Section 1.2 Summary

Physical properties

1. **Physical Properties**
2. **Physical properties** can be observed or measured without changing the matters identity.
3. Examples include magnetism, strength flexibility, thermal conductivity, state, density, solubility, ductility, and malleability.
4. Often used to describe objects
5. **Identifying Matter**
6. Just remember, you use physical properties every day.
7. **Density**
8. The ratio, or comparison, of a substance’s mass to its volume.
9. It is the amount of matter in a given space, or volume.
10. A golfball and a ping pong ball have similar volumes, but the golf ball has more mass so it has a higher density.
11. Hollow objects tend to have lower densities, objects with matter all the way through tend to have larger densities.
12. **Liquid Layers**
13. Liquids have densities. When you put a lot of liquids in a container, the most dense will go to the bottom, and the least to the top, forming layers of liquids.
14. **Density of Solids**
15. The densities of solids will determine if they will float or sink.
16. Water has a density of 1g/cm3
17. Objects with a density greater than 1 will sink in water.
18. Object with a density less than 1 will float in water.
19. A large solid object will not always have a high density. Just think about boats.
20. **Solving for Density**
21. **D = m/V**
22. **Density is equal to an objects mass divided by the objects volume.**
23. Most common unit for density: g/cm3
24. Grams per cubic centimeter of the substance.
25. **Using Density to Identify Substances**
26. Every substance has its own density.
27. Each substance’s density differs from another substance’s density
28. **Physical Changes Do Not Form New Substances**
29. **Physical Change-** a change of matter from on for to another without a change in chemical properties.
30. Hammering silver into a heart shape is a physical change.
31. A melting popsicle is also a physical change
32. Crushing a can is a physical change
33. A substance before a physical change will be the same substances after.
34. For example: when water freezes, it is still water, just in a solid state
35. **Examples of Physical Changes**
36. Freezing water to make ice
37. Sanding a piece of wood
38. A rock eroding away
39. Dissolving sugar in to water
40. **Matter and Physical Changes**
41. Physical changes do not change the identity of a substance.