

Name: _____ Period: _____ Date: _____

Physical Science Midterm Exam Study Guide

Complete on a separate sheet of paper.

Leave space between answers to add in when we review!

Midterm Exam is on Thursday, January 11, 2018

1. Define each term listed below. You can write them out on paper, or make flashcards, or use Quizlet or another online resource!!

Unit 1: Matter	Unit 2: Atomic Structure	Unit 3: Bonding	Unit 4: Reactions
a. Matter b. Substance c. Element d. Compound e. Mixture f. Homogeneous Mixture (solution) g. Heterogeneous Mixture h. Physical Properties i. Density j. Physical Change k. Chemical Properties l. Chemical Change m. Law of Conservation of Mass n. Thermal energy o. Temperature p. Solubility	q. Atomic number r. Mass number s. Isotopes t. Atomic mass u. Groups v. Periods	w. Chemical formula x. Chemical bonds y. Ion z. Oxidation number aa. Cation bb. Anion cc. Molecule	dd. Reactants ee. Products ff. Precipitate gg. Exergonic hh. Exothermic ii. Endergonic jj. Endothermic kk. Catalyst ll. Inhibitor

2. Draw the flowchart for how matter can be classified (see example on p.3 in notes)
3. What is the biggest difference between compounds and mixtures?
4. Explain the three principles of kinetic molecular theory.
5. What is a solution? What are the two parts to a solution?

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6. What are the three types of solutions?
7. Summarize our current understanding of the structure of the atom. Include where the mass and volume in the atom are mainly located, as well as where protons, neutrons and electrons are found.
8. What is the electron cloud? Explain how electrons move within the cloud, their energy, and what the outermost electrons are called.
9. What does the group number on the periodic table tell you? What does the period number tell you?
10. Describe the different characteristics between metals, nonmetals, and metalloids on the periodic table.
11. Why do elements form compounds? Include what elements ***never*** form compounds and why.
12. Summarize, in your own words, how to determine a chemical formula from an ***ionic compound's*** name. (*Ex. How do you know that sodium chloride is NaCl?*)
13. Summarize, in your own words, how to determine an ***ionic compound's*** name from a chemical formula. Include the polyatomic ion exception and the transitional metal exception.
14. Summarize, in your own words, how to determine a chemical formula from a ***covalent compound's*** name.
15. Summarize, in your own words, how to determine a ***covalent compound's*** name from a chemical formula. (*Ex. How do you know that P₂O₅ is Diphosphorous pentaoxide?*)
16. Explain the difference between ionic and covalent bonds. Also, list 2-3 characteristics of ionic compounds and 2-3 characteristics of covalent compounds.
17. What are examples of evidence of chemical reactions?
18. List the commonly used symbols in chemical reactions.
19. List EACH of the five types of chemical reactions. Describe characteristics of each AND include an example of each.
20. Describe, in detail, the five factors that affect the rate of chemical reactions.