**GENERAL INTEGRATED SCIENCE Unit 4**

**TASK 7 – Investigation into what stops cut apples going brown**

**Task Type : Science Inquiry**

**NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ WEIGHTING: %**

**MARK: \_\_\_\_\_ / = \_\_ %**

**TASK**

**This task is divided into two parts.**

Part 1 : Carry out research into why apples go brown when they are cut. **10% of marks**

Part 2 : Design an experiment to test which substances will be most suitable for preventing the apples from going brown when cut based on your research.

Part 3 : Produce a report to show your findings. (part 2 & 3) **90% of marks**

**Part 1 - 10 marks**

You have 30minutes to research why apples go brown when they are cut with a knife. From this information, you are to predict which substances will be most suitable to prevent the browning, stating why, and which would be not suitable.

**Part 2**

You have 30 minutes to design an experiment to test your theory about which substance would be most suitable to prevent apples from going brown when they are cut. At the end of the lesson you will have an **equipment list** for the laboratory technician to prepare for your experiment. Marks for this part included in the scientific report.

**Part 3**

You have a double period (2 hours) to carry out your experiment and produce a scientific report containing what you have done, your results and your conclusion.

**Equipment available**

Computer for research

1 apple, knife and chopping board

Plates/beakers/watch glasses/paper cups for your apple slices

Various substances/solutions etc that you have requested for your experiment

**In your scientific write up you must have the following: Part 2 & 3 - Total marks 26 marks**

* A hypothesis 2 marks
* Independent and dependent variables with details 4 marks
* Controlled variables 3 marks
* Equipment list 2 marks
* A step by step method 3 marks
* Results recorded in a table 3 marks
* A discussion which will include:
* the trends that are shown in your results 2 marks
* the trends linked to the science/information you researched 3 marks
* analysis of how reliable your experiment was and suggestion of

how the experiment could be improved 2 marks

* A conclusion linking your results to your hypothesis 2 marks

**Part 1 - 10 marks**

You have 30 minutes to research why apples go brown when they are cut with a knife. From this information, you are to predict which substances will be most suitable to prevent the browning, stating why, and which would be not suitable.

1. Why do apples go brown when they are cut with a knife?
2. What substances can be used to prevent apples from going brown?
3. Choose two of these substances and explain why they prevent browning
4. What substances can be used to prevent apples from going brown, but aren’t suitable or practical to use?

**Part 2 – 14 marks**

You have 30 minutes to design an experiment to test your theory about which substance would be most suitable to prevent apples from going brown when they are cut. At the end of the lesson you will have an **equipment list** for the laboratory technician to prepare for your experiment. Marks for this part are included in the scientific report.

1. Independent variables, with details about how much, what kind etc.
2. Dependent variable and how you will be measuring it
3. Controlled variables – what will you be keeping the same? How are you making sure they will stay the same?
4. Equipment list
5. Step by step method

**Part 3 – 12 marks**

You have a double period (2 hours) to carry out your experiment and produce a scientific report containing what you have done, your results and your conclusion.

1. Results table
2. Describe the trends shown in your results
3. Explain how these trends relate to the information you found in your research
4. Explain whether your experiment was reliable
5. Explain how your experiment could be improved
6. A conclusion linking your results to your hypothesis