

Project FOCUS  
Best Lessons  
SECOND GRADE

**Title of Lesson:** Oil and Water

**Theme:** Physical Science

**Unit Number:** 1      **Unit Title:** Properties of Matter

**Performance Standard(s) Covered (enter code):**

S2P1

S2CS6

S2CS1

S2CS4A

S2CS4B

**Enduring Standards (objectives of activity):**

**Habits of Mind**

- Asks questions
- Uses numbers to quantify
- Works in a group
- Uses tools to measure and view
- Looks at how parts of things are needed
- Describes and compares using physical attributes
- Observes using senses
- Draws and describes observations

**Content (key terms and topics covered):**

In this experiment, students are allowed to observe and describe properties of matter, and water in particular. They describe observations about the separation of two mixtures.

Key Terms: Matter, dissolve, density, adhesion, cohesion

**Learning Activity (description in steps)**

**Abstract (limit 100 characters):** Students determine what happens when oil is added to water and predict why the two don't mix together.

**Details:** At this point, the students were already familiar with the three states of matter: solid, liquid, and gas. I had them identify that the water was a liquid as well as the oil. I separated my class into pairs and gave each group the materials needed. They then predicted what they thought would happen when the oil was added to the water and wrote down the prediction. We then added a few drops of food coloring into the water so that we would be able to differentiate between the two liquids. Next, each group added two tablespoons of oil to the water, put the lid on the bottle, and shook the container. At first, the two liquids appeared to mix with each other but then the oil settled at the top. I then asked them to write down their observations while explaining to them that while water can mix with other liquids, oil and water won't ever mix because the water molecules are so attracted to each other. I mentioned that oil floats because it has a lower density than water.

**Materials Needed (type and quantity):**

**One half-full, clear water (or soda) bottle per pair of students. A bottle of oil (any type works) and food coloring.**

**Notes and Tips (general changes, alternative methods, cautions):**

Working in pairs for this experiment works well so that each student can add something to the water bottle. Make sure the lid is on tight before you allow them to shake the bottle.

**Sources/References:**

1) [www.ehow.com](http://www.ehow.com)

2) <http://www.education.com/activity.html>

3)