



NEVADA
Science Content Standards for Grade 8
Science Level Green © 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: 690-693 <i>Launch Lab 683</i> <i>Applying Math 695</i> TWE: VL 691 MM 695 TF 696
1.8.2 Describe the force (gravity) which makes objects fall and planets move in their orbits.	E/S SE: 696, 700 TWE: CC 696 QD 696 RC 696 TF 704
1.8.3 Investigate and describe that certain physical principles are used in the design and function of simple machines.	I/S SE: 698 <i>Integrate Physics 440</i> <i>National Geographic 441, 699</i> <i>MiniLAB 704</i> <i>Time: Science and Society 708</i> TWE: CD 698
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 SE: 670 <i>Applying Math 671</i> TWE: Act 671 DI 671 A 673
1.8.5 Investigate and explain that electric current produces magnetic forces, and moving magnets produce electric forces in conductors .	I/S SE: 597, 726 TWE: FF 563

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: 594-598 <i>Chapter Preview 592</i> <i>Launch Lab 593</i> <i>MiniLAB 596</i> <i>Lab 599</i> TWE: MM 252, 595 Act 596 DI 247, 597
2.8.2 Separate substances based on their physical and chemical properties (e.g., color, solubility, chemical reactivity , melting point, boiling point).	E/S SE: 595-598 <i>MiniLAB 597</i> <i>Lab 599</i> TWE: LD 596 VL 597
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: 246-249 TWE: MM 96, 595 SCB 244E FF 247 CA 248 TF 249
2.8.4 Explain that all atoms are made up of protons, neutrons, and electrons.	E/S SE: 246, 620, 626 TWE: DI 247 CA 564 TF 595 UA 607
2.8.5 Explain that liquids, solids, and gases are systems of particles.	I/S SE: 620-625, 628 TWE: TF 595 RC 622 DI 623 CA 624 SJ 624
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: 620, 626-627 <i>Integrate Environment 627</i> TWE: SCB 244E MM 621 SJ 628 TF 636
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: 718, 726 <i>Design Your Own Lab 108-109</i> TWE: Da 102 Act 718 TF 718 VL 718

OBJECTIVES	PAGE REFERENCES
3.8.2 Investigate and describe how all phase changes are accompanied by changes in energy.	E/S SE: 601 TWE: SCB 244E, 592E-592F TF 595, 604 QD 601 DI 603
3.8.3 Investigate and describe how waves transfer energy and move at different speeds in different materials.	I/S SE: 93, 736 TWE: D 454, 736 VL 454 CC 736
3.8.4. Investigate, create, and describe parallel, series, and combination circuits.	I/S SE: 566 <i>National Geographic 567</i>
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: 718-727 <i>MiniLAB 723</i> <i>National Geographic 724</i> TWE: AP 714 SJ 719 VL 723
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: 716-717 <i>Launch Lab 715</i> <i>MiniLAB 723</i> TWE: SCB 714E CC 717 IL 717
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: 602-603, 609 <i>MiniLAB 603</i> TWE: SCB 592F QD 605
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: 638-641 <i>Lab 642-643</i> TWE: TF 639 Da 641
4.8.3 Investigate and describe how materials may give off heat or light when they react chemically with each other.	E/S SE: 602-607 TWE: FF 600, 723 VL 602 DI 603 SJ 604 QD 605 TF 605 CC 622

OBJECTIVES	PAGE REFERENCES
4.8.4 Predict common properties of elements using the Periodic Table.	E/S SE: 247 TWE: Act 247 TF 247 CC 251
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: 96, 533, 719 <i>Integrate Life Science 96 Lab 98</i> TWE: CD 96 Act 223
5.8.2 Describe some applications of radioactive isotopes including using nuclear energy to produce heat. H 10.8.1	W/L SE: 345, 720, 731 TWE: CA 564 DI 731 FF 731 QD 731
5.8.3 Compare and contrast between high and low level nuclear wastes and their associated hazards. H 10.8.3	I/S SE: 564, 576, 731 TWE: SJ 564 TF 564
5.8.4 Investigate and describe how the sun produces energy in a range of wavelengths within the electromagnetic spectrum .	E/S SE: 99, 565 TWE: SCB 88E TF 100, 223
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: 99, 161, 195, 731, 733 TWE: CA 564
5.8.6 Explain how nuclear reactions convert small amounts of matter into a relatively large amount of energy.	W/L SE: 731 TWE: QD 731
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: 233, 370, 381-383 <i>Integrate History 369 Lab 389</i> TWE: D 368, 378 DI 375

OBJECTIVES	PAGE REFERENCES
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: 214-217, 230, 261-265 <i>Lab 231</i> <i>Launch Lab 245</i> TWE: Da 217 TPK 221 DI 504
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: 224-230, 250-253, 254-258 <i>Launch Lab 245</i> <i>Integrate Health 257</i> <i>National Geographic 259</i> <i>Lab 266-267</i> TWE: TC 244
6.8.4 Investigate and describe how most organisms are comprised of a single cell and others are multicellular.	W/L SE: 221, 224-230, 257-258, 261-265 <i>Integrate Social Studies 229</i> <i>Lab 231</i> <i>Integrate Health 257</i> TWE: TF 257 DI 259
6.8.5 Investigate and describe how plants have specialized structures and systems for a variety of functions.	I/S SE: 500-503 <i>Integrate Health 515</i> <i>Lab 521</i> TWE: A 245 SCB 498E-498F LD 503 Da 505 DI 510
6.8.6 Explain how information used to guide cellular functions is stored in DNA . H 10.8.1	I/S SE: 226, 251, 290, 349 <i>Science Stats 326</i> TWE: D 226 TC 274
Content Standard 7.0: Internal and External Influences on Organisms—Students understand that organisms respond to internal and external influences.	
By the end of Grade 8 , students know and are able to do everything required in previous grades and:	
7.8.1 Explain how behavior may be innate or learned.	I/S SE: 154-155, 543 <i>Launch Lab 333</i> TWE: IM 456 TF 476
7.8.2 Explain how an organism's behavior is based on experience and on the species' evolutionary history.	I/L SE: 154-155, 543 <i>Launch Lab 333</i> TWE: DI 216 AP 274 TPK 434 IM 456
7.8.3 Investigate and describe how behavior is one kind of response an organism can make to an internal or environmental stimulus.	I/S SE: 449, 456 <i>MiniLAB 455</i> TWE: FF 378 CC 453 IM 456

OBJECTIVES	PAGE REFERENCES
7.8.4 Explain how various viruses, bacteria, fungi, and parasites may infect the human body and interfere with normal body functions.	E/S SE: 233, 370, 381-383 <i>National Geographic</i> 383 <i>Lab</i> 389 TWE: A 379 DI 379 CC 384 TF 385
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 Explain how heredity is the passage of genetic instructions from one generation to another.	E/S SE: 276, 284 <i>National Geographic</i> 288 <i>MiniLAB</i> 291 TWE: FF 285 SCB 304E VL 312
8.8.2 Classify organisms on the basis of similar characteristics, and explain the basis for such a classification system.	I/L SE: 214, 218-220 <i>Launch Lab</i> 213 TWE: TC 212 TPK 214 TF 219 Act 220 D 220
8.8.3 Explain how new varieties of cultivated plants and domestic animals have resulted from selective breeding for particular traits. H 3.8.2	I/L SE: 321, 323 <i>Integrate Environment</i> 322 TWE: DI 319 TPK 321 CD 322 TF 322
8.8.4 Explain how genetic information coded in DNA is passed through sexual or asexual reproduction.	E/S SE: 281-282, 284 TWE: TF 233 LD 280 VL 307
8.8.5 Explain how some patterns of inheritance can be explained by pairs of genes that separate when sex cells are formed.	E/S SE: 284, 316, 319 <i>Integrate Chemistry</i> 285 TWE: QD 319 VL 319
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: 334 <i>MiniLAB</i> 339 TWE: DI 219, 336 A 341 AIL 354
8.8.7 Explain how changes in the genes of sex cells can affect offspring.	I/S SE: 285-287 <i>Design Your Own Lab</i> 324-325 TWE: VL 288 TF 317

OBJECTIVES	PAGE REFERENCES
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 W/L Explain that millions of species of animals, plants, and microorganisms are alive today.	SE: 214, 334, 533 <i>Chapter Preview</i> 176 <i>Launch Lab</i> 213 TWE: AP 212
9.8.2 E/S Investigate and describe how biological evolution provides a scientific explanation for the differences and many similarities between species.	SE: 335-337, 340-341 <i>Integrate Language Arts</i> 338 TWE: SCB 322E D 336 VL 337 TPK 343, 350
9.8.3 E/S Investigate and describe how biological adaptations include changes that enhance survival and reproductive success in a particular environment.	SE: 338-339 <i>Lab</i> 342 <i>MiniLAB</i> 351 TWE: DI 216 AP 332 SJ 332 Act 336
9.8.4 I/S Investigate and describe how unity among organisms is found in similarities of internal structures, chemical processes, and modern evidence of common ancestry.	SE: 336, 347-349, 352-353 TWE: TF 347, 351
9.8.5 I/S Explain how extinction of a species occurs when the adaptive characteristics of a species are insufficient to allow it to survive environmental change.	SE: 347 TWE: DI 216 A 342 TF 351
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 W/L Investigate and describe how rocks and minerals have different properties and characteristics.	SE: 30-34, 36-40, 58-59 <i>Launch Lab</i> 29, 57 <i>Lab</i> 35, 48-49 <i>MiniLAB</i> 31, 40 <i>Applying Science</i> 38 TWE: TC 28 D 37
10.8.2 E/S 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	SE: 33, 46, 59, 62-68 <i>Integrate Physics</i> 33 <i>National Geographic</i> 60 TWE: AP 28 R 33 RC 46 TC 56

OBJECTIVES	PAGE REFERENCES
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: 34, 62-63 <i>Integrate Chemistry</i> 65 TWE: VL 63 TF 68 UA 68 CC 162
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: 502, 514, 536, 548, 575 <i>Design Your Own Lab</i> 550-551 <i>Launch Lab</i> 559 TWE: DI 504 AIL 550
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: 90-97 <i>Launch Lab</i> 8 <i>Applying Science</i> 94 TWE: AP 88 DI 92 TF 93, 95 LD 94
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: 62-63, 161 <i>National Geographic</i> 60 TWE: TC 56 TF 91
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: 148, 157 TWE: A 149 DI 180
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: 93, 97, 106, 126, 135 TWE: CD 74 QD 219
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: 97, 106, 126, 135, 136, 537 <i>Lab</i> 137 TWE: DI 180
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 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	E/S SE: 160-162 <i>Integrate Earth Science</i> 110 <i>National Geographic</i> 158-159 <i>Time: Science and History</i> 170 TWE: IM 160 IL 161
12.8.2 Investigate and describe how fossils provide important evidence of how life and environmental conditions have changed throughout geologic time.	E/S SE: 343-345, 351-352 <i>National Geographic</i> 3 <i>Integrate Earth Science</i> 347 TWE: TF 179 FF 353
12.8.3 Explain how the Earth's processes we observe today are similar to those that occurred in the past.	E/S SE: 157-160, 162 <i>Time: Science and History</i> 170 TWE: IM 160 CC 162 TF 61, 704
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 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).	E/S SE: 99-102 <i>MiniLAB</i> 101 <i>National Geographic</i> 105 <i>Design Your Own Lab</i> 108-109 TWE: TC 88 TPK 99 TF 100 D 100 A 102 RC 107
13.8.2 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	E/S SE: 103-107, 148-149, 156, 181-183 <i>MiniLAB</i> 149 TWE: RC 107 IM 111 LD 180 D 181 VL 182
13.8.3 Explain how water, which covers the majority of the Earth's surface, circulates through the crust, oceans, and atmosphere.	E/S SE: 74-75, 91, 101-102, 120 <i>Applying Math</i> 121 TWE: IM 101 SJ 101
13.8.4 Simulate and describe how clouds, latitude, altitude, topographical features, and proximity to large bodies of water affect weather and climate. G 3.8.1	I/S SE: 122-130, 148-151, 157 <i>MiniLAB</i> 149 <i>Integrate Physics</i> 150 TWE: USW 123 DI 124, 180 CC 149

OBJECTIVES	PAGE REFERENCES
13.8.5 Investigate and describe some changes that are reversible and others that are not.	E/L SE: 163-165, 606 <i>MiniLAB</i> 562 TWE: VL 164 TF 179
13.8.7 Explain that the energy that the Earth receives over geologic time approximately equals the energy that it loses.	W/L SE: 722 TWE: A 203
13.8.8 Describe the relationships among geothermal and tectonic processes. G 3.8.1	E/S SE: 160-162 <i>National Geographic</i> 158-159 <i>Time: Science and History</i> 170 TWE: CC 162
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: 178-179, 194-200 <i>Launch Lab</i> 177 <i>Applying Science</i> 197 <i>MiniLAB</i> 199 TWE: Da 97 Act 179 VL 196
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: 180-183, 185-190 <i>Model and Invent Lab</i> 202-203 TWE: LD 180 D 181 DI 181 CD 182 SJ 190
14.8.3 Explain that billions of galaxies form most of the visible mass in the universe.	W/L See Glencoe's <i>Science Level Blue</i> © 2005 SE: 386-387, 391 <i>National Geographic</i> 390 TWE: FYI 387 DIN 389 AS 391
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: 185 <i>Integrate Life Science</i> 185 <i>Lab</i> 193 <i>Integrate Career</i> 196 TWE: SCB 176E CD 188 DI 191
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: 690-691, 694-696, 702-704 TWE: CC 696 TF 696, 704 DI 703

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:	
<p>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</p>	<p>E/S SE: 532-537, 539-543 <i>Chapter Preview</i> 530 <i>Launch Lab</i> 531, 559 <i>Integrate Career</i> 534 TWE: SCB 530E TC 530 TF 533</p>
<p>15.8.2 Characterize organisms in any ecosystems by their function. G 3.8.3; G 3.8.4</p>	<p>I/L SE: 542-543 TWE: USW 542 SJ 542 Act 544 FF 545 CD 547</p>
<p>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</p>	<p>E/S SE: 261-265 <i>Lab</i> 266-267 <i>Integrate Chemistry</i> 547 TWE: TPK 261 USW 263</p>
<p>15.8.4 Describe how geographically distinct ecosystems on the Earth have similarities and differences. G 3.8.3; G 3.8.4</p>	<p>I/L SE: 536-537 TWE: CD 182 FF 536 TF 536</p>
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:	
<p>16.8.1 Investigate and describe the identifying characteristics of renewable and non-renewable resources. G 5.8.6</p>	<p>E/S SE: 560-561 <i>Applying Math</i> 176 TWE: Act 561 AR 561 UA 561</p>
<p>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</p>	<p>E/S SE: 541, 562 <i>Lab</i> 550-551 TWE: DI 541 TF 548</p>
<p>16.8.3 Investigate and describe the location and distribution of various natural resources. Ec 6.8.1; G 4.8.6</p>	<p>I/L SE: 561, 565 <i>Applying Science</i> 546 TWE: TF 548 D 563</p>

OBJECTIVES	PAGE REFERENCES
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: 541 <i>Applying Science</i> 546 <i>Integrate Chemistry</i> 547 <i>Chapter Preview</i> 558 TWE: DI 545, 563
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: 564 <i>Lab</i> 538 <i>Integrate Social Studies</i> 563 TWE: SCB 558E D 563
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: 563, 578-581 TWE: VL 563 TF 564
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: 539-543 <i>Integrate Career</i> 534 <i>Lab</i> 538 TWE: AP 530 TF 533, 535 CD 536
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: 568-571 <i>Launch Lab</i> 559 TWE: IM 535 SCB 558E-558F TF 570
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: 578-581 <i>Lab</i> 538 TWE: AP 558 SJ 564

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: 221, 335 <i>Time: Science and History 238</i> TWE: TF 307 TPK 334
18.8.2 Explain that scientific inquiry done in a school setting is similar to what scientists do.	I/L SE: 12-18 <i>Design Your Own Lab 236-237</i> TWE: Co 237 CC 293 D 298
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: 496 TWE: SCB 244E CC 515, 562, 601 CD 442, 602, 638
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: 221 <i>Time: Science and History 238</i> TWE: CD 226, 278 DI 294 Act 298
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: 221 <i>National Geographic 222-223</i> TWE: DI 43 TF 226
18.8.6 Explain that scientific knowledge is revised through a process of incorporating new evidence gained through continual investigation.	E/S SE: 221 TWE: FF 221 SJ 222 CB 223 CD 226 D 238
18.8.7 Identify and describe how science is subject to strengths and limitations related to other human social and intellectual activities.	I/L SE: 221 TWE: CD 226 DI 294 CC 339

OBJECTIVES	PAGE REFERENCES
Content Standard 19.0: Reasoning and Critical Response Skills — <i>Students understand that many decisions require critical consideration of scientific evidence.</i>	
By the end of Grade 8 , students know and are able to do everything required in previous grades and:	
<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: 34 <i>Applying Science</i> 38 <i>Applying Math</i> 311 <i>Lab</i> 78-79, 313 TWE: DI 311 A 325, 543 Act 718</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: 572-574 <i>Lab</i> 538 TWE: AP 176, 558 A 559</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: 581 <i>Lab</i> 20-21 <i>Applying Science</i> 580 <i>Model and Invent Lab</i> 582-583 TWE: UA 216</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: <i>Lab</i> 19, 98 <i>Design Your Own Lab</i> 610-611 TWE: A 19</p>

Codes Used for TWE Pages

A	Assessment
Act	Activity
AIL	Alternate Inquiry Lab
AP	About the Photo
AR	Active Reading
CA	Caption Answer
CB	Content Background
CC	Curriculum Connection
CD	Cultural Diversity
Co	Conclude and Apply
D	Discussion
Da	Daily Intervention
DI	Differentiated Instruction
FF	Fun Fact
IL	Inquiry Lab
IM	Identifying Misconceptions
LD	Lab Demonstration
MM	Make a Model
QD	Quick Demo
R	Research
RC	Reading Check
SCB	Science Content Background
SJ	Science Journal
TC	Theme Connection
TF	Teacher FYI
TPK	Tie to Prior Knowledge
UA	Use an Analogy
USW	Use Science Words
VL	Visual Learning