Names: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Due Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**2023 Year 12 Integrated Science – Unit 4**

**Task 12: Chemical Reactions in the Body**

**Weighting: 10% Duration: 3 Lessons plan & conduct, 1 Lesson Validation**

**Plan & Conduct marks:**

**Task:**

You will be given “Alcohol impairment goggles” and will have three periods to plan and conduct an experiment that assesses the alcohol’s impact on your “driving”.

You should test a skill with and without the goggles. Choose a skill that would impact your driving, for example, hand/eye coordination, reaction time or memory. Consider how easy it is to assess the skills. Make sure you accurately assess the skill was performed ‘well’ or ‘not well’. Skills that you can measure quantitatively (with numbers i.e. time/number etc.) will be easier to assess.

**PLAN:**

What is the aim of this experiment? (1 mark)

What are the variables? (4 marks)

Independent Variable:

Dependent Variable:

Two Controlled Variables:

Write a suitable hypothesis for this experiment. (2 marks)

Discuss three safety measure that need to be considered when running this experiment (6 marks)

1:

2:

3:

List the materials you will need to conduct your experiment (include clear quantities) (3 marks)

|  |  |
| --- | --- |
| * 1x alcohol impairment goggles |  |

Write a detailed, step by step method for this experiment. (ensure it is clear enough for someone else to follow) (3 marks)

**CONDUCT:**

Use the method outlined above to conduct your investigation.

Use the space below to collate your data (draw a table before conducting the experiment)

**DISCUSSION:**

Discuss your results. How did the “Alcohol impairment goggles” impact the person’s skills? (3 marks)

Relate your findings to the research you conducted in the pre-lab questions. Do your findings support your research? Why/why not? (3 marks)

Were there any errors or faulty data collected during this experiment? Discuss how you would improve this investigation. (2 marks)

Based on your research and investigation, explain why there are restrictions on consuming alcohol and driving. Support your answer with evidence. (3 marks)

References: (2 marks)