

Chemistry Final Exam Study Guide

1. What are the steps of the scientific method?

Observation, hypothesis, experiment, conclusion

2. Describe what each step means.

3. What is an experimental control?

An experiment that tests only one variable

4. What is a dependent variable?

Factor that responds to independent variable. (What we measure)

5. What is an independent variable?

Factor that we change as scientists.

6. Draw 3 boxes. In each box, illustrate the 3 states of matter using circles as particles.

Solid  Liquid  Gas 

7. Which states of matter have definite shapes?

Solids

8. Which states of matter have definite volumes?

Solids, Liquids

9. Which states of matter have indefinite shapes?

Liquids, Gas

10. Which states of matter have indefinite volume?

Gas

11. Give 5 examples of chemical changes.

Rust, burning, cooking, color change, precipitate

12. What does the Law of Conservation of Matter say?

Mass/Matter can not be created or destroyed

13. What is a physical property? size, density, mass, freezing point, etc.

Observation without producing new kinds of matter

14. Choose a substance. List all the physical properties the substance might have.

Water boils at 100°C , Freezes at 0°C

15. What is a chemical property? flammability, toxicity, radioactivity

Producing a new kind of matter

16. For the same substance that you chose previously, list as many chemical properties of the

substance as you can. Unreactive with water (itself)

17. Make a mini-concept map using the following terms: atom, molecule, element, electron,

proton, neutron, compound, ion.

18. Describe a proton.

- Positive Charge

- Found in nucleus of an atom

- Has amu $\rightarrow$ atomic mass unit of 1

- Tells us the atomic number