Student activity sheet
Activity 3.1

Name: _____

Look-alike liquids

I had a splinter in my finger the other day. Before I tried to take it out, I held my hand over the bathroom sink and poured a little rubbing alcohol on my finger tip as a disinfectant. I got the splinter out, no problem, and then rinsed my finger off with water. I saw something that I had never noticed before. The water beaded up but the alcohol didn't. They even flowed differently down the inside of the sink and looked weird when they mixed together. There was a plastic bag in the bathroom so I put a drop of alcohol and a drop of water on the bag to see if they would look different on something else, and they did. I used a paper towel to wipe them up and they seemed to even absorb differently in the paper towel. Because water and alcohol normally look so similar, I was surprised that they would look and act differently on different surfaces.

Take a closer look

You can do a similar test with water and rubbing alcohol to see similarities and differences between them.

Can you tell the difference between water and rubbing alcohol by placing drops of each on different surfaces?

1. **Plastic bag test:** Use droppers labeled **W** and **A** to place 1 drop each of *water* and *alcohol* on a plastic bag at the same time. Record your observations.
2. **Side of cup test:** Carefully tilt the cup of water and use the dropper labeled **W** to place individual drops of water along the inside surface of the *water* cup. Then carefully tilt the cup of alcohol and use the dropper labeled **A** to place individual drops of alcohol along the inside surface of the *alcohol* cup. Record your observations.
3. **Brown paper towel test:** Use droppers labeled **W** and **A** to place 1 drop of water and alcohol on a brown paper towel at the same time. Record your observations.

Surface	Water	Rubbing alcohol
Plastic bag		
Side of cup		
Paper towel		

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Name: _____

Look-alike liquids (*continued*)

Try this!

You were able to tell the two look-alike liquids apart by the way single drops of each looked on a plastic bag, sliding down the side of a cup, and absorbing into a paper towel.

Can you distinguish among four clear, colorless liquids based on the way they look on a brown paper towel?

Use each dropper only with its labeled liquid. Be careful not to mix up the droppers.

1. Use a pencil to label a piece of brown paper towel with the names of each solution.

2. With the help of your lab partners, use separate droppers to place 1 drop each of water, salt water, alcohol, and detergent solution on the piece of paper towel at the same time.

What do you notice about each of the liquids on the paper towel?

Water _____

Salt water _____

Rubbing alcohol _____

Detergent _____

What's next?

You saw that you could do simple tests to see that similar-looking liquids have different characteristics. Although water and alcohol look pretty much the same, you saw that they act differently on surfaces like a plastic bag, the inside of a cup, and a paper towel. When you tested the four liquids, you controlled variables by placing the same amount of each liquid from the same height onto the paper towel at the same time. This is important when conducting a fair test. In the next activity, you will be given an unknown liquid that is the same as one of the known liquids. Testing it along with the known liquids on a few different paper surfaces and comparing their characteristics will help you identify the unknown.