**CH 3 REVIEW QUESTIONS**

1. The density of an object is

a) The mass divided by the volume D = m/v

b) The volume divided by the mass D = v/m

c) The same as its weight

d) The same as the size of the object

2. If two objects have the same volume but one has a greater mass, the one with greater mass

a) Has a lower density

b) Has a higher density

c) Will float

d) Will sink

3. If two objects have the same volume but one is made up of smaller and heavier atoms, the one with small heavy atoms will

a) Be larger than the other

b) Be less dense than the other

c) Be more dense than the other

d) Float

4. If you cut a wooden block in half, each half would have

a) Half the density of the original piece

b) Twice the density of the original piece

c) The same density as the original piece

d) No density at all

5. In the water displacement method for finding volume

a) You subtract the final volume from the initial volume

b) You subtract the initial volume from the final volume

c) You add the initial and final volumes

d) You divide the final volume by 2

6. If two objects have the same mass but different volumes

a) The one with the larger volume has the lower density

b) They must have the same density

c) The one with the larger volume has the higher density

d) The one with the larger volume is twice as dense

7. If the density of water is 1 gram/cm3, this means that the mass of 100 cm3 of water should be

a) 100 grams

b) 50 grams

c) 1000 grams

d) 1 gram

8. Density is a characteristic property of a substance. This means that the density of water

a) Changes depending on the volume

b) Stays the same regardless of the volume

c) Is greater for a greater mass of water

d) Is less for a smaller mass of water

9. 100 milliliters of water has a mass of 100 grams. If you measured the mass of 50 milliliters of water, the mass would be

a) 25 grams

b) 200 grams

c) 100 grams

d) 50 grams

10. To find the mass of water in a graduated cylinder, you could

a) Take the total mass of the water and graduated cylinder and subtract the mass of the water

b) Take the total mass of the water and graduated cylinder and subtract the mass of the graduated cylinder

c) Add the mass of the water to the mass of the graduated cylinder

d) Take the total mass of the water and graduated cylinder and divide the mass by two

11. An object should float in a liquid if it is

a) More dense than the liquid

b) Less dense than the liquid

c) Lighter than metal

d) Shaped like a ball

12. A tiny piece of sand is very light but sinks in water. This is because

a) Sand is a solid

b) Sand is less dense than water

c) There is more water than sand

d) Sand is more dense than water

13. Wood floats in water. If you measured the mass of the same volume of wood and water

a) The water would have a greater mass

b) The water would have a lower mass

c) The mass of the wood and water would be the same

d) The mass of the wood and water would both be 100 grams

14. A candle floats in water but sinks in alcohol. This is because

a) The candle has less mass in alcohol

b) The water has less mass than the alcohol

c) The water is more dense than the alcohol

d) Water and alcohol are both liquids

15. Alcohol is less dense than water. If you measured the mass of the same volume of alcohol and water

a) The water would have a greater mass

b) The water would have a lower mass

c) The mass of the alcohol and water would be the same

d) The mass of the alcohol and water would cancel each other out

16. A carrot floats in salt water but sinks in fresh water. This is because

a) Salt water is more dense than fresh water

b) Fresh water is more dense than salt water

c) The carrot is more dense than salt water

d) A larger piece of carrot has a different density

17. The density of hot water

a) Is greater than the density of cold water

b) Is less than the density of cold water

c) The same as the density of cold water

d) Depends on the volume of water

18. The density of hot and cold water are different mainly because

a) The molecules in hot water move slower and are slightly closer together

b) The molecules in hot water are larger

c) The molecules in hot water move faster and are slightly further apart

19. Look at the graph to help you answer the question. What would you expect the mass of 500 mL of water to be? Why?

 

20. A piece of ice floats on water. What does this tell you about the density of ice compared to the density of water?

21. It might seem strange but hot water and ice both float on room temperature water. Explain why this happens.