

# Particles too Small to be Seen Lab

**Matter is Made Up of Tiny Particles:**

**What's needed:**

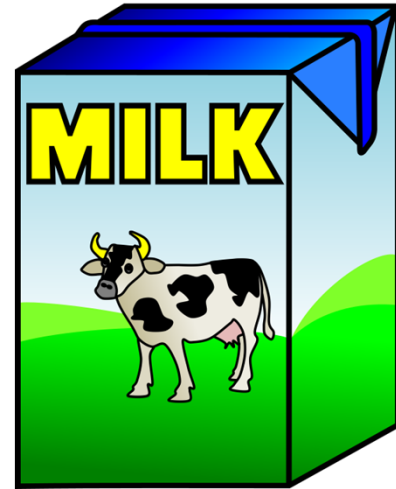
Whole milk

Food coloring (preferably red or blue)

A small plate or shallow dish

A cotton swab or toothpick

Dish soap



**What to do:**

- Pour enough milk into the plate to cover the bottom.
- Add a few drops of food coloring into the milk (one color at a time).
- Dip the cotton swab or toothpick into the dish soap.
- Place the dish soap-covered cotton swab or toothpick into the milk and hold it there for a few seconds.
- Observe what happens to the milk and the food coloring.

**Record, report and explain your findings:**

**Conclusion:**

## **Teacher Notes:**

### **Explanation:**

Milk is mostly water, but it also contains fat and protein molecules. The food coloring is made up of tiny particles that are too small to see with the naked eye. When the dish soap is added to the milk, it breaks down the fat molecules in the milk. The fat molecules and the soap molecules then start to move around and bump into the food coloring particles, causing them to move and mix together in a swirling motion. The students will be able to see how the food coloring particles move and mix around in the milk, showing them that matter is made up of tiny particles too small to be seen.

As an extension, you can also explain that the air we breathe is made up of tiny particles called molecules and atoms that are too small to be seen as well.