



NEVADA
Science Content Standards for Grade 8
Science Level Blue © 2005

OBJECTIVES	PAGE REFERENCES
Physical Science	
Content Standard 1.0: Forces and Motion — <i>Students understand that forces such as gravitational, electrical, and magnetic influence the motion of objects.</i>	
By the end of Grade 8 , students know and are able to do everything required in previous grades and:	
1.8.1 Investigate and describe that multiple forces acting on an object along a straight line affect the motion of an object. M 7.8.2; M 9.8.3	I/S SE: 550-555, 556-561 <i>Design Your Own Lab</i> 570-571 <i>Extra Try at Home Lab</i> 745 #19 <i>Launch Lab</i> 549 TWE: DIN 561 FYI 559 IM 558 QD 552 TPK 550
1.8.2 Describe the force (gravity) which makes objects fall and planets move in their orbits.	E/S SE: 336, 338, 384, 557-558, 561 <i>Mini LAB</i> 345 TWE: AS 562 CC 557 VL 558, 560
1.8.3 Investigate and describe that certain physical principles are used in the design and function of simple machines.	I/S SE: 586-589, 591-597 <i>Design Your Own Lab</i> 598-599 TWE: FYI 593 IM 592 RT 590 TC 578 TPK 586 UA 588
1.8.4 Investigate and describe that buoyancy changes the apparent weight of an object immersed in a fluid. M 2.8.2; M 9.8.3	I/S TWE: NG 519 See Glencoe's <i>Physical Science</i> © 2005 for a description of the buoyant force.
1.8.5 Investigate and explain that electric current produces magnetic forces, and moving magnets produce electric forces in conductors .	I/S SE: 673-674, 678-679, 683 <i>Lab</i> 684-685 <i>National Geographic</i> 675 TWE: IL 679 LD 678 QD 676

OBJECTIVES	PAGE REFERENCES
Content Standard 2.0: Structure and Properties of Matter — <i>Students understand that materials have distinct properties which depend on the amount of matter present, its chemical composition, and structure.</i>	
By the end of Grade 8 , students know and are able to do everything required in previous grades and:	
2.8.1 Use simple models to explain observed properties of matter (e.g., use a particle model to account for the states of matter).	E/S SE: 405-413, 504-506, 613-614 <i>Design Your Own Lab</i> 424-425 <i>Mini LAB</i> 470, 475 <i>Model and Invent Lab</i> 482-483 TWE: D 465 LD 416 MM 230
2.8.2 Separate substances based on their physical and chemical properties (e.g., color, solubility, chemical reactivity , melting point, boiling point).	E/S TWE: FYI 78 LD 70 See Glencoe's <i>Physical Science</i> © 2005 for examples of separations of substances.
2.8.3 Use models or drawings to explain how atoms may join together to form molecules or large groups of molecules.	I/S SE: 472-477, 479-480 <i>Lab</i> 481 <i>National Geographic</i> 478 TWE: RT 480
2.8.4 Explain that all atoms are made up of protons, neutrons, and electrons.	E/S SE: 410-413, 415-416 <i>Model and Invent Lab</i> 482-483 TWE: DIN 412 IL 408 LD 416 QD 417 RT 413 SJ 410
2.8.5 Explain that liquids, solids, and gases are systems of particles.	I/S SE: 127, 474, 505-506, 608-609, 613-615 <i>National Geographic</i> 478 TWE: VL 500
2.8.6 Explain that various elements combine in a multitude of ways to produce all known living and non-living substances.	E/S SE: 68, 130-135, 476-477 <i>Lab</i> 140-141, 481 <i>Mini LAB</i> 475 <i>National Geographic</i> 478 TWE: CUL 473 D 474 TPK 464

OBJECTIVES	PAGE REFERENCES
Content Standard 3.0: Energy and Matter: Interactions and Forms — <i>Students understand that changes in temperature and pressure can alter states of matter. Energy exists in many forms, and one form can change into another.</i>	
By the end of Grade 8 , students know and are able to do everything required in previous grades and:	
3.8.1 Investigate and describe how heat moves from one object to another at different rates, depending on what the objects are made of and whether they are touching each other.	E/L SE: 612-616, 622-623 <i>Design Your Own Lab</i> 624-625 <i>Lab</i> 618 TWE: AS 617 IL 613 LD 616 TPK 612, 619 VL 500
3.8.2 Investigate and describe how all phase changes are accompanied by changes in energy.	E/S SE: 622-623 <i>Mini LAB</i> 614
3.8.3 Investigate and describe how waves transfer energy and move at different speeds in different materials.	I/S SE: 212-215, 230, 694, 698, 702-703 <i>Integrate Earth Science</i> 696 <i>Lab</i> 706 <i>National Geographic</i> 216 TWE: D 704 SJ 213
3.8.4. Investigate, create, and describe parallel, series, and combination circuits.	I/S SE: 643-644, 650-651 <i>Lab</i> 655 TWE: AS 654 QD 651 VL 650
3.8.5 Investigate and describe how energy may be transferred into or out of a system or object in many ways and readily changes forms.	E/S SE: 76, 106-107, 124, 136-139, 498-501, 612-615, 619-620, 622-623, 694, 710
3.8.6 Identify the energy involved in a particular process as potential (energy of position and stored chemical energy) or kinetic (energy of motion).	E/S SE: 611, 619, 645 TWE: IL 613
Content Standard 4.0: Chemical Reaction — <i>Students understand that chemical reactions change substances into different substances.</i>	
By the end of Grade 8 , students know and are able to do everything required in previous grades and:	
4.8.1 Investigate and describe how in chemical reactions , the total mass is conserved and the elements involved do not change into other elements.	E/S SE: 496-497 <i>Applying Math</i> 498 TWE: CC 496 DIN 497

OBJECTIVES	PAGE REFERENCES
4.8.2 Investigate and describe how the rate of a chemical reaction can be influenced by variables such as temperature, pH , and light.	E/S SE: 504-508 TWE: CU 508 D 504 DIN 505 LD 507 TPK 502
4.8.3 Investigate and describe how materials may give off heat or light when they react chemically with each other.	E/S SE: 498-499, 500, 502-503 <i>National Geographic</i> 493 TWE: CC 499 SJ 498 VL 500
4.8.4 Predict common properties of elements using the Periodic Table.	E/S SE: 435-438, 441-446, 448-450 <i>Applying Science</i> 439 <i>Lab</i> 453 TWE: FF 434 FYI 449 IL 446 SJ 437
Content Standard 5.0: Nuclear Energy and Electromagnetic Energy — <i>Students understand that nuclear energy and electromagnetic energy are produced from both natural and human-made sources in many forms.</i>	
By the end of Grade 8 , students know and are able to do everything required in previous grades and:	
5.8.1 Investigate and describe how light interacts with matter by moving through the matter, being absorbed by matter, or being scattered by the matter.	I/S SE: 124, 699, 711-713 <i>Lab</i> 714-715 <i>Mini LAB</i> 710 TWE: CU 700 QD 711
5.8.2 Describe some applications of radioactive isotopes including using nuclear energy to produce heat. H 10.8.1	W/L SE: 259-260, 421, 423 <i>Integrate Earth Science</i> 420 <i>National Geographic</i> 422 TWE: A 259 AIQ 424 D 258 RT 261
5.8.3 Compare and contrast between high and low level nuclear wastes and their associated hazards. H 10.8.3	I/S SE: 420 TWE: IE 420
5.8.4 Investigate and describe how the sun produces energy in a range of wavelengths within the electromagnetic spectrum .	E/S SE: 375-378, 381-382, 708-710 TWE: AS 713 DIN 710 MM 382 QD 381
5.8.5 Compare and contrast the nuclear processes that occur in the sun and stars as well as in nuclear reactors.	I/S SE: 375-378, 381-385 TWE: D 385 FF 384 MM 382 QD 381

OBJECTIVES	PAGE REFERENCES
5.8.6 Explain how nuclear reactions convert small amounts of matter into a relatively large amount of energy.	W/L SE: 381-382 TWE: MM 382 QD 381
Life Science	
Content Standard 6.0: Structure and Function — <i>Students understand that all life forms, at all levels of organization, use specialized structures and similar processes to meet life's needs.</i>	
By the end of Grade 8 , students know and are able to do everything required in previous grades and:	
6.8.1 Explain how disease is a breakdown in structures or functions of an organism due to intrinsic system failures or damage caused by infection.	W/L SE: 7 <i>Integrate History 75</i> TWE: CC 7 FYI 15, 78 RT 81 SJ 77 TPK 6
6.8.2 Investigate and describe how multicellular living things have tissues, organs, and organ systems that are specialized to perform life functions.	E/S SE: 70-71, 73-79 <i>Design Your Own Lab 82-83</i> <i>Launch Lab 63</i> TWE: FYI 79, 80 QD 78 RT 71 TC 62 TPK 73
6.8.3 Investigate and describe how cells grow, divide, and take in nutrients, which they use to provide energy for cellular functions.	I/S SE: 68, 70, 73-76 <i>Lab 72</i> <i>National Geographic 69</i> TWE: DIN 69 IL 68 LD 70
6.8.4 Investigate and describe how most organisms are comprised of a single cell and others are multicellular.	W/L SE: 68, 70 <i>Lab 72</i> <i>National Geographic 69</i> TWE: VL 70
6.8.5 Investigate and describe how plants have specialized structures and systems for a variety of functions.	I/S SE: 103, 106 <i>Integrate Chemistry 107</i> <i>Integrate History 109</i> <i>Mini LAB 103</i> TWE: FF 108 QD 102
6.8.6 Explain how information used to guide cellular functions is stored in DNA . H 10.8.1	I/S SE: 39, 52, 67 TWE: FYI 39

OBJECTIVES	PAGE REFERENCES
Content Standard 7.0: Internal and External Influences on Organisms — <i>Students understand that organisms respond to internal and external influences.</i>	
By the end of Grade 8 , students know and are able to do everything required in previous grades and:	
7.8.1 I/S Explain how behavior may be innate or learned.	SE: 39-42, 49-50 <i>National Geographic</i> 51 TWE: FF 155 TPK 38
7.8.2 I/L Explain how an organism’s behavior is based on experience and on the species’ evolutionary history.	SE: 39-42, 49-50, 105, 108-109 <i>National Geographic</i> 51, 104 TWE: FF 155 TPK 38
7.8.3 I/S Investigate and describe how behavior is one kind of response an organism can make to an internal or environmental stimulus.	SE: 39-42, 49-50, 105, 108-109 <i>Mini LAB</i> 99 <i>National Geographic</i> 51, 104 TWE: FF 155 TPK 38
7.8.4 E/S Explain how various viruses, bacteria, fungi, and parasites may infect the human body and interfere with normal body functions.	SE: 7, 108 <i>Integrate Health</i> 505 <i>Integrate History</i> 75 TWE: CC 7, 17 FYI 15 RT 81 TPK 6
Content Standard 8.0: Heredity and Diversity — <i>Students understand that life forms are diverse, and that they pass some characteristics to their offspring.</i>	
By the end of Grade 8 , students know and are able to do everything required in previous grades and:	
8.8.1 E/S Explain how heredity is the passage of genetic instructions from one generation to another.	SE: 44-46, 48 <i>Applying Math</i> 47 TWE: RT 48 TPK 44
8.8.2 I/L Classify organisms on the basis of similar characteristics, and explain the basis for such a classification system.	SE: 276 <i>Integrate Life Science</i> 274
8.8.3 I/L Explain how new varieties of cultivated plants and domestic animals have resulted from selective breeding for particular traits. H 3.8.2	SE: 38, 44-48, 52, 276 TWE: CUL 276 DIN 52 FYI 53 TPK 38
8.8.4 E/S Explain how genetic information coded in DNA is passed through sexual or asexual reproduction.	SE: 39, 44-46 TWE: IC 39
8.8.5 E/S Explain how some patterns of inheritance can be explained by pairs of genes that separate when sex cells are formed.	SE: 45-46, 48 <i>Applying Math</i> 47 TWE: AS 48 FYI 47 SJ 46

OBJECTIVES	PAGE REFERENCES
8.8.6 Identify that the basic level of biological classification is the species, which comprises all organisms that can mate with each other and produce fertile offspring.	I/S SE: 276 <i>Integrate Life Science</i> 274
8.8.7 Explain how changes in the genes of sex cells can affect offspring.	I/S SE: 46, 48 <i>Applying Math</i> 47 TWE: FYI 47
Content Standard 9.0: Evolution: The Process of Biological Change— <i>Students understand that life forms change over time.</i>	
By the end of Grade 8 , students know and are able to do everything required in previous grades and:	
9.8.1 Explain that millions of species of animals, plants, and microorganisms are alive today.	W/L SE: 50, 52
9.8.2 Investigate and describe how biological evolution provides a scientific explanation for the differences and many similarities between species.	E/S SE: 50, 52, 274-276 <i>Lab</i> 287 <i>National Geographic</i> 51 TWE: A 276
9.8.3 Investigate and describe how biological adaptations include changes that enhance survival and reproductive success in a particular environment.	E/S SE: 49-50, 52, 274-276 <i>Lab</i> 287 TWE: A 276 AS 53 D 275
9.8.4 Investigate and describe how unity among organisms is found in similarities of internal structures, chemical processes, and modern evidence of common ancestry.	I/S SE: 68, 293 <i>Lab</i> 72 TWE: AS 72 IM 284 VL 70
9.8.5 Explain how extinction of a species occurs when the adaptive characteristics of a species are insufficient to allow it to survive environmental change.	I/S SE: 286, 291 <i>Science Stats</i> 296 TWE: D 286 FYI 291 SJ 284 TPK 288 VL 296
Earth and Space Sciences	
Content Standard 10.0: Earth Structures and Composition — <i>Students understand that the Earth is composed of interrelated systems of rocks, water, air, and life.</i>	
By the end of Grade 8 , students know and are able to do everything required in previous grades and:	
10.8.1 Investigate and describe how rocks and minerals have different properties and characteristics.	W/L SE: 65, 244, 251, 280 <i>Integrate Chemistry</i> 221 TWE: FF 251 FYI 221, 223

OBJECTIVES	PAGE REFERENCES
10.8.2 Investigate and describe how the combination of constructive and destructive forces result in the formation of landforms. G 3.8.1; G 3.8.2; G 5.8.1; G 5.8.5	E/S SE: 196-197, 219-223, 250-252, 260, 280, 285, 288, 292 TWE: D 252, 285
10.8.3 Explain, using models, how the Earth is layered with a crust, both continental and oceanic, hot, convecting mantle, and dense, metallic core. G 3.8.1	E/S SE: 190, 195-197, 210-213, 229-231 TWE: FYI 197, 227 MM 230 UA 231
10.8.4 Investigate and describe how soils have properties of color, texture, and capacity to retain water and provide nutrients for life. G 3.8.3	I/L SE: 124, 132-133, 151 <i>Lab</i> 129 TWE: LD 124 VL 133
10.8.5 Explain how the atmosphere is a mixture of particular gases, whose properties vary with elevation. G 3.8.1; G 3.8.3	W/L SE: 123, 126 TWE: FYI 126
10.8.6 Explain that earthquakes, landslides, volcanoes, and floods are geologic phenomena. G 2.8.6; G 3.8.1; G 3.8.2; G 5.8.5	E/S SE: 194, 198, 210-215, 219-224, 226-231 TWE: CC 197 DIN 198 TC 208 VL 194
Content Standard 11.0: Earth Models — <i>Students understand that the Earth may be represented by a variety of maps and models.</i>	
By the end of Grade 8 , students know and are able to do everything required in previous grades and:	
11.8.1 Describe how positions on the Earth's surface can be located using latitude and longitude. G 1.8.1	W/L SE: 125, 310 <i>Launch Lab</i> 121 <i>Use the Internet Lab</i> 200-201
11.8.2 Compare a variety of map types, and locate Nevada and Nevada features on each. G 1.8.2; G 1.8.5	W/L SE: 99, 154, 227, 229
11.8.3 Use a color-coded map to compare and contrast various geological features such as temperature, population density, geology, or precipitation. G 1.8.2; G 1.8.3; G 1.8.4; G 1.8.5	W/S SE: 99, 154, 227, 229
11.8.4 Identify the time of day in various places throughout the world, given the local time of day. G 2.12.7	W/L See Glencoe's <i>Earth Science</i> © 2005.

OBJECTIVES	PAGE REFERENCES
Content Standard 12.0: Earth History — <i>Students understand that Earth systems (such as weather and mountain formation) change on variety.</i>	
By the end of Grade 8 , students know and are able to do everything required in previous grades and:	
12.8.1 E/S Explain how some changes on the Earth's surface are due to slow processes, and others due to rapid processes. G 2.8.6; G 3.8.2	SE: 186-188, 190-194, 196-198, 210-213, 219-224, 226-231, 292 <i>Lab 189</i> TWE: FF 191 FYI 197, 198
12.8.2 E/S Investigate and describe how fossils provide important evidence of how life and environmental conditions have changed throughout geologic time.	SE: 247-249, 254, 272-273, 277-278, 288-291 <i>Model and Invent Lab 263</i> <i>Use the Internet Lab 294-295</i> TWE: D 277 TC 240 VL 248
12.8.3 E/S Explain how the Earth's processes we observe today are similar to those that occurred in the past.	SE: 261 <i>Integrate Social Studies 245</i> TWE: DIN 243 IM 244 SJ 260
Content Standard 13.0: Cycles of Matter and Energy — <i>Students understand that Earth systems have a variety of cycles through which energy and matter continually flow.</i>	
By the end of Grade 8 , students know and are able to do everything required in previous grades and:	
13.8.1 E/S Investigate and describe how the sun is the major source of energy for phenomena on Earth's surface (e.g., growth of plants, winds, ocean currents, and the water cycle).	SE: 106, 124-125, 127, 130-131, 135, 136, 138-139, 710 TWE: FYI 138 QD 127
13.8.2 E/S Explain how global patterns of atmospheric movement, topography, and proximity to bodies of water influence local weather, and seasons are caused by variations in the amount of the sun's energy hitting the surface due to the tilt of the Earth's axis. H 3.8.1	SE: 127, 309-310 <i>Integrate Earth Science 128</i> <i>Lab 326-327</i> TWE: FYI 309 QD 127, 310 RT 311
13.8.3 E/S Explain how water, which covers the majority of the Earth's surface, circulates through the crust, oceans, and atmosphere.	SE: 130-131, 163-167 <i>Integrate Earth Science 128, 168</i> <i>Science and Society 172</i> <i>Use the Internet Lab 170-171</i> TWE: DIN 168 IM 131 TPK 130
13.8.4 I/S Simulate and describe how clouds, latitude, altitude, topographical features, and proximity to large bodies of water affect weather and climate. G 3.8.1	SE: 125-127 <i>Integrate Earth Science 128</i> TWE: DIN 125 FYI 309 QD 127 RT 128

OBJECTIVES	PAGE REFERENCES
13.8.5 Investigate and describe some changes that are reversible and others that are not.	E/L SE: 130-133, 163-165, 230-231 <i>Integrate Environment</i> 15 <i>Integrate Life Science</i> 617 <i>Science and Society</i> 172 TWE: TC 270
13.8.7 Explain that the energy that the Earth receives over geologic time approximately equals the energy that it loses.	W/L SE: 124-125, 281, 344, 613 <i>Integrate Life Science</i> 307 TWE: FYI 354
13.8.8 Describe the relationships among geothermal and tectonic processes. G 3.8.1	E/S SE: 190-194, 196-198, 210-213, 219-224, 226-231 <i>Use the Internet Lab</i> 200-201 TWE: TPK 226 VL 227
Content Standard 14.0: The Solar System and the Universe — <i>Students understand that the Earth is part of a planetary system within the Milky Way Galaxy, which is part of the known universe.</i>	
By the end of Grade 8 , students know and are able to do everything required in previous grades and:	
14.8.1 Investigate and describe the size, composition, and surface features of the planets in our solar system.	W/L SE: 336-337, 342-346, 348-353, 354-355 TWE: FYI 343, 350, 354 VL 344
14.8.2 Investigate and describe how seasons, eclipses, moon phases, and tides are caused by the effects of relative motion and positions of the sun, Earth, and moon.	E/S SE: 309-310, 313-316 <i>Integrate Earth Science</i> 168 <i>Lab</i> 321 TWE: FF 166 FYI 309 LD 316 QD 310, 315 SJ 313
14.8.3 Explain that billions of galaxies form most of the visible mass in the universe.	W/L SE: 386-387, 391 <i>National Geographic</i> 390 TWE: AS 391 DIN 389 FYI 387
14.8.5 Explain how various tools (e.g., optical and radio telescopes, unmanned robotic spacecraft) allow us to investigate objects in the sky that are too distant, faint, or bright to observe directly from Earth. M 9.8.5; H 10.8.1	I/L SE: 322-325, 342-346, 348-353 TWE: DIN 323, 324, 343 FYI 349, 355 SJ 352
14.8.6 Investigate and describe the laws of motion and gravity and their development. M 2.8.2; M 8.8.3; M 9.8.3	I/S SE: 550-552, 556-561, 563-568 <i>Design Your Own Lab</i> 570-571 <i>Lab</i> 569 <i>Science and Society</i> 572 TWE: TC 548 USW 551 VL 558

OBJECTIVES	PAGE REFERENCES
Environmental Sciences	
Content Standard 15.0: Ecosystems — <i>Students will demonstrate an understanding that ecosystems display patterns of organization, change, and stability as a result of the interactions and interdependencies among the life forms and the physical components of the Earth.</i>	
By the end of Grade 8 , students know and are able to do everything required in previous grades and:	
15.8.1 Investigate and describe how living and non-living components of ecosystems interact in various ways. G 3.8.3; G 3.8.4	E/S SE: 94-97, 98-105, 106-110, 122-128, 132-135, 150-153, 154-161, 163-169 <i>Lab</i> 129, 162
15.8.2 Characterize organisms in any ecosystems by their function. G 3.8.3; G 3.8.4	I/L SE: 106-110, 123, 135, 136-139 <i>Lab</i> 111 TWE: AS 110 FF 108 USW 107
15.8.3 Investigate and describe how the major energy source in most ecosystems is sunlight which is converted by producers into chemical energy. G 3.8.3	E/S SE: 106, 124-125, 135, 136, 138-139 <i>Lab</i> 140-141 <i>National Geographic</i> 134 TWE: FYI 138 QD 127
15.8.4 Describe how geographically distinct ecosystems on the Earth have similarities and differences. G 3.8.3; G 3.8.4	I/L SE: 154-161, 163-169 <i>Use the Internet Lab</i> 170-171 TWE: D 167 FYI 155 IM 160, 165 QD 155, 166 USW 156
Content Standard 16.0: Natural Resources — <i>Students demonstrate and understand that natural resources include renewable and non-renewable materials and energy. All organisms, including human, use resources to maintain and improve their existence, and the use of resources can have positive and negative consequences.</i>	
By the end of Grade 8 , students know and are able to do everything required in previous grades and:	
16.8.1 Investigate and describe the identifying characteristics of renewable and non-renewable resources. G 5.8.6	E/S SE: 130-133, 135, 679 <i>Integrate Environment</i> 420 <i>Integrate Social Studies</i> 245 <i>National Geographic</i> 134 TWE: CC 151 VL 133
16.8.2 Explain how some natural resources are limited in their abundance and/or accessible location (e.g., water in the desert). Ec 6.8.3; G 4.8.6; G 5.8.2; H 3.8.5	E/S SE: 132-133, 155-159, 168-169 <i>Use the Internet Lab</i> 170-171 TWE: DIN 123 FYI 155

OBJECTIVES	PAGE REFERENCES
16.8.3 Investigate and describe the location and distribution of various natural resources. Ec 6.8.1; G 4.8.6	I/L SE: 122-126, 130-131, 154-159, 168-169 <i>Use the Internet Lab</i> 170-171 TWE: DIN 123 FF 160 FYI 155 VL 159
16.8.4 Investigate and describe how organisms alter their local environment through their use of natural resources. G 3.8.3; G 5.8.1	I/L SE: 123, 131, 133, 135, 157, 159, 165 <i>Integrate Life Science</i> 617 <i>Integrate Social Studies</i> 245 TWE: DIN 152 FYI 157
16.8.5 Describe how unintended 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. G 5.8.1; H 10.8.3; H 10.8.1	E/L SE: 133, 135, 157, 159, 165 <i>Integrate Environment</i> 15 <i>Integrate Life Science</i> 617 <i>Science and Society</i> 172 TWE: CUL 133 DIN 152
Content Standard 17.0: Conservation — <i>Students understand that humans have the unique ability to change personal and societal behavior based on ethical considerations regarding other organisms, the planet as a whole and future generations.</i>	
By the end of Grade 8 , students know and are able to do everything required in previous grades and:	
17.8.1 Analyze different conservation options for Nevada's resources. G 5.8.7; H 10.8.3	I/L SE: 420 <i>Integrate Earth Science</i> 160 <i>Integrate Environment</i> 15 <i>Science and Society</i> 172, 658 These references are for general conservation options that would also apply to Nevada.
17.8.2 Investigate and describe how in some ecosystems, populations of organisms are in dynamic equilibrium , and in other ecosystems they are not. G 2.8.6; G 3.8.3; G 3.8.4	I/L SE: 101, 105 <i>National Geographic</i> 104 TWE: A 101
17.8.3 Evaluate how changes in environments can be beneficial or harmful. G 2.8.6; G 3.8.3; G 5.8.1; H 10.8.3	E/L SE: 159, 165 <i>Integrate Earth Science</i> 160 <i>National Geographic</i> 518-519 <i>Science and Society</i> 172, 658 TWE: D 151 DIN 152 FYI 165
17.8.4 Investigate and describe how actions which might affect Nevada's environment can be evaluated in terms of trade-offs that may have regional, national, or global effects. G 2.8.6; G 5.8.1; H 10.8.3	I/L SE: 420 <i>Integrate Environment</i> 15 TWE: IE 420 These references are for general environmental actions that would also apply to Nevada.

OBJECTIVES	PAGE REFERENCES
The Nature and History of Science	
Content Standard 18.0: Scientific, Historical, and Technological Perspectives — <i>Students understand that science is a unique way of knowing about things. Many men and women have contributed to the traditions of science. The ability to pursue activities and careers in science is accessible to people from all cultures and all levels of ability.</i>	
By the end of Grade 8 , students know and are able to do everything required in previous grades and:	
18.8.1 Explain that scientific investigations involve the use of logic, respect for the rules of evidence, openness to criticism, and public reporting of methods and procedures. C 5.8.6	E/S SE: 13-23 <i>Lab 12</i> <i>Science Skill Handbook 728-732</i> <i>Technology Skill Handbook 751</i> TWE: A 15 DIN 20 FYI 14 LD 19 TPK 13
18.8.2 Explain that scientific inquiry done in a school setting is similar to what scientists do.	I/L SE: 7-11, 13-23 TWE: A 22 D 19 DIN 20 FYI 14, 21
18.8.3 Explain, using examples, that ancient peoples provided knowledge about the natural world that is still regarded as valid today, even though that knowledge may not have originated by scientific methods.	I/L SE: 6, 306, 320 <i>Accidents in Science 542</i> <i>Science and History 328</i> TWE: CB 328, 542 CUL 307
18.8.4 Explain that scientists may work in teams and some may work alone, but all communicate extensively with each other.	E/L SE: 45-47, 50, 344-346, 389 <i>Accidents in Science 264, 716</i> <i>Integrate Physics 340</i> <i>Science and History 426</i> TWE: DIN 39 FYI 355
18.8.5 Explain that scientific inquiry and technological design have similarities and differences. Scientists propose explanations for questions about the natural world and engineers propose solutions relating to human problems, needs, and aspirations.	W/L SE: 9-10, 13-19, 21-23, 24-27 <i>National Geographic 565, 621, 632-633</i> <i>Science and History 426, 512</i> <i>Science and Society 572, 600</i>
18.8.6 Explain that scientific knowledge is revised through a process of incorporating new evidence gained through continual investigation.	E/S SE: 38-39, 182-185, 187-188, 190-194, 274-276, 356-359, 388-391, 405-413, 434-435 <i>Integrate Physics 340</i>

OBJECTIVES	PAGE REFERENCES
<p>18.8.7 Identify and describe how science is subject to strengths and limitations related to other human social and intellectual activities.</p>	<p>I/L SE: 15, 420 <i>Integrate History</i> 681 <i>Integrate Social Studies</i> 7 <i>Science and Society</i> 56 TWE: A 15 CC 436 FF 7, 17, 351</p>
<p>Content Standard 19.0: Reasoning and Critical Response Skills—<i>Students understand that many decisions require critical consideration of scientific evidence.</i></p>	
<p>By the end of Grade 8, students know and are able to do everything required in previous grades and:</p>	
<p>19.8.1 Identify and evaluate critically the use of statistics, data, and graphs. E 2.8.4; E 4.8.4; G 7.8.3; M 5.8.5; M 6.8.5; M 7.8.12</p>	<p>E/S SE: 18, 48, 99-100 <i>Applying Math</i> 47 <i>Design Your Own Lab</i> 112-113 <i>Lab</i> 189 <i>Math Skill Handbook</i> 758, 765-766 <i>Science and History</i> 114 TWE: FYI 47</p>
<p>19.8.2 Give examples of human activities with their associated benefits, costs, and risks. Ec 1.8.3</p>	<p>I/L SE: <i>Applying Science</i> 319 <i>Science and Society</i> 172, 600, 626 <i>Use the Internet Lab</i> 170-171, 200-201, 454-455</p>
<p>19.8.3 Analyze and describe a system for efficiency, optimal function, and possible sources of malfunction. M 6.8.2; M 6.8.9</p>	<p>W/L SE: <i>Applying Science</i> 260, 319 <i>Design Your Own Lab</i> 82-83, 540-541, 598-599 <i>Science and Society</i> 572, 658 <i>Use the Internet Lab</i> 28-29, 200-201, 454-455</p>
<p>19.8.4 Critically evaluate information to distinguish between fact and opinion when responding to information. C 4.8.4; E 4.8.4</p>	<p>E/S SE: 15 <i>Accidents in Science</i> 362, 716 <i>Science and History</i> 114 <i>Science and Society</i> 56 <i>Science Skill Handbook</i> 724 TWE: A 15</p>

Codes Used for TWE Pages

A	Activity
AIQ	Alternate Inquiry Lab
AS	Assessment
CB	Content Background
CC	Curriculum Connection
CU	Check for Understanding
CUL	Cultural Diversity
D	Discussion
DIN	Differentiated Instruction
FF	Fun Fact
FYI	Teacher FYI
IC	Integrate Chemistry
IE	Integrate Environment
IL	Inquiry Lab
IM	Identifying Misconceptions
LD	Lab Demonstration
MM	Make a Model
NG	National Geographic
QD	Quick Demo
RT	Reteach
SJ	Science Journal
TC	Theme Connection
TPK	Tie to Prior Knowledge
UA	Use an Analogy
USW	Use Science Words
VL	Visual Learning