Name __Key__   Date _____

Prologue Review Sheet

If you know all the information on this review sheet, you can get a 100 on the test.

Measurement

1. A triple beam balance is used to measure __mass__

2. Mass is measured in __grams__

3. A graduated cylinder is used to measure __volume (liquid)__

4. Volume is measured in __cm^3__ or __mL__

5. A ruler can be used to determine __length__ or __volume__

6. A thermometer is used to measure __temperature__

7. Temperature can be measured in __°C (celsius)__ or __°F (Fahrenheit)__

8. Explain how to find the volume of a very large object.

Place an object on the pan, then use the weight on the beam to measure the mass

9. Explain how to use a graduated cylinder to find the volume of a liquid.

Put the liquid in the graduated cylinder, put the graduated cylinder on a flat surface + read the meniscus at eye level.

10. Explain how to use a graduated cylinder to find the volume of an irregular solid.

Fill the graduated cylinder to 50 mL, then slide the irregular sized object into the graduated cylinder slowly. Measure the displacement of the water. Take the new measurement + subtract the 50mL to get the volume.

11. Explain how to use a ruler to measure the volume of a rectangular solid using

the formula: Volume = length * width * height. Memorize this formula!

width
height
length
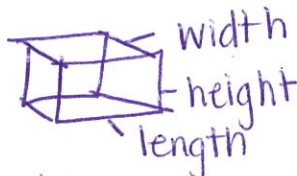
12. Define: **mass** - __the amount of matter in an object__

volume - __the amount of space an object takes up__

weight - __how gravity pulls on an object__

Density

13. Define **density** - _Amount of mass per unit volume_
How tightly matter is packed

14. Write the density formula - $Density = \frac{mass}{volume}$

    Be able to use the density formula to solve problems when the mass and volume are given to you. **Example: mass = 100g, volume = 25 mL density=?
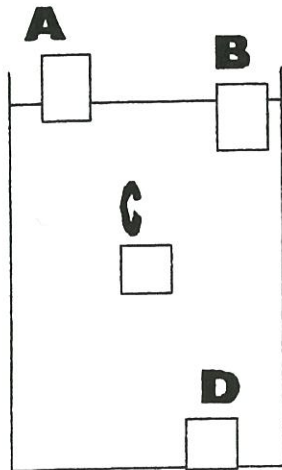
① $D = \frac{m}{V}$ ② $D = \frac{100g}{22mL}$ ③ $D = 4.0 \, g/mL$ ✪ Do All Steps!

15. The density of water is 1 g/ml. Objects denser than water will _sink_ in a container of water. Objects less dense than water will _float_ in a container of water.

✪ 16. The container below is full of water. There are 4 objects in the container. Use the drawing to answer the questions below.

Least → Greatest

A, B, C, D

Which object is denser than water? _D_

Which object is most likely an ice cube? _B_

Which object is the least dense? _A_

Which object is as dense as the water? _C_

Which object might have a density of 7 g/mL? _D_

Which object might have a density less than 1 g/mL? _A/B_

17. When a material is heated, what happens to its *volume*? _increase_

18. When a material is heated, what happens to its *density*? _decreases_
19. When a material is cooled, what happens to its *density*? _increases_
20. When more pressure is put on an object, what happens to its *volume*? _decreases_
21. When more pressure is put on an object, what happens to its *density*? _increases_
22. When an object is cut in half, what happens to its *density*? _Stays the same_
23. **As long as the pressure and temperature on an object remain the same, the object will still have the same density. ★
24. **If you are given 6 different sized pieces of Aluminum, they will all have the same density because density depends on what the material is made of.

Shape and size has no effect

25. Most materials are densest in their ___Solid___ phase.
26. Water is unusual, because it is densest in its _liquid_ phase, at 4°C.

Observations and Inferences

27. Define: **Observation** - _interaction with the environment using your senses_
    Inference - _to make a conclusion based on observations_
28. Give example for each: **Observation** - _The tree has green leaves_
    Inference - _I think the tree will have pink flowers_
29. A prediction is always a(n) _inference_.

Earth's Spheres

30. Define: **Hydrosphere** - _Liquid part of the Earth_
    Lithosphere - _Solid part of the Earth_
    Atmosphere - _Gases surrounding the Earth_
    Biosphere - _Living part of the Earth_