**General Physical Science – Testing Density**

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period\_\_\_\_\_\_\_\_\_\_

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| I can… |
| *Predict densities.**Observe densities of varying materials.**Explain the relationship between density, mass, and volume.* |

 

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| Vocabulary term |
| ***Mass*** |
| ***Volume*** |

From the video, record the definitions for the 2 vocabulary words in the boxes to the right.

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| 1. We are going to look at different materials’ behavior in fluid. There are two blocks. **Predict** what materials you think they are made of. Write it to the right.
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| 1. We will drop the larger block in the fluid. **Predict** what you think will happen. Write it to the right. Compare your prediction with a neighbor.
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| 1. **WHY** do you think this will happen? Write your explanation to the right.
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| 1. **Observe** what happened. Record your observations to the right. http://www.webstaurantstore.com/images/products/main/5844/20176/bally-block-maple-wood-cutting-board-16-x-24-x-1-3-4.jpg
 |  |
| 1. We will drop the other block into the fluid. **Predict** what you think will happen. Record it to the right. Share your prediction with a neighbor.
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| 1. **Observe** what happened. Record your observations to the right.

https://img0.etsystatic.com/004/0/6999339/il_214x170.377894780_cxlz.jpg |  |
| 1. Let’s **explain** what happened. Pair with a partner and try to write an explanation for what you observed. (Hint: use words like mass, volume, or density.)
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| 1. Let’s **check** our explanations. Rewrite our class explanation to the right.
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| 1. An object’s **density** affects its behavior in a fluid. Write the fluid and density of the fluid we are working with today to the right.http://water.me.vccs.edu/courses/ENV110/clipart/disinf1.jpg
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| 1. Write a hypothesis (if… then statement) to further **experiment** with materials and their densities.
 | If…Then… |
| 1. Density can be solved using a **mathematical** relationship between mass and density. Record the relationship.
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| 1. Find the densities of the blocks we used today.
 | https://img0.etsystatic.com/004/0/6999339/il_214x170.377894780_cxlz.jpghttp://www.webstaurantstore.com/images/products/main/5844/20176/bally-block-maple-wood-cutting-board-16-x-24-x-1-3-4.jpgMass: 100 g Volume: 200 mLMass: 100 g Volume: 37 mL |
| 1. A mystery block has a mass of 100g and a volume of 100 mL. **Calculate** the density. Will it sink or float? Predict with a partner.
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Try it on your own on the next page.

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| *Try on Your Own* |
| *Try the following problems on your own. Show your work and get an initial from your teacher before moving on!* |
| 1. Block A has a density of 0.92 g/mL and Block B has a density of 8.7 g/mL. Which one will sink in water? WHY?
 | *Teacher Initial* |
|  |
| 1. http://images.clipartpanda.com/styrofoam-cup-clipart-108679166.jpgA brick of Styrofoam has a volume of 10 mL and a mass of 0.2 g. What is the density? Will it sink or float in water?
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| 1. http://fitnessandhealthadvisor.com/wp-content/uploads/2013/07/extravirgin-300x300.pngOlive oil has a density of 0.92 g/mL. Describe what will happen if you pour oil over water and WHY.
 |  |
| 1. A mystery brick has a volume of 50 mL and a mass of 600 g. What is the density? Will it sink or float in water?
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| 1. You drop two blocks in water. Block A has a volume of 50 mL and a mass of 600 g. Block B has a volume of 50 mL and a mass of 100 g. Calculate their densities. Sketch and label what the set up would look like.
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