

Chromatography T-Shirts

Materials Needed:

1 man-sized T-shirt/undershirt per girl, washed and dried before the session.

Permanent Markers

Eye droppers

91% Isopropyl alcohol (available at pharmacies)

Clothes hangers for carrying the shirts home

Cardboard

Newspapers

Goggles

A well-ventilated wet/dry area



To Make the T-Shirts:

1. Cover the tables with newspaper.
2. Insert a sheet of cardboard into each T-shirt so that designs do not bleed through to the opposite side.
3. Instruct the girls to make designs with the permanent markers. Designs made of large dots or spirals work best. Writing does not look good when you apply the alcohol.
4. As the designs are completed, move the girls who are ready to the sink area. Girls should wear goggles while applying the alcohol. Under adult supervision, have the girls drop drops of alcohol onto their designs. As the alcohol permeates the permanent marker, the color will break up and spread out on the fabric.
5. Use the alcohol sparingly. The smell is quite overpowering and you need to pay attention to the ventilation in the room. Also, make sure the girls wash their hands when they are finished.
6. When the shirts are done, hang them on hangers and use the attached handout to send home with the girls. It is essential that they do not put the wet alcohol shirts in the dryer.

This has been a perennial favorite with the GEMS girls.

GEMS T-SHIRT INSTRUCTIONS

**VERY
IMPORTANT!**

Today we used high-quality isopropyl alcohol to perform color-mixing experiments on T-shirts. In order to preserve your daughter's work, please follow these instructions carefully:

1. Allow the T-shirt to air-dry completely. (Do not put in dryer yet)
2. Iron entire shirt with a hot dry iron.
3. Thereafter, wash in cold water. The ink should be permanent, but use caution.