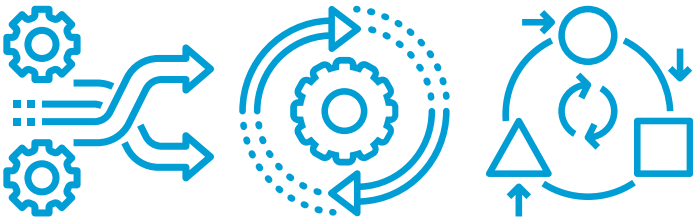


## ACTIVITY 4: TRANSFORMING PLASTIC INTO PRODUCTS



The purpose of this experiment is to teach students about recycling and how plastic can be transformed into a different product.

### **Materials:**

- HDPE (high-density polyethylene) or LDPE (low-density polyethylene) plastic bottles (e.g., milk jugs, juice bottles, squeezable ketchup bottles, or sports drink bottles)
- Scissors
- Glass beaker
- Hot mitt or beaker tongs
- Hot plate
- Wooden craft sticks
- Silicone mold of any shape (can be purchased online or at a craft store)

First, inform students that they will be working with a group to model the plastic recycling process by taking plastic containers, melting them down, and using the plastic melt to produce a new plastic product. Have students form their groups and distribute the plastic containers to each group. Have them remove any labels, stickers, lids, rings, or paper that remains on the containers.

### **Teaching Tip:**

Practice this process on your own before trying out with your student group, so that you can see what pointers you'll need to give them when they perform the experiment.

### **Procedure:**

Next, groups should follow these steps:

1. Cut the plastic into small pieces using scissors. Make sure that the pieces are roughly the same size.
2. Preheat the beaker on the hot plate for a few minutes on a level 5/10.
3. Place the plastic pieces into the beaker and heat them until they melt completely. Stir the plastic with a wooden stick to ensure that it melts evenly.
4. Once the plastic has melted, carefully, using hot mitts or beaker tongs pour the plastic into the silicone mold. Fill the mold to the top and smooth the surface with the wooden stick.
5. Let the plastic cool and solidify in the mold for about 10-15 minutes. To accelerate the cooling and solidification, you can place the mold on an ice pack (optional)
6. Once the plastic has hardened, carefully remove the newly formed plastic pencil from the mold.

Then, after students have transformed a plastic bottle into a new product, have them display their new products for everyone to see. Give students time to go around and see the different products and to make some observations about them.

Last, engage the whole class in a discussion about how the different products turned out and whether there were differences based on the types of plastic used in the process.