

## Lose Some Mass – It's a Gas! 1 of 2

A liquid can change its state to a gas by evaporation. When a liquid evaporates, some of the liquid goes up into the air and becomes a gas. Some liquids evaporate faster than others. In this activity, see which liquid leaves its state the fastest!

Materials:

Water

Alcohol

Paper towel

Scissors

Pencil (round)

Ruler

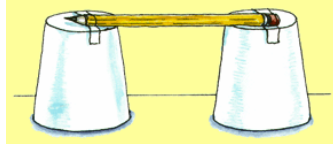
2 paper or plastic cups (16 oz)

2 small paper or plastic cups

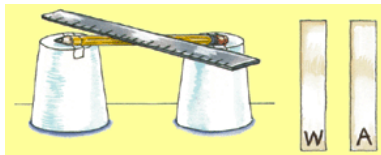
Tape

Procedures:

1. Place the two large cups upside down on a flat surface. Place the pencil across the cups and tape the pencil down as shown.



2. Place a ruler on the pencil so that the ruler is as balanced as you can make it. Cut two strips of paper towel, each 20 centimeters (cm) long and 4 cm wide. Write "W" on one strip and "A" on the other.



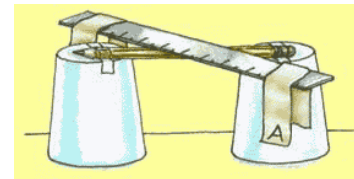
3. Pour 1 tablespoon of water into one small cup and 1 tablespoon of alcohol into another.

4. Dip the "W" paper towel strip into the water until it is completely wet. Your partner should dip the "A" strip into the alcohol until it is completely wet.



5. Work together to place the wet strips at the very ends of the ruler. Balance the ruler on the pencil.

Observe the ruler as the alcohol and water evaporate. Which do you think will evaporate first? How does the experiment show you which liquid changes from a liquid to a gas the fastest?



Think about this ...

Here's another easy way to tell that alcohol changes from a liquid to a gas more quickly than water. Dip one cotton swab in alcohol and another in water. Make a quick swipe of each liquid on a separate area of brown paper from a paper bag.

## Lose Some Mass – It's a Gas! 2 of 2

Blow on the lines and see which one disappears first. What did you notice?

Where's the Chemistry?

Different substances have different characteristics. One of the characteristics of different liquids is how fast they change from a liquid to a gas or evaporate. When you did the activity, you probably saw the alcohol side of the ruler go up and the water side of the ruler go down. That is because alcohol evaporates faster than water. As the alcohol changed its state from a liquid to a gas, the alcohol side of the ruler got lighter causing it to rise up.