

## **Matter: Mass, Volume, and Density Test A**

1. (T)(F)Two objects may occupy the same space at the same time.
2. Which best describes volume?
  - a)the amount of matter in an object
  - b)the amount of three-dimensional space
  - c)the pull of gravity on an object
3. What units are most commonly used to measure solid volume?
  - a) cubic centimeters (cc)
  - b) milliliters (ml)
  - c) centimeters (cm)
  - d) grams (g)
4. What units are most commonly used to measure liquid volume?
  - a) cubic centimeters (cc)
  - b) milliliters (ml)
  - c) centimeters (cm)
  - d) grams(g)
5. Which of these is a good description of matter?
  - a) stuff
  - b) action
  - c) way-cool
6. (T)(F)The volume of regular, three-dimensional (3D) shapes such as cubes, rectangular and triangular prisms, spheres, cylinders, cones, and pyramids may be determined by measuring their length dimensions and substituting them into a formula.
7. What is the volume of a cube that measures 3x3x3cm?
  - a) 9cm
  - b) 27cm
  - c) 27cc
  - d) 9ml
8. How are weight and mass similar?
  - a)They both depend on the amount of matter in an object.
  - b)They both depend on the force of gravity.
  - c)Neither depends on the force of gravity.
9. How are weight and mass different?
  - a)Mass is the amount of matter in an object and is unaffected by gravity while weight is the pull of gravity on an object and changes when gravity changes.
  - b)Weight is the amount of matter in an object while mass is the pull of gravity on an object.
  - c)Your mass would change if you went to the moon while your weight would remain constant.
10. What device or technique is used to measure mass?
  - a)water displacement
  - b)graduated cylinder
  - c)spring scale
  - d)triple beam balance
11. What device or technique is used to measure liquid volume?
  - a)water displacement

- b) graduated cylinder
- c) spring scale
- d) triple beam balance

12. What device or technique is used to measure pulling force, including weight?

- a) water displacement
- b) graduated cylinder
- c) spring scale
- d) triple beam balance

13. What device or technique is used to measure the volume of an irregular solid that cannot be calculated?

- a) water displacement
- b) graduated cylinder
- c) spring scale
- d) triple beam balance

14. What units are commonly used to measure pushing or pulling force, such as weight?

- a) grams(g)
- b) newtons(n)
- c) croutons(cr)
- d) pascals(p)

15. (T)(F) My weight on the moon is different from my weight on earth.

16. The tangible (physical) universe consists of what two things?

- a) mass and volume
- b) matter and energy
- c) mass and weight
- d) solids and liquids

17. Density is calculated using the following formula:

- a)  $D=M/V$  (D equals M divided by V)
- b)  $D=V/M$  (D equals V divided by M)
- c)  $L \times W \times H$  (length times width times height)

18. What is the density of an object with a volume of 50cc and a mass of 100g?

- a) 100g/cc
- b) .5cc/g
- c) 50g/cc
- d) 2g/cc

19. (T)(F) An object that is 13g and 15cc will float in water.

20. List one type of energy.

21. Foam floats in water. What is the reason for this?