

WHAT COLOR ARE LEAVES?

Project

WHAT YOU NEED:

- A few green leaves from 3 different kinds of trees
- 3 small drinking glasses
- Rubbing alcohol
- Plastic wrap
- A pan of hot tap water
- Coffee filters or filter paper
- Scissors
- Tape
- 3 pencils

WHAT YOU DO:

1. Tear the leaves into small pieces. Put the pieces from each tree into different glasses (make sure each glass only has pieces from one type of tree!).
2. Get an adult to pour rubbing alcohol into each glass so that all the leaf pieces are covered. Put a piece of plastic wrap over the top of each glass to keep the alcohol from evaporating (getting soaked up by the air).
3. Let an adult set the glasses in the pan of hot water and leave them for about 30 minutes. Check to make sure the alcohol in each glass has turned green before you take them out. If it hasn't, refill the pan with hot water and put the glasses back in until the alcohol turns green.
4. While you wait, cut 3 strips out of the middle of the coffee filters. Make each strip about 1 inch wide. Tape one end of each strip to the middle of a pencil. Cut the other end of the strip into a point.
5. Once the alcohol in each glass has turned green, take the glasses out of the hot water. Set a pencil with the paper strip taped to it over each glass so that the paper strip hangs down and the point touches the alcohol in the glass. If the paper is too long, roll some of it around the pencil to shorten it.
6. Let the glasses and papers sit for about 30 more minutes and then check to see if anything is happening. You should see the green color start to soak up on the paper. Wait even longer to see if any other colors come out!

WHAT HAPPENED:

The alcohol and the heat from the hot water made the color in the leaves dissolve so you could see it in the alcohol. It is similar to what happens when you make tea. When you put a tea bag (filled with tea leaves) in a cup of hot water for a few minutes, the water becomes colored and flavored by the tea leaves. When you put the paper strips into the green-colored alcohol, the colors started to get soaked up by the paper and you should have seen a couple different shades of green. If you waited long enough, you might have been able to see other colors from the leaves appear on the paper – such as orange or yellow. If you saw colors besides green, those are the colors that the leaves will change to in the fall! Did you see any difference in the colors from the different kinds of leaves you tested? The reason you couldn't see all those colors in the green leaves or in the alcohol solution is because the chemical that causes the green color is much stronger than the chemical that causes orange and yellow. When you put the paper into the alcohol solution, the colors had a chance to separate, and the orange and yellow were no longer covered up by the green. The same thing happens when leaves start to change colors – the chemical that makes them green starts to go out of the leaves, leaving the chemicals that make other colors behind, turning the leaves all the pretty colors of fall!