

Density Laboratory

Answer Key

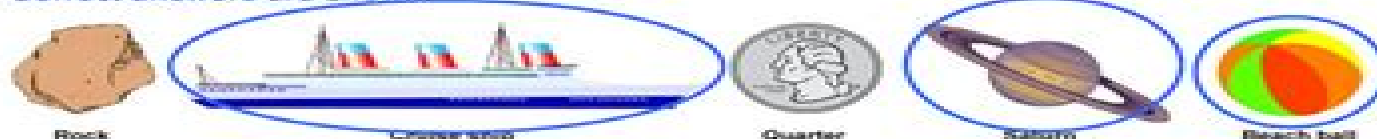
Vocabulary: buoyancy, density, graduated cylinder, mass, matter, scale, volume

Prior Knowledge Questions (Do these BEFORE using the Gizmo.)

[Note: The purpose of these questions is to activate prior knowledge and get students thinking. Students are not expected to know the answers to the Prior Knowledge Questions.]

1. Of the objects below, circle the ones you think would float in water. *Predictions will vary.*

Correct answers are shown:



2. Why do some objects float, while others sink?

Answers will vary. [An object floats when the weight of the liquid it displaces is equal to the weight of the object. Objects sink when they are heavier than the equivalent volume of liquid. In other words, objects sink when they are denser than the liquid.]

Gizmo Warm-up

The *Density Laboratory Gizmo™* allows you to measure a variety of objects, then drop them in water (or other liquid) to see if they sink or float.

1. An object's **mass** is the amount of **matter** it contains. The mass of an object can be measured with a calibrated **scale** like the one shown in the Gizmo. Drag the first object onto the **Scale**. (This is object 1.)

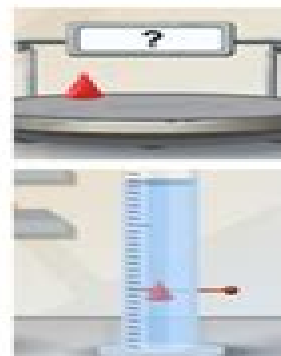
What is the mass of object 1? *19.5 grams (19.5 g)*

2. An object's **volume** is the amount of space it takes up. The volume of an irregular object can be measured by how much water it displaces in a **graduated cylinder**. Place object 1 into the **Graduated cylinder**.

What is the volume of object 1? *14.0 cm³ (equivalent to 14.0 mL)*

Note: While milliliters (mL) are used to measure liquid volumes, the equivalent unit cubic centimeters (cm³) are used for solids. Therefore, write the volume of object 1 in cm³.

3. Drag object 1 into the **Beaker of liquid**. Does it sink or float? *It sinks.*



Gizmo Density Lab Answers

Ying-Ying Zheng

A red circular graphic with a gradient, appearing as a semi-circle or a partial circle, located to the right of the author's name.

Gizmo Density Lab Answers:

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In a period characterized by interconnectedness and an insatiable thirst for knowledge, the captivating potential of verbal expression has emerged as a formidable force. Its capability to evoke sentiments, stimulate introspection, and incite profound transformations is genuinely awe-inspiring. Within the pages of "**Gizmo Density Lab Answers**," a mesmerizing literary creation penned by way of a celebrated wordsmith, readers embark on an enlightening odyssey, unraveling the intricate significance of language and its enduring effect on our lives. In this appraisal, we shall explore the book's central themes, evaluate its distinctive writing style, and gauge its pervasive influence on the hearts and minds of its readership.

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