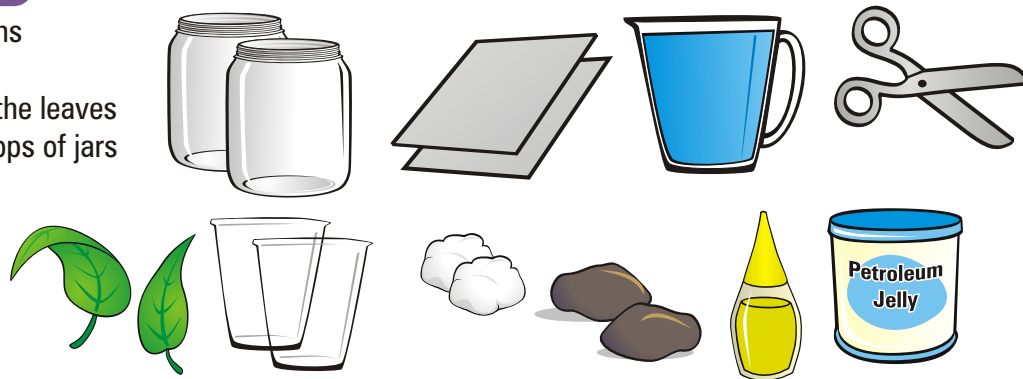




## What you need:

- 2 healthy broad leaves with stems
- 2 wide mouth jars or glasses
- 2 clear plastic cups, larger than the leaves
- 2 pieces of cardboard to cover tops of jars
- 2 small rocks
- 2 cotton balls
- Scissors
- Food coloring
- Petroleum jelly
- Water



## What you do:

**Step 1:** Hold the stems underwater and trim the stems diagonally with the scissors. Fill both jars with water, and add 10 drops of food coloring in each jar.

**Step 2:** Poke a small hole in the middle of each cardboard. Fit the leaf stem through the hole and place one cardboard over each jar.

**Step 3:** Coat one leaf with petroleum jelly. Cover each leaf with a clear plastic cup.

**Step 4:** Put a small weight on top of each cup and place the jars on a sunny windowsill for one hour.

**Step 5:** Look inside the plastic cups. Which cup contains moisture? Use the cotton balls to wipe the moisture in the cup. What colour is the moisture?



## What's going on:

You controlled plant transpiration! The moisture in the cup is from transpiration. This happens when plants give off water vapor. Water vapor moves through tiny pores called stomata. This is how plants sweat! One leaf absorbed the colored water and transpired the water from its stomata. We see the color in the cup's moisture. Petroleum jelly blocked one leaf's pores. It could not transpire. There was no moisture in the cup.

## Now try this:

Are stomata on the topside or underside of a leaf? Use petroleum jelly to block one side or the other to find out!