Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ JMJ Date \_\_\_\_\_\_\_\_\_\_\_

Period \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Physical Science

First Trimester Review

You can use this review sheet as a guide. It should not be the only thing you should study. You should also look at your notes, vocabulary, tests, and quizzes (if possible) for the trimester.

**Introduction Chapter**

* What are the three branches of science?
* Describe and explain the seven steps to the scientific method.
* Determine the difference between a scientific law and scientific theory.
* List the base units for time, distance, mass, and volume.
* List and explain scientific tools.
* During a performed experiment, there are groups and variables. Explain each.

**Chapter 7.1 7.2 & 8.1**

* Explain the structure of an atom. Draw a picture, if necessary.
* What is the difference between a substance and a mixture?
* What are the two types of substances? How are they different?
* What are the two types of mixtures? How are they different?
* Give two examples of the each (element, compound, heterogeneous mixture, and homogeneous mixture).
* What are the two parts of a solution?
* What are the eight physical properties of the matter? Briefly define each.
* Name the four states of matter.
* Describe the shape and volume in all three states of matter.
* Describe the particle motion in all three states of matter.
* Describe the attractive force in all three states of matter.
* What is viscosity? Give two examples of low viscosity and two examples of high viscosity.
* Explain surface tension and cohesion.
* What is the difference between the two general types of solids?
* What is an isotope?
* How can you separate salt water?

**Chapter 8.2, 7.3, 8.3, & 7.4**

* What is a physical change?
* What is the PE? TE and KE?
* The physical change of state of matter chart
	+ Explain each change with the appropriate term. For, example solid to liquid is called \_\_\_\_\_\_\_\_\_.
	+ As TE is added, what happens to CPE and KE?
* As TE is removed, what happens to CPE and KE?
* What are all the points on the physical change chart? Chart is provided below.
* What is the similarity between evaporation and boiling?
* What are the differences between evaporation and boiling?
* What happens to matter and energy during a change in state?
* What is a chemical property? Give at least four examples.
* What is a chemical change? Name the four signs of a chemical change.
* What are the three factors that affect a chemical reaction? Explain.
* List the four ideas of the kinetic molecular theory.
* What is pressure?
* What relationship is involved in Boyle’s Law?
	+ Make sure you know numerous examples (write them down)
* What relationship is involved in Charles’s Law?
	+ Make sure you know numerous examples (write them down)
* Are all vapors a gas? Are all gases a vapor?

**Chapter 9**

* Explain the structure of an atom.
* Explain the subatomic particles- include location, charge, and relative mass.
* Describe what each philosopher/scientist discovered about the atom. (Democritus, Aristotle, Dalton, Thomson, Rutherford, Chadwick, Bohr, Lewis)
* How can you see an atom?
* What experiments did Thomson and Rutherford conduct? Explain.
* How do you draw Bohr diagrams? Lewis dot diagrams?
* What are periods? Groups? Valence electrons?
* What is a isotope?
* Define AN and MN.
* Describe the three types of decay. (include the particle, what happens to AN, MN, and what it can penetrate.)
* What is an ion? What are the different types of ions? What is a cation? Anion?

**Chapter 10**

* Explain what you see on a periodic table.
* What are some properties of metals in general? Explain the three types of metals and give a property of each.
* What are the metallic patterns?
* What are some nonmetal properties? Explain the three types of nonmetals and give a property of each.
* What are metalloids? Explain some properties and uses of metalloids.
* Know some of the uses of specific elements that have been discussed.

**Chapter 11**

* Explain electrons and their arrangement. (Include number and energy level)
* What are valence electrons? What do the unpaired electrons show you in a Lewis dot diagram?
* What are unstable and stable atoms?
* What are covalent bonds between? Ionic bonds between? Metallic bonds between?
* Water is what kind of molecule?

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