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Activity Idea

Rainbow Milk

A colorful experiment

Recommended for Ages 4 – 12

You will need the following materials:

- A dish or shallow bowl, or any container that can hold liquid.
- Food coloring
- Dish Soap
- A cotton ball or swab
- Milk – this is a great use for milk that has just expired, works best with whole milk but any will do.

How to do the experiment

1. Pour some milk into the container – a cup or two should work.
2. Let the milk settle for a minute.
3. Put different color drops of food coloring in the milk. You can drop them on top of each other or spread them out.
4. Dip the cotton swab or ball into dish soap.
5. Dip the cotton swab or ball with the soap on it into the container close to where the food coloring is.

Results

The food color should spread out away from the point you dipped the soapy cotton ball or swab making interesting patterns out of the colors.

Questions to ask

- Why do you think the food coloring “ran away” from the soap?
- What colors do you see?
- What do you think will happen if we put in two soapy things at the same time?

What is happening
Two things are happening. The soap is breaking the surface tension of the milk. At the same time the soap is combining with the fat and protein in the milk. This causes the milk to move. The food coloring is there so you can see the milk move as this happens.

Find Out More
You can find this experiment and more like it in the following eBooks available on Overdrive.

Experimenting with Science by Olivia J. Mullins, PhD.
https://lacountylibrary.overdrive.com/media/2833380

Junk Drawer Chemistry: 50 Awesome Experiments That Don't Cost a Thing by Bobby Mercer
https://lacountylibrary.overdrive.com/media/2390798

Simple Science Projects by Kelly Milner Halls
https://lacountylibrary.overdrive.com/media/3965118

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