



# Natural Plastic

## Grade Levels: 4-6

### Background

Plastics are materials that we use every day. You probably can look around the room and point to several items that have plastic in them or on them. Many of the plastics we use today are made from petroleum, or oil we drill from the earth. Making plastics uses energy. Plastics are useful because they can be very strong. Do plastics decompose as quickly as natural materials?

### Questions

Can you make your own natural plastic?

Does natural plastic decompose better than petroleum-based plastic?

### Possible Hypothesis

\_\_\_\_\_ plastic decomposes better than \_\_\_\_\_ plastic.

### Materials

- 2 Glass jars
- 4 ounces (120 ml) Whole milk
- Teaspoon of vinegar
- Pot and stove
- Plastic spoon
- Plot of soil

### Procedure

1. Pour the milk into the pot and boil it until it separates into soft masses called curds and clear liquid. Slowly pour the liquid into one glass jar and spoon the curds into the other.
2. Add the vinegar to the curds and allow the mixture to sit for two hours. The mixture will turn into a solid yellowish mass. Pour off any liquid.
3. Knead the mass into a dough, mold it into a spoon and place it on waxed paper to dry overnight.
4. Compare your spoon to the plastic spoon. Record your observations.
5. Bury both spoons in a plot of soil. After two weeks, dig up the spoons and observe any difference.



### \*\* Analysis and Conclusion

How did the plastics compare to each other before and after burial? Do some research on the cost to make natural plastic compared to petroleum-based plastic. What are some pros and cons to using natural plastic?