**Unit 4 Elements, Compounds, Mixtures**

**Review Sheet**

**Elements, compounds, Mixture Notes**

1. What is the smallest piece of an element?

**The smallest piece of an element is an ATOM.**

2. What are the three parts of an atom?

**The three parts of an atom are protons, neutrons, and electrons**

3. What is the smallest piece of a compound?

**The smallest piece of a compound is an element**

4. Give 2 examples of a compound.

**NaCl, H**₂**O**

5. Name 3 ways to separate a compound.

C**hemical reaction, add heat, electricity**

6. What do elements and compounds have in common?

**Elements and compounds are both pure substances**

7. What is the difference between an element, compound, and mixture?

**Element: a pure substance that can’t be separated or broken down into simpler substance by physical or chemical means**

**Compound: a pure substance composed of 2 or more elements chemically combined. They don’t keep their own properties.**

**Mixture: is when 2 or more substances are combined but DO NOT chemically combine. They keep their original properties.**

8. How many atoms are in C₁₂H₂₂O₁₁? How many elements?

**Atoms=45, Elements=3**

9. How many atoms are in 3H₂O? How many elements?

**Atoms=9, Elements=2**

10. What are 2 types of mixtures? Give an example of each.

**Homogeneous = milk Heterogeneous = salad**

11. Name 4 ways to separate a mixture.

**Pick apart, evaporation, filter, magnets**

**Solution Notes**

12. When iced tea mix is dissolved in water, a homogeneous mixture is formed called this. **Solution**

13. What are the 2 parts of a solution?

**Solute, solvent**

14. What is the solute and solvent in iced tea?

**solute=iced tea mix, solvent=water**

15. What does it mean if something is soluble? Give an example.

**Soluble means something will dissolve into the solvent. Sugar is soluble.**

16. What does it mean if something is insoluble? Give an example.

**Insoluble means something can’t dissolve. A pencil in water is insoluble.**

17. What are 3 words to describe the concentration of a solution?

**Unsaturated, Saturated, Supersaturated**

18. Draw a picture of a dilute and concentrated solution.



19. Give an example of an unsaturated, saturated, and supersaturated solution.

**Unsaturated=weak iced tea, saturated=a sponge that can’t hold any more water**

**supersaturated=strong iced tea**

20. What can increase solubility?

(the rate of solute dissolving)

**Temperature can increase solubility.**

21. What can decrease the rate of solubility?(solute dissolving)

**Increasing the amount of solute.**

22. What type of solution can still have more solute dissolved in it?

**An unsaturated solution can still have solute dissolved in it.**

23. What type of solution has all of the solute it can hold?

**A saturated solution has all of the solute it can hold.**

24. What type of solution has more solute than it can hold?

**A supersaturated solution has more solute than it can hold.**

25. If sand, sugar, and water were mixed together in a glass, explain why the sugar will no longer be visible and why the sand will sink to the bottom of the glass.

**The sugar isn’t visible because it dissolved into the solvent and the sand is insoluble in water.**