

5th Grade - Lesson 2.4

Density: Sinking and Floating

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 a clay ball sinks and that smaller and smaller clay balls also sink. An explanation is developed that whether a material sinks or floats has to do with a property called “density”. Students learn that density is a property of a material that has to do with how heavy it is for its size and does not depend on the amount tested.

Science and Engineering Practices

Developing and Using Models

- Develop a model to describe phenomena. (5-PS1-1)

After seeing the clay sink in water, an animation shows clay compared with an equal volume of water on a balance. The model shows that if clay weighs more than an equal volume of water, clay must be more dense than water and sinks. Students use this same model to compare wood to water and conclude that wood must float.

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.