G8 W12 chemistry worksheet

*Write the letter of the correct answer on the line at left.*

\_\_\_\_\_\_ **1.** Apollo 17 astronauts Eugene Cernan and Harrison Schmitt collected the last samples of moon rocks to bring back to Earth in 1972. The astronauts took measurements of the moon rocks using three categories not affected by gravity. This is because the Earth and moon have different forces of gravity. Which measurement did they **not** use?

**A.** mass

**B.** density

**C.** weight

**D.** volume

**Use the information below to answer questions 2 and 3.**

Mira is testing objects for her science experiment. She has a chart listing the mystery objects' densities, but no other information.

|  |  |
| --- | --- |
| **Object** | **Density** |
| A | 12 g/cm³ |
| B | 9 g/cm³ |
| C | 3 g/cm³ |
| D | 6 g/cm³ |

*Write the letters of the correct answers on the lines at left.*

\_\_\_\_\_\_ **2.** She needs to calculate which object has a mass of 27 grams. If each object has an identical volume of 3 cm³, which object has a mass of 27 grams?

**A.** A

**B.** B

**C.** C

**D.** D

\_\_\_\_\_\_ **3.** She places each object in large bowl of water in order to determine if any float. Which of the objects, if any, will float?

**A.** A

**B.** C

**C.** All objects will float.

**D.** No objects will float.

*Write a letter on each line to identify the type of measurement.*

**4.**  Andrew is creating a matching game as a review for his science unit on measruing matter. Help him match the descriptions with the type of measurement they describe. Write *M* for mass, and *V* for volume, and *D* for density.

V amount of space that matter occupies

D measured in grams per cubic centimeter (g/cm³)

D measure of mass of a material in a given volume

M measured in grams (g)

V measured in cubic centimeters (cm³)

M amount of matter in an object

*Write an answer for the following question in the space provided.*

**5.** Raj takes a meteorology class and learns about the effects of air density on the weather. What affects the density of air? Explain.

Temperature affects the density of air. When temperatures are warm, the air heats up and it rises. When the temperatures are cool, air cools down and sinks.

1. unknown material has a mass of 3.0 g and a volume of 8.0 cm3. What is the density of the material?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | A. | 24.0 g/cm3 | B. | 5.0 g/cm3 |
|  | C. | 11.0 g/cm3 | D. | 0.4 g/cm3 |

1. Density is given in \_\_\_\_.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | A. | Pa/cm3 | B. | N/m2 |
|  | C. | g/s2 | D. | g/cm3 |

1. A cube has a side of 5 cm. It has a mass of 250 grams. The density of the cube is \_\_\_\_\_.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | A. | 40 g/cm3 | B. | 1.0 g/cm3 |
|  | C. | 50 g/cm3 | D. | 2.0 g/cm3 |

1. Al Biruni calculated the volume of an irregular gemstone by calculating \_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. The amount of displaced water
3. The amount of matter it has
4. The hardness of its crystals
5. The equivalent masses on a two-sided balance