

CONNECTIONS TO SCIENCE GUIDES

GEORGIA YOUTH SCIENCE & TECHNOLOGY CENTERS, INC.

EVERY DAY CHEMISTRY

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CAN'T FIND THE BOOK?
READ-ALOUDS ARE AVAILABLE
ON YOUTUBE.

HAVE YOU EVER NOTICED...

- that some changes are reversible and some are not?

HAVE YOU EVER WONDERED...

- how you could separate liquid materials?



EXPLORE

BRIGHT BLOOMS

Materials:

- White coffee filters
- Water-based markers
- Clear cups
- Water
- Clear tape
- Small sticks or twigs

Directions:

- Begin by choosing a marker. Make a prediction - how many colors do you think will be in the ink?
- Draw a circle around the middle of a coffee filter.
- Fold the coffee filter in half twice to make a cone shape.
- Put a little water into a clear cup. Put the pointy end of the coffee filter into the cup (make sure the circle you drew with the marker is above the water line).
- Once the water is close to the top of the coffee filter, take the coffee filter out of the cup.
- Unfold it and observe.
- As you are exploring, think about:
 - How do you know that your marker is a mixture?

Connection to Art:

- Once your coffee filter dries, open up your coffee filter.
- Push a small stick or twig through the center of the coffee filter. Bunch the center together and tape. Now you have a flower!



EXPLAIN

PHYSICAL CHANGES

A physical change is a change in matter that does not change what the matter is. This can be a change in color, texture, shape, or state. Paper chromatography is a technique that separates the components of a mixture by how well the components move within a liquid. In marker ink, heavier pigments move slower and separate out first while lighter pigments move faster and further up the coffee filter. This allows us to see the different pigments in one marker.



EXTEND

WHAT'S COOKING?



Cooking is chemistry! Help out in the kitchen at your next meal and see if you can determine which changes are physical and which ones are chemical.

STEM CAREER

FORENSIC SCIENCE TECHNICIAN

A forensic science technician is a scientist who gathers evidence and uses scientific principles and techniques to make sense of it. At work, forensic scientists collect evidence from crime scenes, test DNA samples, and examine fingerprints. If you are interested in science and helping to solve crimes, being a forensic science technician might be for you!



BACKGROUND

The Georgia Youth Science and Technology Centers, Inc. provides quality programs for teachers of STEM subjects that improve the teaching and learning process at the kindergarten through eighth grade levels. We present programs that change students' perceptions and inspire an appreciation for science, technology, engineering, and mathematics subjects.

ABOUT US

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