

Waste Breakdown Experiment - Option A.

Option A: Design your own experiment

The aim of this activity is to design an experiment to test the hypothesis: *Household plastic waste decomposes at different rates in our environment.*

Tips:

- You could test the decomposition rates of one type of household waste under different conditions that you might find in nature, such as water, sunlight or buried in the earth.
- You could test the decomposition rates of varied types of household waste under one condition found in nature, such as water, sunlight or buried in the earth.
- You could test the decomposition rates of varied types of household waste under multiple conditions found in nature, such as water, sunlight or buried in the earth.

Parameters:

- You must test both hard and soft plastics (check with your teacher what other items you might also need to test).
- You must design your experiment to meet the resources available to you at your school (e.g. if you can't access sea water, can you find out how to replicate sea water and include this in your design?).
- The experiment will need to be conducted in class time; however, conducting this experiment will likely take several months as you will need to plan to revisit your waste items at several points during this time.
- Consider your class waste safety code before handling any waste.

Other considerations:

- What do you predict will happen in your experiment? Explain and justify.
- Will the experiment include pre and post testing? If so, what will it look like?
- How will data be collected and analysed?
- Decide and justify what a good measure of decomposition in the waste items would be, e.g. colour, brittleness, breaking up.

Once complete:

- Explain the results of this experiment in your own words. In addition, explain:
 - How your results compared with your hypothesis
 - How your results compare with your predictions
 - Explain why you think some types of waste broke down faster than others.
 - Which results of this experiment are you surprised by?
 - How would you improve this experiment if you were to repeat it?
- Based on the results of your investigations, what recommendations would you make about waste?
- What does this experiment suggest about the things that we use in our lives and how it might impact on the natural environment?
- How will you communicate your findings? Create graphs or charts to share what you found out through this experiment.