

# DISCOVER Science at Home!

## Does oil mix with water?

### Materials:

Clear container or dish  
4 small cups  
Pipettes or a spoon  
Food coloring  
Water  
Oil (baby oil, vegetable oil, etc.)

### Procedure:

- 1.) Fill a clear dish with oil.
- 2.) Make observations about the properties of the oil.
- 3.) Fill four small cups with water and add 3-5 drops of food coloring to each cup.
- 4.) Make observations about the properties of the water.
- 5.) Ask your child to make a hypothesis about what will happen when they drop the water into the oil.
- 6.) Ask your child to use the pipette to squirt the varying colors of water into the container of oil. If using a spoon, gently pour the water into the oil.
- 7.) Discuss what you observe when the oil comes into contact with the water.

### The Science Behind It:

Oil is less dense than water. Due to this variance in density, the two substances cannot mix. Furthermore, water molecules are cohesive, so they bond together and repel the oil molecules.

### Questions to Investigate:

- What state of matter is the oil and water?
- What is viscosity?
- What happens when you try to mix water and oil?
- What happens when two water drops of a different color touch inside of the oil?
- What is density?
- Was your hypothesis correct?



### Next Generation Science Standards

2-PS1-1. Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.