



## Project Based Life Science Correlation to the Nevada Academic Content Standards for Physical Science, Grade 7

### 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
<b><u>N.8.A:</u> Students understand that scientific knowledge requires critical consideration of verifiable evidence obtained from inquiry and appropriate investigations.</b>	
N.8.A.1 Students know how to identify and critically evaluate information in data, tables, and graphs.	Throughout, for example: AA: p15, 25, 132; LT: 26, 61, 68-69; GF: 92-93;
N.8.A.2 Students know how to critically evaluate information to distinguish between fact and opinion.	Throughout, for example: AA: 22-23, 25, 28-31
N.8.A.3 Students know different explanations can be given for the same evidence.	Throughout, for example: AA: 27, 30-31
N.8.A.4 Students know how to design and conduct a controlled experiment.	Throughout, for example: AA: 15-18; LT: 56-59, 63-67, 70-72; GF: 80-81; Gen: 39-43, 121
N.8.A.5 Students know how to use appropriate technology and laboratory procedures safely for observing, measuring, recording, and analyzing data.	Throughout, for example: LT: 63-65, 113-119, 122-125; GF: 27-36, 84-85; Gen: 54-56, 121
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.	Throughout, for example: AA: 20-31; GF: 27-33; Gen: 5-7, 39-43, 121, 150

N.8.A.7 Students know there are multiple methods for organizing items and information.	Throughout, for example: LT: 66, 86-87; GF: 14; Gen: 99
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**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.

<b>Indicator</b>	<b>Location/Page where Standard is found</b>
<b><u>N.8.B:</u> Students understand the interactions of science and society in an ever-changing world.</b>	
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.	Gen: 3-4, 192-198
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.	Throughout, for example: AA: 15-18, 38-42; LT:38-41; Gen: 32-33

## LIFE SCIENCE

### Heredity (Life Science Unifying Concept A)

Heredity is the genetic passing of a set of instructions from generation to generation. These instructions are encoded as DNA and may manifest themselves as characteristics. Some characteristics are inherited, and some result from interactions with the environment.

<b>Indicator</b>	<b>Location/Page where Standard is found</b>
<b><u>L.8.A:</u> Students understand the role of genetic information in the continuation of a species.</b>	
L.8.A.1 Students know heredity is the passage of genetic instructions from one generation to the next generation. E/S	Gen: 34-37, 120
L.8.A.2 Students know changes in genes of eggs and sperm can cause changes in inherited characteristics. E/S	Gen: 177-183

L.8.A.3 Students know organisms can be bred for specific characteristics. I/L	Gen: 90-93; 96-101, 161-167, 177-183, 192-193, 195-196
L.8.A.4 Students know some characteristics of an organism are the result of a combination of interaction with the environment and genetic information. E/S	Gen: 138-145, 146-154

**Structure of Life (Life Science Unifying Concept B)**

All living things are composed of cells. Cells range from very simple to very complex and have structures which perform functions for the organism. Cells and structures can be damaged or fail because of intrinsic failures or disease.

<b>Indicator</b>	<b>Location/Page where Standard is found</b>
<b>L.8.B Students understand that living things are composed of cells, which are specialized in multicellular organisms to perform a variety of life functions.</b>	
L.8.B.1 Students know all organisms are composed of cells, which are the fundamental units of life. E/S	LT: 89; GF: 27-29; Gen: 34-37
L.8.B.2 Students know cells grow, divide, and take in nutrients which they use to provide energy for cell functions. E/S	LT: 89; GF: 27-29, 37-40; Gen: 51-52, 60-61
L.8.B.3 Students know some organisms are made of just one cell and that multicellular organisms can consist of thousands to millions of cells working together. E/S	LT: 89; GF: 27-29; Gen: 50-52, 66-67, 69
L.8.B.4 Students know cells combine to form tissues that combine to form organs and organ systems that are specialized to perform life functions. E/S	GF: 78-79, 84-87, 91-93, 95-102, 111-116
L.8.B.5 Students know disease can result from defects in body systems or from damage caused by infection. E/S	LT: 79; GF: 16, 23-26, 55-57, 62-72

**Organisms and Their Environment (Life Science Unifying Concept C)**

A variety of ecosystems and communities exist on Earth. Ecosystems are dynamic interactions of organisms and their environment. Ecosystems have distinct characteristics and components that allow certain organisms to thrive. Change in one or more components can affect the entire ecosystem.

<b>Indicator</b>	<b>Location/Page where Standard is found</b>
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<b><u>L.8.C</u> Students understand how living and nonliving components of ecosystems interact.</b>	
L.8.C.1 Students know how matter and energy are transferred through food webs in an ecosystem. E/S	LT: 10-112, 127-139
L.8.C.2 Students know how to characterize organisms in any ecosystem by their functions. E/S	LT: 84-85, 107-112, 127-131
L.8.C.3 Students will evaluate how changes in environments can be beneficial or harmful. E/S	AA: 80-89; LT: 42-45, 46-50, 74, 84-85, 113-126
L.8.C.4 Students know inter-related factors affect the number and type of organisms an ecosystem can support. E/S	LT: 92-98, 107-112, 113-126

**Diversity of Life (Life Science Unifying Concept D)**

Evidence suggests that living things change over periods of time. These changes can be attributed to genetic and/or environmental influences. This process of change over time is called biological evolution. The diversity of life on Earth is classified using objective characteristics. Scientific classification uses a hierarchy of groups and subgroups based on similarities that reflect evolutionary relationships.

<b>Indicator</b>	<b>Location/Page where Standard is found</b>
<b>L.8.D Students understand that life forms change over time, contributing to the variety of organisms found on the Earth.</b>	
L.8.D.1 Students know species can be identified and classified based upon their characteristics. (8.8.6) E/S	LT: 86-91; Gen: 138-145
L.8.D.2 Students know fossils provide evidence of how life and environmental conditions have changed throughout geologic time. E/S	
L.8.D.3 Students know an organism's behavior is based on both experience and on the species' evolutionary history. E/S	AA: 35-37; LT: 139; Gen: 138-145