

5th Grade - Lesson 2.5

The Density of Liquids

NGSS Alignment

Performance Expectations

5-PS1-3. Make observations and measurements to identify materials based on their properties.

Disciplinary Core Ideas

PS1.A: Structure and Properties of Matter

- Measurements of a variety of properties can be used to identify materials. (5-PS1-3)

Students see that corn syrup sinks and vegetable oil floats when poured into water. Students develop an understanding that a property of corn syrup is that it is more dense than water and a property of vegetable oil is that it is less dense than water.

Science and Engineering Practices

Planning and Carrying Out Investigations

- Make observations and measurements to produce data to serve as the basis for evidence for an explanation of a phenomenon.

Students compare the mass of equal volumes of water and vegetable oil on a balance and see that vegetable oil weighs less than an equal volume of water. Students use this evidence to conclude that vegetable oil is less dense than water which explains the phenomena of vegetable oil floating on water.

Crosscutting Concepts

Cause and Effect

- Cause and effect relationships are routinely identified, tested, and used to explain change.

Students develop an understanding that the density of a material is the cause for whether it will sink or float in water. If it is more dense than water, the material will sink; if it is less dense than water, the material will float.