

Color Changing Milk

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Summary

This experiment allows students to observe the interactions between soap, food coloring, and the components of milk. When soap comes in contact with the milk, it causes the water and fats in milk to separate. The different chemical properties of water and fat cause this movement. This can be observed through food coloring and other indicators that create cool designs and fascinating movements!

Materials

1. Shallow plate or bowl
2. Whole milk or 2% milk
3. Food coloring (can be substituted with pepper or other colored spices)
4. Dish soap

Procedure


Written Out Instructions:

1. Pour a shallow layer of milk into the bottom of the plate/bowl
2. Place several dots of food coloring in the center of the milk. If using pepper or another material, place it in the center of the milk.
3. Place dish soap in the center of the milk, on top of the food coloring.
4. Observe the milk move and change colors!

Materials & Resources

Steve Spangler Science: Color Changing Milk

(<https://www.stevespanglerscience.com/lab/experiments/milk-color-explosion/>)



Scientific American: Mix It Up with Oil and Water

(<https://www.scientificamerican.com/article/mix-it-up-with-oil-and-water/>)

Crash Course Biology: Water--Liquid Awesome

(https://www.youtube.com/watch?v=HVT3Y3_gHGg)

TED-Ed: Why don't oil and water mix? -John Pollard

(<https://www.youtube.com/watch?v=h5yIJXdlto>)

