Treasure Hunt

Suggested Age: 5-7
Time: 20 minutes

This activity is an introduction to polymers. The word "poly" comes from the Greek word "many," and "mer" means parts. All polymers are made of small repeating molecules, called monomers. Polymers are made of many long chain-like molecules which align together or twist into various shapes. Polymers have a long-chain, sheet-like, or even three-dimensional shape. How the molecules and chains bond can result in a variety of properties. The chains can become connected through cross-linking when molecules in one chain form chemical bonds with molecules in another chain. This can result in the formation of holes or pores.

In this activity we will:

- Recognize that many household items are polymers.
- Learn about polymers and then apply the information through observation.

Activity

1. This project will begin by completing the Polymer Word Search. In the puzzle, you will be searching for words that describe different types of polymers. Many of these objects can be found around your house. When you are done with the puzzle, see how many you can find. There may also be some polymers around your house that are not on the list which you may add to the list!

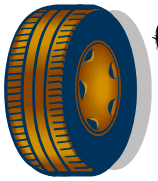
2. After you find polymers around the house, examine them carefully and discuss similarities and differences in each of the items. Then, find the recycling codes on each of the objects. Recycling codes are commonly found on the bottom or on the side of polymers. After you find the codes, make a list of how many you have of each recycling code. Using the list provided, read about each of the polymers.

3. Many of the polymers you have found are synthetic polymers and can be recycled. Some examples of man-made polymers include: milk containers, grocery bags, food wrap, squeeze bottles, toys, soft-drink bottles, water bottles, coolers and disposable dishware.

Polymer Word Search

S E L S I L L Y P U T T Y H V
T D A V D C N Y L O N H B E A
A M I L K O H Y C O T T O N R
R B A Y L M V A R N I S H G N
C O L H E P L A S T I C S D I
H T U P A A C C A U L K L J S
N I N B T C B R P H I C Z E H
B R C O H T A Y W O L Y S Z R
W E H T E D L L A N L E M E H
L W B C R I L I X A E Y U L K
X M O D D S O C O H S Q M C S
C G X R V K O O C D C W N E J
J N A P K I N S K A T O B Y R
G E L A T I N Z L H P O G S Y
R R U B B E R F J D O L A T G
E U T T G E K I F S L F S Y U
R M G K L G Y B R I Y P O R M
A B M L T P G E I L E A L O M
S R Q E U Y R R S K S I I F Y
E E W R J E A G B A T N N O W
R L A R K U Y L E O E T E A O
I L Y D T V O A E N R X D M R
W A M I O S N S Q Z I S H P M
Y R I K S A J S T N J S V B S
B V J A C T I O N F I G U R E
V S I X P A C K R I N G S S G

ACRYLIC
ACTIONFIGURE
BALLOON
CHEESE
CAULK
COMPACTDISK
COTTON
ERASER
FIBERGLASS
FRISBEE
GASOLINE
GELATIN
GLUE
GUMMYWORMS
LACQUER
LEATHER
LUNCHBOX
MILK
NAPKINS
NYLON
PAINT
PLASTICS
POLYESTER
POLYMER
RAYON
RUBBER
SILLYPUTTY
SILK
SIXPACKRINGS
STARCH
STYROFOAM
TIRE
UMBRELLA
VARNISH
WAX
WOOL



PET/PETE - Polyethylene Terephthalate: most widely recycled plastic
Properties: containers have a tough, slick surface, are semi-rigid and are hard to scratch, floats in water.
Products: soda and water bottles, cooking oil bottles, peanut butter jars, boil in food pouches and sometimes used in carpet fill.

HDPE - High Density Polyethylene
Properties: slightly waxy, semi-rigid to flexible, does not crack when bent and floats in water.
Products: milk, cider, and water jugs, detergent, fabric softener, and bleach bottles, grocery bags, motor oil.

PVC/V - Polyvinyl Chloride
Properties: tough, smooth, and forms a white line when bent, it is semi-rigid, scratches easily, and sinks in water.
Products: used in salad dressing, vegetable oil, floor polish, and mouthwash bottles

LDPE - Low Density Polyethylene
Properties: slightly waxy, flexible, and it stretches, it floats on water.
Products: used in flexible bags for dry cleaning, trash, produce and bread, shrink wrap, and 6-pack rings.

PP – Polypropylene
Properties: smooth, semi-rigid, and does not scratch, floats in water.
Products: drinking straws, battery cases, some dairy tubs, bottle labels and caps, and rope.

PS – Polystyrene, EPS – Expanded Polystyrene
Properties: slick, smooth, surface and cracks when bent; PS sinks in water and EPS floats in water.
Products: packaging peanuts, plastic utensils, meat and egg trays, vitamin bottles, and some carry-out containers.

Other
Other plastics are most often made of multiple layers of different types of plastics. These may include microwavable packages, snack bags, and many industrial plastics. These items are difficult to recycle and alternatives should be sought.

Polymer List

Polymer Name	Number of Items	Recycling Code