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.