

What is Plastic Made From?

Name: _____

Date: _____

Student worksheet

Word Bank

Chain

Cross-linking

Natural polymer

Polymerization

Chemical
reaction

Molecule

Plastic

Synthetic
polymer

Monomer

Polymer

1. Before the experiment

- a. Describe in your own words what a polymer is. Use some words from the word bank when writing your answer. Make a diagram of a polymer to accompany your description.

2. During the experiment

- a. Describe the properties of your reactants.

Milk:

Vinegar:

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- b. What happened when you added the vinegar to the hot milk? Write down your observations.
- c. How does the product of your reaction, the curd, feel? Did its consistency change over time while kneading? Write down your observations.
- d. What does your final casein-plastic object look like? Describe some of its properties below.
- e. Look at your answers for 2a and 2d. How did the properties of milk and vinegar—your starting materials for the plastic production—change during the polymerization reaction?

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3. After the experiment

- a. In three to five sentences, write down how you think the invention of plastic has changed the world.
- b. How could the negative impacts of plastic be reduced? List at least three ideas.