and at an extensive level. **5 marks**	Any 4 of the previous at thorough level. **4 marks**	Any 3 of the previous at high level. **3 marks**	Any 2 of the previous at basic level. **2 marks**	Any 1 of the previous at elementary level. **1 mark**
Conclusion (SC4-9WS)	– Summary statement of the main results from the investigation. – How did the independent variable affect the dependent variable? – Examples given from results. – Explains if results support or disprove the hypothesis? – Scientific terms used and at an extensive level. **5 marks**	Any 4 of the previous at thorough level. **4 marks**	Any 3 of the previous at high level. **3 marks**	Any 2 of the previous at basic level. **2 marks**	Any 1 of the previous at elementary level. **1 mark**
Reflection				– Strategy listed – Explains why this would improve experiment **2 marks**	– Strategy listed (with no explanation) **1 mark**
Extension			– Describes appropriate experiment and/or change to variables – Predicts results of this change – Connects to original experiment **3 marks**	– Describes appropriate experiment and/or change to variables – Predicts results of this change OR connects to original experiment **2 marks**	– Describes appropriate experiment and/or change to variables (no explanation or connection to original) **1 mark**

Feedback:

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Total:

/35 Marks