**MASS, WEIGHT, VOLUME & DENSITY REVIEW**

**Student Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_ Period\_\_\_\_\_\_\_**

1. The density of a substance equals its mass divided by its volume. Talia listed the density of some common materials at 20 °C.

|  |  |
| --- | --- |
| **Material** | **Density (g/cm3)** |
| gasoline | 0.70 |
| mercury | 13.6 |
| milk | 1.03 |
| water | 0.998 |

If Talia has 10 grams of each material, which material has the *greatest* **volume**?

|  |  |  |
| --- | --- | --- |
| **A.** | gasoline | |
| **B.** | mercury | |
| **C.** | milk | |
|  | **D**. water  2. A metal coin has certain properties that can be measured. Which property of a coin is **different** on the moon than it is on Earth?  **A.** density  **B**. mass  **C**. volume  **D.** weight  Susie use3. Susie used a double-pan balance to measure the mass of an object by comparing it to a reference mass. She recorded the mass as 125 grams.    What value will Susie record for the **mass** of the object if she takes the same measurement on the *moon*, where the gravitational force is about one-sixth of Earth’s gravity?   |  |  | | --- | --- | | **A.** | 0 grams | | **B.** | 21 grams | | **C.** | 125 grams | | **D.** | 750 grams |   4. Julio mea 4. Julio measured the mass of a small rock as 11.0 grams. Then he measured the volume of the rock as shown in the illustration below.    What is the **density** of Julio’s rock?   |  |  | | --- | --- | | **A.** | 1.1 g/cm3 | | **B.** | 2.2 g/cm3 | | **C.** | 5 g/cm3 | | **D.** | 11 g/cm3 |   5. The grav 5. The gravitational force on Mars is about one-third that of Earth’s gravitational force. If a space probe has a mass of 300 kg and a weight of about 660 pounds on Earth, what would be the **mass** *and* approximate **weight** of this probe on Mars?   |  |  | | --- | --- | | **A.** | mass = 100 kg, weight = about 220 pounds | | **B.** | mass = 300 kg, weight = about 220 pounds | | **C.** | mass = 300 kg, weight = about 660 pounds | | **D.** | mass = 900 kg, weight = about 660 pounds |   6. The den 6. The density of aluminum is 2.7 g/cm3. What is the **volume** of a piece of aluminum if its mass is 8.1 grams?   |  |  | | --- | --- | | **A.** | 0.33 cm3 | | **B.** | 2.7 cm3 | | **C.** | 3 cm3 | | **D.** | 21.9 cm3 |   ty of  7. A piec 7. A piece of titanium has a mass of 18 grams. Using a graduated cylinder partly filled with water, a scientist found that the titanium displaced 4 milliliters of water. What is the **density** of titanium?   |  |  | | --- | --- | | **A.** | 0.22 g/cm3 | | **B.** | 4.5 g/cm3 | | **C.** | 18 g/cm3 | | **D.** | 324 g/cm3 |   of titanium  The density 8. The density of a sample of gasoline is 0.70 g/cm3. What is the **mass** of 1 liter of this gasoline?     |  |  | | --- | --- | | **A.** | 0.7 g | | **B.** | 70 g | | **C.** | 700 g | | **D.** | 1,429 g |   of a sample | | |

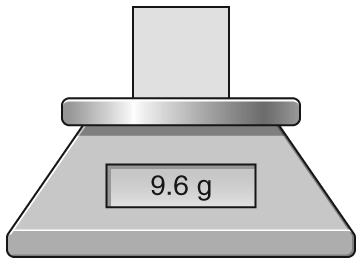
9. Some properties are the same in a substance no matter the amount of the substance.

Which of the following characteristics **does not change** based on the amount of the

substance?

|  |  |
| --- | --- |
| **A.** | mass |
| **B.** | volume |
| **C.** | density |
| **D.** | Weight |

10. 10. Look at the activity shown in the figure below.

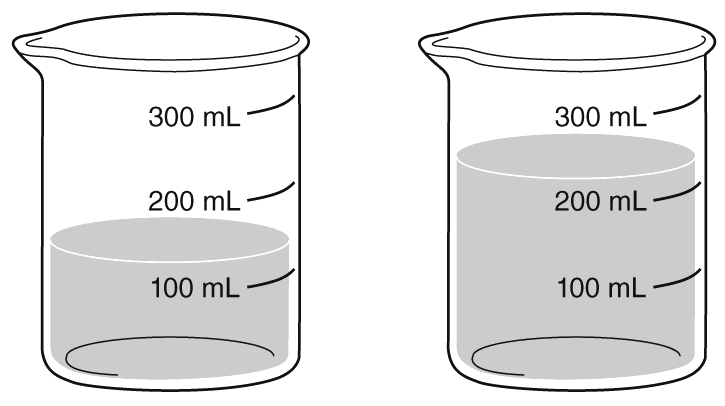


What **property** **of matter** is being measured in this activity?

|  |  |
| --- | --- |
| **A.** | color |
| **B.** | mass |
| **C.** | shape |
| **D.** | texture |

11.

11. The two beakers shown below contain pure water.



Which of these properties is the **same** for the water in both beakers?

|  |  |  |
| --- | --- | --- |
| **A.** | mass | |
| **B.** | weight | |
| **C.** | volume | |
|  | **D**. density  12. Mass can be measure in **units** of \_\_\_\_\_\_\_\_\_\_\_\_   * 1. grams   2. Newton   3. cubic centimeters   4. millimeters   13. The volume of a box is \_\_\_\_\_\_\_\_\_\_\_  **A**. how much it weighs  **B**. how much space it occupies   1. how much matter it contains 2. how tall it is   14. Kiki attached a small, metal block to a spring scale and held the scale by the ring on top. She then recorded the **weight** of the block.    Which **weight** did Kiki record in her science notebook?   |  |  | | --- | --- | | **A.** | about 2 Newtons | | **B.** | about 2 grams | | **C.** | about 2 ounces | | **D.** | about 2 pounds |   15. Amanda dropped a rock into a graduated cylinder containing water. The water level in the cylinder increased. Which **property** of the rock is this experiment designed to measure?   |  |  | | --- | --- | | **A.** | density | | **B.** | volume | | **C.** | mass | | **D.** | weight | | | |