**6th Grade Science Curriculum**

1. **Nature of Science**
   1. Identify and critically evaluate information in data, tables, and graphs.
   2. Critically evaluate information to distinguish between fact and opinion.
   3. Recognize that different explanations can be given for the same evidence.
   4. Explain that scientific inquiry includes evaluating results of scientific investigations, experiments, observations, theoretical and mathematical models, and explanations proposed by other scientists.
   5. Use multiple methods for organizing items and information
   6. Describe advantages and disadvantages of using technology.
   7. Explain that scientific knowledge is revised through a process of incorporating new evidence gained thorough on-going investigation and collaborative discussion.
2. **Heredity**
   1. Explain that heredity is the passage of genetic instructions from one generation to the next.
   2. Recognize that changes in genes of eggs and sperm can cause changes in inherited characteristics
   3. List some characteristics of an organism that are the result of a combination of interaction with the environment and genetic information.
3. **Structure of Life**
   1. Explain that all organisms are composed of cells, which are the fundamental units of life.
   2. Explain that cells grow, divide, and take in nutrients which they use to provide energy for cell functions.
   3. Recognize that some organisms are made of just one cell and that multi-cellular organisms can consist of thousands to millions of cells working together.
   4. Describe how cells combine to form tissues that combine to form organs and organ systems that are specialized to perform life functions
   5. Explain that disease can result from defects in body systems or from damage caused by infection.
4. **Organisms and their environments**
   1. Represent how matter and energy are transferred through food webs in an ecosystem
   2. Characterize organisms in any ecosystem by their functions
   3. Evaluate how changes in environments can be beneficial or harmful
   4. List inter-related factors that affect the number and type of organisms and ecosystem can support
5. **Diversity of Life**
   1. Identify and classify species based upon their characteristics
   2. Explain that fossils provide evidence of how life and environment conditions have changed throughout geologic time
   3. Recognize that an organism’s behavior is based on both experience and on the species’ evolutionary history.
6. **Solar System and Universe**
   1. Describe earth as part of a solar system located within the Milky Way Galaxy

**7th Grade Science Curriculum**

1. **Nature of Science**
   1. Same as 6th Grade Curriculum
2. **Atmospheric Process and the Water Cycle**
   1. Explain that seasons are caused by variations in the amounts of the Sun’s energy reaching Earth’s surface due to the planet’s axial tilt.
   2. Describe how the processes involved in the water cycle affect climatic patterns
   3. Describe the properties that make water an essential component of the Earth’s system
   4. Understand the composition of Earth’s atmosphere, emphasizing the role of the atmosphere in Earth’s weather and climate
   5. Explain the difference between local weather and regional climate
   6. Relate topography and patterns of global and local atmospheric movement and how they influence local weather
3. **Solar System and Universe**
   1. Recognize that the solar system includes a great variety of planetary moons, asteroids, and comets
   2. Describe characteristics of the planets in our solar system
   3. Recognize that Earth is part of a solar system located within the Milky Way Galaxy
   4. Use regular and predictable motions of the Erath around the Sun and the Moon around the Earth to explain such phenomena as the day, the year, phases of the Moon, and eclipses.
4. **Earth’s Composition and Structure**
   1. Recognize that sedimentary rocks and fossils provide evidence for changing environments and the constancy of geologic processes
   2. Explain that rocks at Earth’s surface weather, forming sediments that are buried, then compacted, heated and often re-crystallized into new rock.
   3. Explain that Earth is composed of a crust, mantle, and core
   4. relate the very slow movement of large crystal plates to geological events
   5. relate geologic processes to state and regional topography
   6. relate the properties and distributions of minerals to how they form
   7. describe the characteristics, abundances, and location of renewable and nonrenewable resources found in Nevada
   8. Relate the properties of soil to how Nevada’s resources form.
5. **Diversity of life**
   1. Recognize that fossils provide evidence of how life and environmental conditions have changed throughout geologic time.
6. **Forces and Motion**
   1. Explain that every object exerts gravitational force on every other object, and the magnitude of this force depends on the mass of the objects and their distance from one another
7. **Energy**
   1. Demonstrate how vibrations (e.g. sounds, earthquakes) move at difference speeds in different materials, and have different wavelengths.

**8th Grade Science Curriculum**

1. **Nature of Science**
   1. Same as 6th and 7th Grade Curriculum
2. **Matter**
   1. Recognize that particles are arranged differently in solids, liquids, and gases of the same substance.
   2. Explain how elements can be arranged in the periodic table showing repeating patterns that group elements with similar properties
   3. Use various methods for separating mixtures based on the properties of the components
   4. Describe how atoms often combine to form molecules, and that compounds form when two or more different kinds of atoms chemically bond
   5. Explain that mass is conserved in physical and chemical changes
   6. Recognize that matter is made up of tiny particles called atoms
   7. Describe the characteristics of electrons, protons, and neutrons
   8. Explain that sub stances containing only on kind of atom are elements which cannot e broken into smaller pieces by normal laboratory processes.
3. **Forces and Motion**
   1. Describe the effects of balanced and unbalanced forces on an object’s motion
   2. Use electric currents to produce magnetic forces and us magnets to cause electric currents
   3. Explain that every object exerts gravitational force on every other object, and the magnitude of this force depends on the mass of the objects and their distance for one another.
4. **Energy**
   1. Explain that visible light is a narrow band within the electromagnetic spectrum
   2. Describe how vibrations (e.g. sounds, earthquakes) move at different speeds in different materials, have different wave lengths, and set up wave-like disturbances that spread away from the source uniformly.
   3. Explain that physical, chemical, and nuclear changes involve a transfer of energy
   4. Recognize that energy cannot be create or destroyed, in a chemical or physical reactions, but only changed from one form to another
   5. Describe how heart energy flows from warmer materials or regions to cooler ones through conduction, convection, and radiation
   6. Explain that electrical circuits provide a means of transferring electrical energy to produce heat, light, sound, and chemical changes.
5. **Atmospheric processes and the water cycle**
   1. Describe the properties that make water an essential component of the Earth system

**7th Grade Social Studies Curriculum**

1. **Nevada History**
   1. Evaluate the significant social, cultural, economic, and political changes in the United States and Nevada from the American Revolution through World War II.
   2. Summarize the contributions made by diverse cultures to the United States and Nevada
   3. Assess the concepts of tolerance and respect
   4. Cite evidence supporting the development of the state of Nevada and its unique features
   5. Explain the effects of new technologies on the development of the United States and Nevada
   6. Investigate the value of responsible citizenship
   7. Apply the content literacy skills necessary to analyze historical documents, artifacts, and concepts
   8. Use information, media, and technology literacy skills necessary to research, communicate, and demonstrate critical thinking.

**8th Grade Social Studies Curriculum**

1. **World Geography**
   1. Use maps, globes, and other geographic tools and technologies to locate and extrapolate information about people, places, and environments.
   2. Explain the physical and human features of places and use this information to define and study regions including patterns of change
   3. Evaluate how economic, political, and cultural processes interact to shape patterns of human migration and settlement, influence, and interdependence, and conflict and cooperation
   4. Summarize and predict the effects of interactions between human and physical systems on the resources of the world
   5. Compare the different political systems of the world and how those systems relate to the United a States and its citizens
   6. Cite evidence of the contributions of people and their diverse cultures
   7. Apply the content literacy skills necessary to analyze historical documents, artifacts, and concepts
   8. Use information, media, and technology literacy skill necessary to research, communicate and demonstrate critical thinking.