

# RAFT IDEAS

**Topics:** Art Objects & Media, Properties of Materials

## Materials List

- ✓ Plastic food lids (# 6, polystyrene) or Shrink plastic
- ✓ Permanent markers
- ✓ Colored pencils
- ✓ Potholder
- ✓ Foil
- ✓ Toaster oven or regular oven
- ✓ Optional: extra-fine sand paper, hole punch, rubber stamps

This activity can be used to teach:

- Experiment w/ forms, structures & materials (National Visual Arts Standards: Creating, Grades 4-8)

Next Generation Science Standards:

- Structure of matter (Grade 5, Physical Science 1-1)
- Properties of materials (Grade 5, Physical Science 1-3)



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## Shrink Art



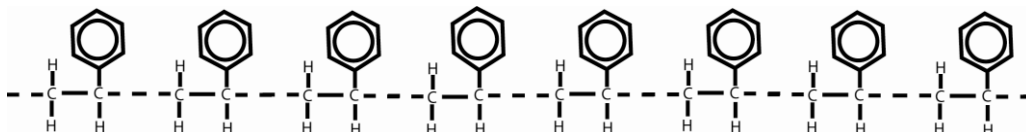
Create beautiful, fun art objects by drawing designs on shrink plastic, and then watch them get smaller... smaller... smaller.

## To Do and Notice

**NOTE:** If the plastic doesn't take your pencil, pens, or stamp pad ink, lightly sand one side of the plastic surface with extra-fine sandpaper in both directions before decorating.

1. Put a design on the plastic by:
  - **Drawing**, using colored permanent markers or colored pencils
  - **Tracing** a picture and coloring it in with a permanent marker and/or colored pencils
  - **Rubber stamping**: With permanent ink and crafter's inkpad
2. Create a charm, keychain, or other art object with a hole, use a regular 6mm (1/4") hole punch to **punch the hole before heating!** Use ordinary household scissors to cut out special shapes as well, also **before heating**.
3. Shrink the plastic:
  - ✓ Place design on a piece of aluminum foil into a toaster oven or regular oven set at 120°C – 135°C (250°- 275°F) [It's fun to watch it shrink in a toaster oven!]
  - ✓ For small pieces, a heat gun can also be used to do the shrinking.
  - ✓ Depending on the oven, the design will start shrinking in 25-30 seconds.
4. The plastic will shrivel and eventually flatten out. It is done when it gets **flat**.
5. Take it out and flatten with a potholder until it cools.  
If your piece is not completely flat, put it back into the oven.

## The Science Behind the Activity



Shrink plastic (recycle #6) is made of polystyrene, a transparent, rigid, and brittle organic polymer. Polystyrene's properties make the plastic a choice material for disposable food trays and foam packing material. Polystyrene polymers are stretched during processing and solidify in this stressed state. Heating returns the molecules to their smaller, non-stressed state. Teachers should note that matter and mass are maintained although the two dimensions (length and width) of the plastic rectangles get smaller. During the shrinking process, the thickness of the plastic increases, while mass is always conserved.

**Taking it Further** Turn your shrunken art into fantastic creations: Sun Catchers, Pins, Magnets, Key Chains, Ornaments, Greeting Cards

**Web Resources** - (Visit [www.raft.net/raft-idea?isid=379](http://www.raft.net/raft-idea?isid=379) for more resources!)

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