



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 → → → →



MILK FIREWORKS

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!!!