Learning Outcomes:

Nature of Science	Students should be able to organise and communicate their research and investigative findings in a variety of ways fit for purpose and audience, using relevant scientific terminology and representations
Biological Science	Students should be able to investigate the structures of animal and plant cells and relate them to their functions
Physical World	Students should be able to select and use appropriate measuring instruments

Task

You are a scientist working in the lab in Boston Scientific in Galway, and you have been given three samples. Your job is to investigate the three samples. Your goal is to determine whether the samples are from living organisms. If they are, determine how many and what types of cells are present.

Design your investigation:

1. Observation
2. Hypothesis
3. Experimental Method
4. Results
5. Conclusions
6. Compare your findings with other group

1. Consider the materials you will require. Make a list and check with your teacher.

Apparatus which we require:

2. Make a list of steps that you will take to meet the goals of your investigation.

Think about the following questions as you make your list.

- What questions are you trying to answer?
- What characteristics will you use to classify each sample as a living organism or non-living thing?
- Make careful observations of each of the samples. Record your observations.

My Observations

- Analyse your data.
- Answer the questions you identified at the beginning of the investigation.

3. Communicate the results of your investigation to your co-workers in Boston Scientific.

Write a memo that includes your conclusions and the evidence that supports them.

Success Criteria for the Memo:

- Revisit the steps of your investigation. Did your investigation allow you to successfully answer the questions?
- Why or why not?
- What equipment was most useful during your investigation? Explain your answer.
- How could you improve your investigation in order to collect more evidence?

- Write a list of characteristics that someone who is not a scientist could use to determine whether an object: —is living or nonliving? —is made of one or many cells? —contains one type of cell or many types of cells?

My memo to my co-workers which outlines my findings and the findings of others: