

# CHM 165

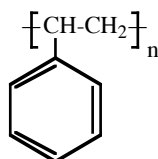
## Shrinky Dinks®

### Objective

The purpose of this activity is to investigate the properties of a common polymer.

### Introduction

Plastics are composed of polymers – large molecules containing small units called monomers that are linked together (the prefix *poly-* means *many* and the prefix *mono-* means *one*). A polymer called polystyrene (the monomer is pictured below) is used in various consumer products such as plastic cups, deli containers, and styrofoam cups. If polystyrene is heated and stretched into sheets or films, and then allowed to cool, it will remain in this stretched state. If heat is later reapplied to the stretched polymer it will “remember” its original shape.



Styrene Monomer

### Directions

In this activity you will obtain a piece of a #6 plastic container or Shrinky Dink®, draw a design or picture on the plastic, and place the plastic in an oven:

- 1) **Cut out.** Use standard scissors to cut shapes out of #6 plastic (designer scissors or manicure scissors may also be used). A hole-punch may be used if you would like to make a key chain; holes will shrink too, so punch two or three overlapping holes.
- 2) **Draw picture.** Use permanent markers and/or colored pencils (acrylic paints or alcohol-based permanent stamping ink may also be used) to draw on the plastic.
- 3) **Bake.** A toaster oven or a conventional oven both work (but not a microwave oven). Place the plastic, **colored side up**, on brown paper or parchment paper or aluminum foil inside a 325°F oven for 1-3 minutes until the piece lies flat (curling is expected), and then allow an additional 30 seconds of baking. Remove the paper holding the plastic and press lightly with a towel to flatten the plastic if desired.

