

**Project FOCUS  
Best Lessons  
KINDERGARTEN**

**Title of Lesson:** Dynamics of Density

**Theme:** Physical Science

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

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

SKP1

**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):**

Density, weight, states of matter (solid, liquid, gas)

**Learning Activity (Description in Steps)**

**Abstract (limit 100 characters):** This lesson teaches that matter can be solid, liquid, or gas.

**Details:** Before the lesson begins teach the students what the three different states of matter are (solid, liquid, gas) and show them examples of each. For instance, for solid I showed them a penny and wood chip, for liquid the oil and water, and for air I blew up a balloon and let out the air. I also asked the children for more examples which encouraged the students to think outside the classroom.

Next, explain to them how some objects are more dense/heavier than other objects. I presented them with the oil, water, and syrup and the students had to guess which liquid was the densest, the middle, and least dense of the three. To demonstrate this concept I called on different students to help pour equal amounts of oil, water and syrup into a large glass. Some had guessed that the liquids would all mix, others guessed that the liquids would separate. In the end, we learned that the syrup, the densest liquid, sunk to the bottom. Water sat in the middle, and oil rose to the top. As a bonus, I had students drop some solids into the solution. After making hypotheses, we found the penny to lie on the bottom of all the liquids, a lego brick to sit on top of the water, and a wood chip to float on top of the oil. The presenter can put whatever solids they wish in for varying results.

Here's what the children had to say: "The penny was denser than all the liquids." "The lego is heavier than the oil but not as dense as the syrup." "The liquids are all denser than the wood chip."

To learn more about solids and liquids and their densities, we experimented with an egg in a large glass of fresh water. As we slowly added salt to the water, the egg began to rise to the top. Why did

it happen? Salt dissolved in water increases the density of water. Denser liquids are better at keeping objects afloat. This is why many things that sink in fresh water will float in salt water.

**Materials Needed (Type and Quantity):**

2 clear glasses

1 measuring cup of any size you want

Oil, water, syrup

Penny, wood, chip, lego, leaf, or any item of your choice

Salt

3 eggs

1 balloon

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

**Sources/References:**

1)

2)

3)