



Milk Plastic

PLAN

- Decide as a Troop how long you will collect plastic waste. All plastic waste should be clean and dry.
- Help Scouts investigate local recycling policies.
- Consider how Scouts will heat their solutions. Fuel stoves must be used outside only.
- Hot plates, stoves, pots and glassware will get very hot. Take proper precautions to prevent burns and familiarize yourself with burn treatment.

DO

Activity #1: Weighing the plastic waste

- Plastics are mostly made of petrochemicals, including coal and crude oil.
- Bioplastics are plastic materials made from a renewable biomass source such as vegetable oil or cornstarch. Some bioplastics are biodegradable in industrial composting facilities.

Activity #2: Creating the plastic

- The thicker the form, the stronger it will be.
- Youth can take the product home to dry out. Scouters should have an example already completed to show them the end result.

SOME BACKGROUND INFORMATION ON BIOPLASTICS

- Adding acid (vinegar) to the milk causes the milk protein molecules to unfold and reorganize in a long chain to create the solid bioplastic called casein.
- Generally, bioplastics do not produce a net increase in carbon dioxide gas when they break down, as the plants that were used to make them absorbed the same amount of carbon dioxide during their life.
- Bioplastics may need specific conditions in order to biodegrade.

SUGGESTED TIMING

- Introducing the problem – 10 minutes
- Weighing the plastic waste – 20 minutes
- Creating the plastic – 20 minutes
- Review – 20 minutes

