

# WATERPROOF HANKY



## PURPOSE:

In this experiment you will be observing the effects of **surface tension** and **air pressure**.

## MATERIALS:

- 1 Large glass
- Water
- 1 Handkerchief
- 1 Tray ( or something that is flat and can go over the glass)

## PROCEDURE:

1. Push the centre of the handkerchief into the glass, so that the edges are hanging over the outside of the rim of the glass.
2. Pour water into the glass, through the loose handkerchief until the glass is half full.
3. Pull the corners of the handkerchief so that the material is tight over the top of the glass.
4. place the tray on the top of the glass and tip it all upside down, being careful to keep the handkerchief pulled tight
5. Remove the tray and see what happens



<https://www.exploratorium.edu/snacks/naked-egg>

## CONCEPT CHECK:

- What did you think was going to happen?
- What happens if the handkerchief isn't on tight?
- Why do you think holding the handkerchief tight is important?
- What is another example of surface tension?

## Key Concepts:

**Surface Tension:** The tension that is created on the surface of a liquid through the strong attraction of its molecules, which allows for things to float on the surface and not sink.

**Air Pressure:** The force exerted on a surface by air.

Tag us in your creations!



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Source: <https://www.howtosmile.org/resource/smile-000-000-002-485>



# CATCHING BUBBLES!



## PURPOSE:

In this experiment you will try to determine what materials can catch a soap bubble without popping it! Lots of different factors contribute to a materials surface properties for example **macroscopic surface features** and **microscopic surface features**.

## MATERIALS:

- Pre-made Bubble solution **or** make your own with: 1 cup of water, 2 tbsp of dish soap and 1 tbsp of light corn syrup
- A Bubble wand
- An assortment of different materials ( ex. Aluminum foil, paper, wax paper, a counter top, wood etc.)
- Lab notebook

## PROCEDURE:

1. First in your lab notebook create an hypothesis on which materials you think the bubbles will stick to.
2. Blow bubbles on to each material and record your results. Do this step three times.
3. After compare your hypothesis for each material to your results.

## Key Concepts:

**Macroscopic surface features:** Bumps you can see without magnification and feel to the touch an example of this would be sandpaper.

**Microscopic surface features:** Bumps or grooves you need magnification to see and is smooth to the touch.

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Source: <https://www.thebestideasforkids.com/how-to-make-oobleck/>

## CONCEPT CHECK:

- Which material did you think would catch the bubble? Why?
- Can you divide your materials into macroscopic surfaces and microscopic?
- What do you think would happen if you blew a bubble onto snow? or water?



Source: [https://www.sciencebuddies.org/science-fair-projects/project-ideas/MatSci\\_p045/materials-science/materials-catchbubbles#procedure](https://www.sciencebuddies.org/science-fair-projects/project-ideas/MatSci_p045/materials-science/materials-catchbubbles#procedure)