

Bright Blooms

Simple STEM Activity

Purpose:	The purpose of this activity is to investigate separating liquids.
Standard(s):	<p>S5P1. Obtain, evaluate, and communicate information to explain the differences between a physical change and a chemical change.</p> <p>a. Plan and carry out investigations of physical changes by manipulating, separating and mixing dry and liquid materials.</p>
Materials:	White coffee filters, water-based markers, cups, water, clear tape, small sticks or twigs
Procedures:	<ol style="list-style-type: none"> 1. Choose a marker. 2. Draw a circle around the middle of the coffee filter. 3. Fold the coffee filter in half twice to make a cone shape. 4. Put a little water into the bottom of a cup. 5. Put the pointy end of the cup into the water. Make sure that the circle you drew with marker is above the water line. 6. Observe what happens. 7. After your coffee filter dries, open up your coffee filter. 8. Push the small stick or twig through the center of the coffee filter. Bunch the center together and tape. Now, you have a flower. 9. Repeat as many times as you want.
Science Behind It:	<p>Marker ink is made by mixing different pigments together. These pigments are made of different chemicals that are heavier or lighter than each other. Paper chromatography is a technique used to separate mixtures. In this case, as the water moves through the ink, we can see the different speeds that the different pigments travel. Heavier pigments move slowly and will separate out first. Lighter pigments move faster and will move further up the coffee filter. This difference allows us to see the separation of the different pigments in one marker.</p>
Questions to Ask:	<ol style="list-style-type: none"> 1. How do you know that your marker is a mixture? 2. How many different colors did you see?