

# STEM You Can Do: Magic Milk

Check with mom or dad to make sure you can use these ingredients from your kitchen. It might be that your dad was saving that last bit of milk for his breakfast tomorrow, or that your mom needs the food coloring for cookies.

**And always clean up after your experimentation!**



First, follow the recipe below. You'll need a cereal bowl, milk, food coloring, cotton swabs and dish washing soap. After observing, do your own experiments with your own ideas to test your own questions that arise.

1. Get a clean cereal bowl.
2. Fill the bottom with milk.
3. Add a few drops of food coloring, spaced away from each other, and somewhere between the center and edges of the bowl.
4. Dip a cotton swab into dish washing soap to saturate the cotton.
5. Put the soapy cotton swab in the center of the bowl.
6. Observe.
7. What are you thinking, and what do you wonder?

Here's an example of something to try: Vary the type of milk you use, and compare the results from your different trials. For example, how do your results change when you use skim, 1%, 2%, whole milk, Half and Half? What about Almond Milk? Take pictures of your creations for comparison. To be especially scientific in your procedure, keep everything exactly the same from experiment to experiment except the type of milk.

For the 411 on this activity check out these resources:

**More about Magic Milk - scroll down to "How it Works"**

<http://chemistry.about.com/od/chemistryhowtoguide/a/magicmilk.htm>

**Read about surface tension which is caused by "sticky water"**

[http://www.exploratorium.edu/ronh/bubbles/sticky\\_water.html](http://www.exploratorium.edu/ronh/bubbles/sticky_water.html)

**Read more explanation from NASA**

<http://genesission.jpl.nasa.gov/educate/scimodule/CleanRoom/pdfs/TerrificTensionST.pdf>