

Course Title: Comprehensive Science 2- Grade 7 (edits)

Course Number: 2002070

NGSS Benchmark	Content Focus	Number of Questions	Suggested Cognitive Complexity (per CPALMS)
<i>Reporting Category 1: Nature of Science</i>			
SC.7.N.1.1	Define a problem from the seventh grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.	3	2 level 2 1 level 3
SC.7.N.1.2	Differentiate replication (by others) from repetition (multiple trials).	2	1 level 1 2 level 2
SC.7.N.1.3	Distinguish between an experiment (which must involve the identification and control of variables) and other forms of scientific investigation and explain that not all scientific knowledge is derived from experimentation.	1	1 level 2
SC.7.N.1.4	Identify test variables (independent variables) and outcome variables (dependent variables) in an experiment.	2	2 level 2
SC.7.N.1.5	Describe the methods used in the pursuit of a scientific explanation as seen in different fields of science such as biology, geology, and physics.	1	1 level 1
SC.7.N.2.1	Identify an instance from the history of science in which scientific knowledge has changed when new evidence or new interpretations are encountered.	1	1 level 1
SC.7.N.3.1	Recognize and explain the difference between theories and laws and give several examples of scientific theories and the evidence that supports them.	2	1 level 2 1 level 3
SC.7.N.3.2	Identify the benefits and limitations of the use of scientific models.	1	1 level 2
<i>Reporting Category Total</i>		13	
<i>Reporting Category 2: Earth and Space Science</i>			
SC.7.E.6.1	Describe the layers of the solid Earth, including the lithosphere, the hot convecting mantle, and the dense metallic liquid and solid cores.	2	1 level 1 1 level 2
SC.7.E.6.2	Identify the patterns within the rock cycle and relate them to surface events (weathering and erosion) and subsurface events (plate tectonics and mountain building).	2	1 level 2 1 level 3
SC.7.E.6.3	Identify current methods for measuring the age of the Earth and its parts, including the law of superposition and radioactive dating.	2	2 level 2
SC.7.E.6.4	Explain and give examples of how physical evidence supports scientific theories that Earth has evolved over geologic time due to natural processes.	2	2 level 2
SC.7.E.6.5	Explore the scientific theory of plate tectonics by	2	2 level 2

	describing how the movement of Earth's crustal plates causes both slow and rapid changes in Earth's surface, including volcanic eruptions, earthquakes, and mountain building.		
SC.7.E.6.7	Recognize that heat flow and movement of material within the Earth causes earthquakes and volcanic eruptions, and creates mountains and ocean basins.	2	1 level 1 2 level 2
Reporting Category Total		12	
Reporting Category 3: Physical Science			
SC.7.P.10.1	Illustrate that the Sun's energy arrives as radiation with a wide range of wavelengths, including infrared, visible, and ultraviolet, and that white light is made up of a spectrum of many different colors.	2	1 level 1 1 level 2
SC.7.P.10.2	Observe and explain that light can be reflected, refracted, and/or absorbed.	2	2 level 2
SC.7.P.10.3	Recognize that light waves, sound waves, and other waves move at different speeds in different materials.	1	1 level 2
SC.7.P.11.1	Recognize that adding heat to or removing heat from a system may result in a temperature change and possibly a change of state	2	2 level 2
SC.7.P.11.2	Investigate and describe the transformation of energy from one form to another.	2	1 level 1 1 level 2
SC.7.P.11.3	Cite evidence to explain that energy cannot be created nor destroyed, only changed from one form to another.	2	1 level 2 1 level 3
SC.7.P.11.4	Observe and describe that heat flows in predictable ways, moving from warmer objects to cooler ones until they reach the same temperature.	2	2 level 2
Reporting Category Total		13	
Reporting Category 4: Life Science			
SC.7.L.15.1	Recognize that fossil evidence is consistent with the scientific theory of evolution that living things evolved from earlier species.	1	1 level 2
SC.7.L.15.2	Explore the scientific theory of evolution by recognizing and explaining ways in which genetic variation and environmental factors contribute to evolution by natural selection and diversity of organisms.	1	1 level 2
SC.7.L.15.3	Explore the scientific theory of evolution by relating how the inability of a species to adapt within a changing environment may contribute to the extinction of that species.	1	1 level 2
SC.7.L.16.1	Understand and explain that every organism requires a set of instructions that specifies its traits, that this hereditary information (DNA) contains genes located in the chromosomes of each cell, and that heredity is the passage of these instructions from one generation to another.	1	1 level 2
SC.7.L.16.2	Determine the probabilities for genotype and phenotype combinations using Punnett Squares and pedigrees.	2	1 level 1 2 level 2
SC.7.L.16.3	Compare and contrast the general processes of sexual reproduction requiring meiosis and asexual reproduction requiring mitosis.	2	1 level 1 1 level 2
SC.7.L.17.1	Explain and illustrate the roles of and relationships	1	1 level 2

	among producers, consumers, and decomposers in the process of energy transfer in a food web.		
SC.7.L.17.2	Compare and contrast the relationships among organisms such as mutualism, predation, parasitism, competition, and commensalism.	2	1 level 1 1 level 2
SC.7.L.17.3	Describe and investigate various limiting factors in the local ecosystem and their impact on native populations, including food, shelter, water, space, disease, parasitism, predation, and nesting sites.	1	1 level 2
<i>Reporting Category Total</i>			12

Overall Percentage for Written Test: ___100%___