



# MILK FIREWORKS

1. Fill the bottom of a petri dish with your favorite type of milk
2. Put 1-2 drops of food coloring into that dish.

What is happening to food coloring? Does it spread out right away? Why is this happening?

Note: Do not mix the food coloring and milk

3. Dip a cotton swab or toothpick into a cup of liquid dishwashing detergent.
4. Take the dipped swab or toothpick and hold it in the dish of milk.

## What is happening?

What is happening to food coloring? Does it spread out right away? Why is this happening?

Let's keep exploring → → → →



5. Fill the bottom of a petri dish with another type of milk

What is different about this type of milk than the first one you did?

6. Put 1-2 drops of food coloring into that dish.

What is happening to food coloring? Does it spread out right away? Is anything different than the first time?

Note: Do not mix the food coloring and milk

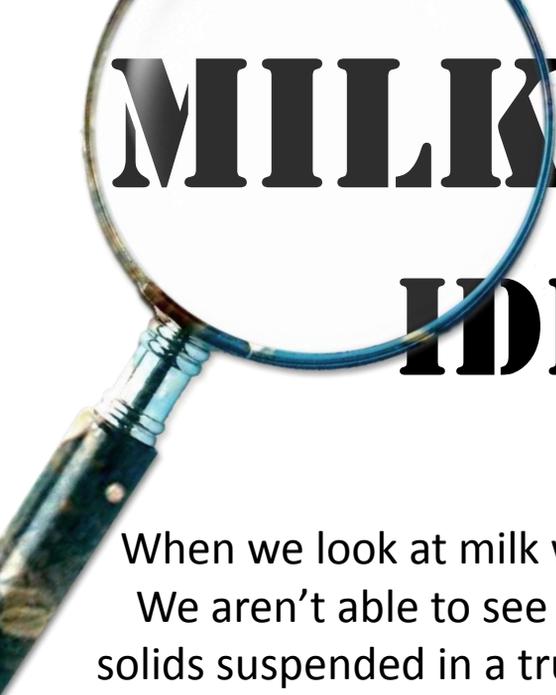
7. Dip a cotton swab or toothpick into a cup of liquid dishwashing detergent.

8. Take the dipped swab or toothpick and hold it in the dish of milk.

## What is happening?

What is happening to the food coloring? How is it different than the first time? Why is this happening?

Repeat steps 5-8 with as many types of milk as you want!!!



# MILK: IT'S TRUE IDENTITY

When we look at milk we see an opaque, solid colored liquid. We aren't able to see that milk is actually a colloid, or many solids suspended in a true liquid. The liquid in this case is water.

**What are the solids in milk and how do we know they are there?**

1. Get a petri dish and pour a thin layer of your favorite type of **milk**.
2. Put 1-2 drops of food color into the **milk**.

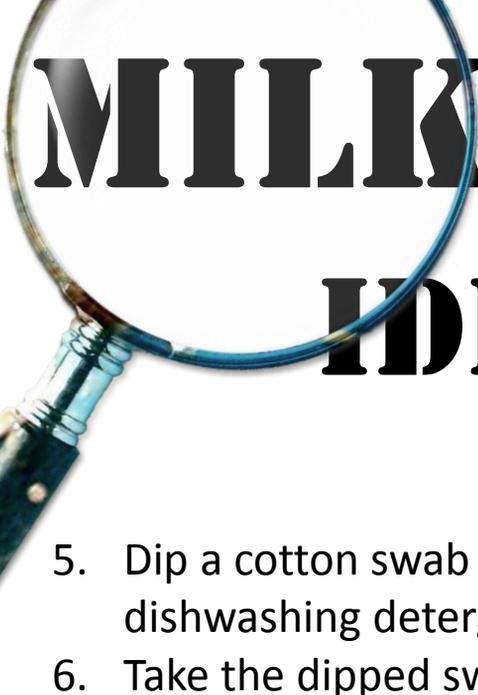
What happened? Did the color distribute throughout the milk or stay together?

What made this happen? Is it the water or the other stuff in milk? Let's set up a comparison.

3. Get a second petri dish and pour a thin layer (about as much as the milk) of **water**.
4. Put 1-2 drops of food color into the **water** (same as what you did for the milk).

What happened? Did the color distribute throughout the water or stay together?

Let's keep exploring → → → →



# MILK: IT'S TRUE IDENTITY

5. Dip a cotton swab or toothpick into a cup of liquid dishwashing detergent.
6. Take the dipped swab or toothpick and hold it in the dish of **milk**.

## What is happening?

7. Dip a cotton swab or toothpick into a cup of liquid dishwashing detergent.
8. Take the dipped swab or toothpick and hold it in the dish of **water**.

What happened? Did the color distribute throughout the water or stay together?

Why did the food coloring move in the milk differently than in the water? **What is in milk that is not in water?** Think about what the terms 1%, 2% and Whole mean when we talk about milk. **Can you see a difference between the different types of milk?**

Repeat the steps with as many types of milk as you want!!!