



Investigating Earth Systems (6 Unit Edition) Correlation to the Nevada Academic Content Standards for Earth and Space Science, Grades 6-8

Scientific Inquiry (Nature of Science Unifying Concept A)

Scientific inquiry is the process by which humans systematically examine the natural world. Scientific inquiry is a human endeavor and involves observation, reasoning, insight, energy, skill, and creativity. Scientific inquiry is used to formulate and test explanations of nature through observation, experiments, and theoretical or mathematical models. Scientific explanations and evidence are constantly reviewed and examined by others. Questioning, response to criticism and open communication are integral to the process of science.

Indicator	Location/Page where Standard is found
<u>N.8.A:</u> Students understand that scientific knowledge requires critical consideration of verifiable evidence obtained from inquiry and appropriate investigations.	
N.8.A.1. Students know how to identify and critically evaluate information in data, tables, and graphs.	RL7-14, RL15-28, DP8-21, DP22-29, DP30-40, A1-4, A15-25, A26-32, A33-45, W21-31
N.8.A.2. Students know how to critically evaluate information to distinguish between fact and opinion.	RL7-14, RL15-28, RL34-44, DP8-21, DP22-29, DP30-40, F1-7, A1-4, A15-25, A46-54, W21-31
N.8.A.3. Students know different explanations can be given for the same evidence.	RL15-28, RL29-33, DP1-7, DP8-21, A1-4, A15-25, W21-31
N.8.A.4. Students know how to design and conduct a controlled experiment.	RL15-28, RL34-44, RL45-51, DP8-21, DP22-29, DP30-40, A15-25, W21-31
N.8.A.5. Students know how to use appropriate technology and laboratory procedures safely for observing, measuring, recording, and analyzing data.	RL15-28, RL29-33, DP8-21, DP22-29, A15-25, W21-31
N.8.A.6. Students know scientific inquiry includes evaluating results of scientific investigations, experiments, observations, theoretical and mathematical models, and explanations proposed by other scientists.	RL15-28, RL34-44, RL45-51, DP8-21, DP22-29, DP30-40, A15-25, W21-31
N.8.A.7. Students know there are multiple methods for organizing items and information.	RL15-28, DP8-21, DP22-29, A15-25, A33-45, W21-31

Science, Technology, and Society (Nature of Science Unifying Concept B)

Technology defines a society or era. It can shape the environment in which people live, and it has increasingly become a larger part of people's lives. While many of technology's effects on society are regarded as desirable, other effects are seen as less desirable. These concepts are shared across subject areas such as science, math, technology, social studies and language arts. The development and use of technology affects society and the environment in which we live, and, at the same time, society influences the development of technology and its impact on culture.

Indicator	Location/Page where Standard is found
<u>N.8.B:</u> Students understand the interactions of science and society in an ever-changing world.	
N.8.B.1 Students understand that consequences of technologies can cause resource depletion and environmental degradation, but technology can also increase resource availability, mitigate environmental degradation, and make new resources economical.	RL45-51, RL52-57, RL58-63, DP41-50, DP61-69, W1-8, W42-47, W48-56, W57-62
N.8.B.2 Students know scientific knowledge is revised through a process of incorporating new evidence gained through on-going investigation and collaborative discussion.	RL15-28, RL29-33, DP1-7, DP8-21, A1-4, A15-25, W21-31

EARTH SCIENCE

Atmospheric Processes and the Water Cycle (Earth and Space Science Unifying Concept A)

Earth systems have internal and external sources of energy, both of which create heat. Driven by sunlight and Earth's internal heat, a variety of cycles connect and continually circulate energy and material through the components of the earth systems.

Indicator	Location/Page where Standard is found
<u>E.8.A:</u> Students understand the relationship between the Earth's atmosphere, topography, weather and climate.	
E.8.A.1. Students know seasons are caused by variations in the amounts of the Sun's energy reaching Earth's surface due to the planet's axial tilt.	A26-32, A33-45
E.8.A.2. Students know how the processes involved in the water cycle affect climatic patterns.	W21-31, CW48-59
E.8.A.3. Students know the properties that make water an essential component of the earth system.	W1-8, W9-14, W32-41, CW48-59

E.8.A.4. Students understand the composition of Earth’s atmosphere, emphasizing the role of the atmosphere in Earth’s weather and climate.	CW37-47, CW48-59
E.8.A.5. Students know the difference between local weather and regional climate.	CW1-13, CW37-47, CW48-59, CW60-68, CW69-78, CW79-86
E.8.A.6. Students know topography and patterns of global and local atmospheric movement influence local weather which occurs primarily in the lower atmosphere.	CW60-68, CW69-78, CW79-86

Solar System and Universe (Earth and Space Science Unifying Concept B)

The universe is a dynamic system of matter and energy. The universe is extremely large and massive with its components separated by vast distances. Tools of technology will continue to aid in the investigation of the components, origins, processes and age of the universe. Earth is one part in our solar system, which is within the Milky Way galaxy. The Sun is the energy-producing star for our solar system. Most objects in our solar system are in predictable motion, resulting in phenomena such as day/night, year, phases of the moon, tides, and eclipses.

Indicator	Location/Page where Standard is found
<u>E.8.B:</u> Students understand characteristics of our solar system that is part of the Milky Way galaxy.	
E.8.B.1. Students know the universe contains many billions of galaxies, and each galaxy contains many billions of stars.	A5-9, A15-25, A26-32, A33-45, A46-54, A55-72, A73-77
E.8.B.2. Students know the solar system includes a great variety of planetary moons, asteroids, and comets.	A5-9, A15-25, A26-32, A33-45, A46-54, A55-72, A73-77
E.8.B.3. Students know characteristics of the planets in our solar system.	A5-9, A15-25, A26-32, A33-45, A46-54, A55-72, A73-77
E.8.B.4. Students know Earth is part of a solar system located within the Milky Way Galaxy.	A5-9, A15-25, A26-32, A33-45, A46-54, A55-72, A73-77
E.8.B.5. Students know the Sun is many thousands of times closer to Earth than any other star, and billions of times closer than the far end of the Milky Way Galaxy.	A5-9, A33-45
E.8.B.6. Students know the Sun is a medium-sized star located in the Milky Way Galaxy, part of which can be seen as a glowing band of light spanning the clear night sky.	A5-9, A15-25, A26-32, A33-45, A46-54, A55-72, A73-77
E.8.B.7. Students know regular and predictable motions of Earth around the Sun and the Moon around the Earth explain such phenomena as the day, the year, phases of the Moon, and eclipses.	A5-9, A33-45

Earth's Composition and Structure (Earth and Space Science Unifying Concept C)

Earth is composed of materials that move through the biogeochemical cycles. Earth's features are shaped by ongoing and dynamic processes. These processes can be constructive or destructive and occur over geologic time scales.

Indicator	Location/Page where Standard is found
E.8.C: Students understand that landforms result from a combination of constructive and destructive processes.	
E.8.C.1. Students know sedimentary rocks and fossils provide evidence for changing environments and the constancy of geologic processes.	RL7-14, RL15-28, RL29-33, RL34-44, RL45-51, RL52-57, RL58-62, DP8-21, DP51-60, DP61-69, W9-14, W15-20, W21-31
E.8.C.2. Students know rocks at Earth's surface weather, forming sediments that are buried, then compacted, heated and often recrystallized into new rock.	RL1-6, RL7-14, RL15-28, DP8-21, DP22-29, DP41-50, DP61-69, F8-18,
E.8.C.3. Students know Earth is composed of a crust (both continental and oceanic); hot convecting mantle; and dense, a metallic core.	DP8-21, DP41-50, DP51-60,
E.8.C.4. Students know the very slow movement of large crustal plates result in geological events.	RL7-14, RL15-28, RL29-33, RL34-44, RL45-51, RL52-57, RL58-62, DP8-21, DP22-29, DP30-40, DP41-50, DP51-60, DP61-69, W9-14, W15-20, W21-31, CW69-78, CW79-87
E.8.C.5. Students know how geologic processes account for state and regional topography.	DP8-21, DP22-29, DP30-40, DP41-50, DP51-60, DP61-69, W15-20
E.8.C.6. Students know the characteristics, abundances, and location of renewable and nonrenewable resources found in Nevada.	RL45-51, RL52-57, RL58-63, DP41-50, DP61-69, W1-8, W42-47, W48-56, W57-62
E.8.C.7. Students know soils have properties, such as color, texture, and water retention, and provide nutrients for life according to how they form.	RL1-6, RL7-14, RL15-28, RL29-33, F8-18

Key:

- A: Astronomy
- C: Climate & Weather
- D: Our Dynamic Planet
- ER: Energy Resources
- F: Fossils
- MM: Materials & Minerals
- O: Oceans
- RL: Rocks & Landforms
- S: Soil
- W: Water