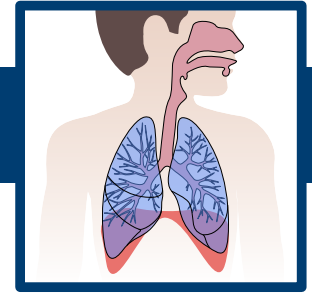


# LESSON 2: RESPIRATORY EXPLORATORY

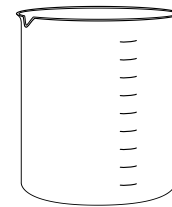


## Exploratory Laboratory 2C: Tension - It's a Surface Issue

**In this lab, you will consider the problem: how do the surfaces within the alveoli stay moist.** Students will investigate the role surface tension and surfactants have in breathing. The inside of the alveoli are bathed in water, but due to a phenomenon called “hydrogen bonding”, water molecules attract each other, which creates issues inside the alveoli.

### Materials:

- 2 250 ml beakers
- 500 ml tap water
- Toothpicks
- Dishwashing detergent (recommend Dawn or Ivory)
- Paper towels



### Safety:

The detergent is an eye irritant and the toothpicks have pointed tips. Wearing goggles for this activity will protect your eyes from both!

### Procedure:

1. Label each beaker “A” and “B”.
2. Fill both beakers with water, up to the 250 ml mark.
3. Float a toothpick on the surface of the water in each beaker.
4. Add 1 teaspoon of detergent to Beaker A. **DO NOT STIR** and do not put the detergent onto the toothpick.
5. Wait 2 minutes and record what happens on the Processing Out.
6. Wait 2 more minutes and record what happens on the Processing Out.