

# Magic Milk

## Supplies needed

Milk  
Liquid food coloring – gel does not work well  
Dish soap  
Cotton swabs  
Shallow pan

## Instructions

1. Pour a thin layer of milk into the shallow pan.
2. Add drops of food coloring all around in the milk.



3. Pick up a cotton swab and dip it in the dish soap.
4. Then put the cotton swab in the milk – pressing it down in one spot and holding it there for about 15 seconds.



## How Does the Magic Milk Experiment Work?

Here are some questions to think about:

- What did you notice?
- What happened when you put the cotton swab in the milk?
- Why do you think that happened?
- Why do you think it stopped moving around after a period of time?
- What else did you observe?



Milk is made up of minerals, proteins and fats. When the dish soap enters the milk, the fat begins to break up. The soap molecules run around and try to attach to the fat molecules in the milk. Normally this process would be invisible to you, but the food coloring helps you to see all the movement taking place.

Press another dish soap covered cotton swab into the milk and see if there are any more fat molecules that haven't been found. If you still see movement, there were still some fat molecules on the loose!

### Expand on the Magic Milk Experiment

Try the magic milk experiment with 1%, 2% and whole milk. Observe what happens and keep a record of how the milk behaves with each type of milk. Did you notice a difference?

If you do this with water will the colors still move all around like they did in the milk?