

**Quiz 8**  
**Density, Volume, Mass, Weight**

Name: \_\_\_\_\_ Group: \_\_\_\_\_

1. A 1 kilogram of feathers is placed next to 1 kilogram of gold. A person would notice that
  - A. 1 kg of gold has a smaller volume**
  - B. 1 kg of feathers has a smaller volume
  - C. 1 kg of feathers and 1 kg of gold have equal volumes
  - D. Depends on the temperature and pressure in the room
  
2. Consider the 1kg of feathers and 1 kg of gold again, the
  - A. 1 kg of gold has a smaller weight
  - B. 1 kg of feathers has a smaller weight
  - C. 1 kg of feathers and 1 kg of gold have equal weight**
  - D. Depends on the temperature and pressure of the room.
  
3. Again with the 1kg of feathers and 1 kg of gold, this time compare density
  - A. 1 kg of gold is less dense
  - B. 1 kg of feathers is less dense**
  - C. 1 kg of feathers and 1 kg of gold have equal densities.
  - D. Depends on the temperature and pressure of the room.
  
4. Two objects have exactly the same dimensions (length, width and height). One of them floats in water and the other sinks. You can be sure that
  - A. The sinker has greater mass
  - B. The sinker has greater density
  - C. The sinker has greater volume
  - D. A and B**
  - E. B and C
  - F. A, B and C

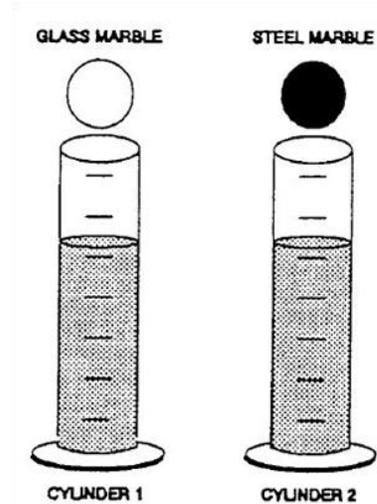
Bowling balls come in different weights but must all be the same size to fit in the return machine. A typical bowling alley has balls ranging from 8 lbs to 16 lbs.

5. This tells you that all bowling balls have the same
  - A. weight
  - B. mass
  - C. volume**
  - D. density
  - E. none of the above

6. When an object is placed in water, it has a different
- A. Apparent weight**
  - B. mass
  - C. volume
  - D. density
  - E. none of the above
7. A student in lab finds that two objects have the same mass, she is sure to find that they also have the same
- A. weight**
  - B. volume
  - C. density
  - D. more than one above
  - E. none of the above
8. Next she finds two different objects that have the same density, she is sure to find that they also have the same
- A. weight
  - B. mass
  - C. volume
  - D. more than one above
  - E. none of the above**
9. Now she finds two objects that have the same volume, she is sure to find that they also have the same
- A. weight
  - B. mass
  - C. density
  - D. more than one above
  - E. none of the above**
10. To find the volume of a block one takes
- A. Length times width
  - B. Density times weight
  - C.  $\frac{1}{2}$  base times height
  - D. Length times width times height
  - E. submerge it in water and measure the water level increase
  - F. D and E**
  - G. B and D

11. To find density of an object one takes
- volume/mass
  - volume/weight
  - mass/volume**
  - weight/volume
  - More than one of the above

The diagram to the right shows two identical cylinders filled to the same level with water. Also shown are two marbles, one glass and one steel. The two marbles are the same size but the steel one is much heavier than the glass one.



12. When the glass marble is put in Cylinder 1 it sinks to the bottom and the water level rises to the 6<sup>th</sup> mark. If you put the steel marble into Cylinder 2, what will happen? The steel marble will
- float
  - sink and the water will rise to the 6<sup>th</sup> mark.**
  - sink and the water will rise higher than the 6<sup>th</sup> mark.
  - sink and the water will rise but lower than the 6<sup>th</sup> mark.

13. An object on the moon has a different \_\_\_\_\_ as it does on earth.
- Mass
  - Weight**
  - Volume
  - Density
  - More than one of the above

14. A person stands on a bathroom type scale on earth and then travels to the moon with the scale. When they stand on the scale on the moon, the scale will read less because
- A person weighs less on the moon**
  - A person has less mass on the Moon
  - A and B
  - The scale will not read less
  - None of the above





A.



B.



C.



15. Which of the devices above will measure this rock differently on the moon compared to on Earth?

- A. A
- B. B
- C. C
- D. A and C
- E. None of the above