

## For teachers

### Activity Overview

Students are expected to write a lab report about the decomposition of plastics and biodegradable products.

The whole experiments will take approximately 2 weeks. Students will be able to design an experiment that requires both observations and data analysis.

### Materials

- plastic bag
- wheat flour
- a plastic bowl
- cup of water
- two containers with fertile soils

### Instructions

First, pour wheat flour into the plastic bowl. Pour in water and mix them until the dough becomes hard enough. Flatten out the dough and make it into a shape that looks like a spoon or fork.

In each of the container that contains fertile soils, put plastic bag and 'edible cutlery' respectively.

Leave them for one week. Take out plastic bag and edible cutlery and observe. Write down any physical changes on the data sheet.

Repeat this for the second week.

### Expected outcomes

the hypothesis 'If plastic bag and biodegradable product is kept in fertile soils for same period of time, plastic bag will show more drastic physical changes than the biodegradable products' should be accepted and students should be able to relate this with their observations.

For students

## **Decomposition of biodegradable products vs. plastics**

### **Introduction**

Edible cutlery refers to cutleries that are made using a mix of millets, rice, and wheat flour. Since it is made out of natural ingredients, it is biodegradable and has relatively short half-life. Most of the edible cutleries available in the market even come with different flavors, such as sweet, spicy, or minty, in order to match the food they are serve with.

On the other hand, plastics are non-biodegradable because they are made out of toxic and chemical components.

### **Objective**

Students are expected to write a lab report about the decomposition of plastics and biodegradable products.

The whole experiments will take approximately 2 weeks. Students will be able to design an experiment that requires both observations and data analysis.

### **Hypothesis**

If plastic bag and biodegradable product is kept in fertile soils for same period of time, plastic bag will show more drastic physical changes than the biodegradable products.

### **Methods and Materials**

#### **Materials**

- plastic bag
- wheat flour
- a plastic bowl
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- two containers with fertile soils

### **Instructions**

First, pour wheat flour into the plastic bowl. Pour in water and mix them until the dough becomes hard enough. Flatten out the dough and make it into a shape that looks like a spoon or fork.

In each of the container that contains fertile soils, put plastic bag and 'edible cutlery' respectively.

Leave them for one week. Take out plastic bag and edible cutlery and observe. Write down any physical changes on the data sheet.

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**Data and Observation**

	Plastic bag	Edible cutlery
Week 1		
Week 2		

**Analysis of Data**

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**Conclusion and Discussion**

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