

Course Title: Physical Science/Physical Science Honors (Edits) Nov 2017**Course Number: 2003310/2003320**

NGSSS Benchmark	Content Focus	Number of Points Possible	Suggested Cognitive Complexity
Reporting Category 1: Nature of Science			
SC.912.N.1.1	Define a problem based on a specific body of knowledge.	4 3	4 Level 3 3 Level 2
SC.912.N.1.2	Describe and explain what characterizes science and its methods.	3	3 Level 2
SC.912.N.1.3	Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.	2	2 Level 1 2 Level 2
SC.912.N.2.1	Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).	1	1 Level 3 1 Level 2
SC.912.N.2.2	Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.	1	1 Level 3 1 Level 2
SC.912.N.3.1	Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.	2	2 Level 3 2 Level 2
SC.912.N.3.3	Explain that scientific laws are descriptions of specific relationships under given conditions in nature, but do not offer explanations for those relationships.	1	1 Level 2
Reporting category total		14	
Reporting Category 2: Matter			
SC.912.P.08.01	Differentiate among the four states of matter.	2	2 Level 2 1 Level 2 1 Level 3
SC.912.P.08.02	Differentiate between physical and chemical properties and physical and chemical changes of matter.	2	2 Level 2 1 Level 1 1 Level 2
SC.912.P.08.04	Explore the scientific theory of atoms (also known as atomic theory) by describing the structure of atoms in terms of protons, neutrons and electrons, and differentiate among these particles in terms of their mass, electrical charges and locations within the atom.	2	2 Level 3 1 Level 2 1 Level 3
SC.912.P.08.05	Relate properties of atoms and their position in the periodic table to the arrangement of their electrons.	2	2 Level 2
SC.912.P.08.07	Interpret formula representations of molecules and compounds in terms of composition and structure.	2	2 Level 2
SC.912.P.08.08	Characterize types of chemical reactions, for example: redox, acid-base, synthesis, and single and double replacement reactions.	2	2 Level 2
Reporting category total		12	
Reporting Category 3: Energy			
SC.912.P.10.01	Differentiate among the various forms of energy and recognize that they can be transformed from one form to others.	2	2 Level 2 1 Level 1 1 Level 2
SC.912.P.10.03	Compare and contrast work and power qualitatively and quantitatively.	2	2 Level 2
SC.912.P.10.04	Describe heat as the energy transferred by convection, conduction, and radiation, and explain the connection of heat to change in temperature or states of matter.	1	1 Level 3 1 Level 2
SC.912.P.10.05	Relate temperature to the average molecular kinetic energy.	1	1 Level 2
SC.912.P.10.07	Distinguish between endothermic and exothermic chemical processes.	1	1 Level 2
SC.912.P.10.10	Compare the magnitude and range of the four fundamental forces (gravitational, electromagnetic, weak nuclear, strong nuclear).	1	1 Level 2
SC.912.P.10.14	Differentiate among conductors, semiconductors, and insulators.	2	2 Level 2

SC.912.P.10.15	Investigate and explain the relationships among current, voltage, resistance, and power.	2	2 Level 3 2 Level 1
Reporting category total		12	
Reporting Category 4: Motion			
SC.912.P.12.02	Analyze the motion of an object in terms of its position, velocity, and acceleration (with respect to a frame of reference) as functions of time.	2	2 Level 3 2 Level 2
SC.912.P.12.03	Interpret and apply Newton's three laws of motion.	3 3	3 Level 3 1 Level 1 2 Level 3
SC.912.P.12.04	Describe how the gravitational force between two objects depends on their masses and the distance between them.	2	2 Level 2
SC.912.P.12.10	Interpret the behavior of ideal gases in terms of kinetic molecular theory.	1	1 Level 3 1 Level 2
SC.912.P.12.11	Describe phase transitions in terms of kinetic molecular theory.	2	1 Level 1 1 Level 2 2 Level 2
SC.912.P.12.12	Explain how various factors, such as concentration, temperature, and presence of a catalyst affect the rate of a chemical reaction.	2 3	2 Level 3 2 Level 2 1 Level 1
Reporting category total		12	

Overall Percentage for Written Test: 100%

Overall Percentage for Performance Tasks: 0%