

| Identifier | Lander - Grade Pre-Kindergarten - Science | Introduced | Completed |
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| PKSc1 | PHYSICAL SCIENCE | | |
| PKSc1.1 | Explore and demonstrate how objects move | | |
| PKSc1.2 | Investigate how objects react when placed in water | | |
| PKSc1.3 | Sort objects according to observable properties (e.g., by shape and color) | | |
| PKSc1.4 | Identify hot and cold | | |
| PKSc2 | LIFE SCIENCE | | |
| PKSc2.1 | Identify humans, animals, and plants | | |
| PKSc2.2 | Use the five senses to explore and investigate the natural world | | |
| PKSc2.3 | Identify the basic need for air, water and food | | |
| PKSc2.4 | Investigate animals and their offspring | | |
| PKSc2.5 | Explore and identify a variety of animals and plants | | |
| PKSc3 | EARTH AND SPACE SCIENCES | | |
| PKSc3.1 | Observe and identify weather from day to day | | |
| PKSc4 | ENVIRONMENTAL SCIENCES | | |
| PKSc4.1 | Identify animals and their homes | | |
| PKSc5 | SCIENTIFIC INQUIRY: PROCESSES AND SKILLS | | |
| PKSc5.1 | Observe their world | | |
| PKSc5.2 | Ask questions about their world | | |
| PKSc5.3 | Share ideas with others | | |

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| K S PS | PHYSICAL SCIENCE | | | |
| K S PS 1.K.1 | Forces and Motion | Investigate and describe how objects move. | | |
| K S PS 1.K.4 | Forces and Motion | Observe and describe how objects behave when placed in water. | | |
| K S LS | LIFE SCIENCE | | | |
| K S LS 6.K.1 | Structure and Function | Observe and describe animal attributes. | | |
| K S LS 6.K.2 | Structure and Function | Compare and contrast how humans and animals use their senses. | | |
| K S LS 8.K.1 | Heredity and Diversity | Observe and describe how animals have offspring that are the same kind of animal. | | |
| K S LS 8.K.2 | Heredity and Diversity | Sort animals by observable characteristics. | | |
| K S ESS | EARTH AND SPACE SCIENCES | | | |
| K S ESS 13.K.2 | Cycles of Matter and Energy | Observe and record weather from day to day. | | |
| K S ES | ENVIRONMENTAL SCIENCES | | | |
| K S ES 15.K.1 | Ecosystems | Recognize that animals live in different places. | | |
| K S SI | SCIENTIFIC INQUIRY: PROCESSES AND SKILLS | | | |
| K S SI 21.K.1 | Scientific Values and Attitudes | Ask questions about the world. | | |
| K S SI 22.K.3 | Communication Skills | Share information and ideas with others. | | |

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| OKSc1 | PHYSICAL SCIENCE | | |
| OKSc1.1 | Investigate, observe, and describe how objects move | | |
| OKSc1.2 | Observe and describe how objects react when placed in water | | |
| OKSc1.3 | Describe observable materials and properties of objects | | |
| OKSc2 | LIFE SCIENCE | | |
| OKSc2.1 | Observe and describe attributes of animals | | |
| OKSc2.2 | Compare and contrast how humans and animals use their senses | | |
| OKSc2.3 | Observe and explain that animals have offspring that are the same kind of animal | | |
| OKSc2.4 | Sort animals by observable characteristics | | |
| OKSc3 | EARTH AND SPACE SCIENCES | | |
| OKSc3.1 | Observe and record weather from day to day | | |
| OKSc3.2 | Observe patterns in nature (e.g., leaves and feathers, night and day, weather conditions) | | |
| OKSc4 | ENVIRONMENTAL SCIENCES | | |
| OKSc4.1 | Recognize and explain that animals live in different places | | |
| OKSc5 | THE NATURE AND HISTORY OF SCIENCE | | |
| OKSc5.1 | Compare objects/ products made of different materials | | |
| OKSc5.2 | Build simple structures | | |
| OKSc6 | SCIENTIFIC INQUIRY: PROCESSES AND SKILLS | | |
| OKSc6.1 | Ask questions about the world | | |
| OKSc6.2 | Conduct investigations independently and with a partner | | |
| OKSc6.3 | Use simple equipment, tools, and resources to gather information | | |
| OKSc6.4 | Share information and ideas with others | | |

| Identifier | Kamico - Grade 1 - Science | Introduced | Completed |
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| | SCIENTIFIC PROCESSES | | |
| S 1.1.1A | Demonstrate safe practices during classroom and field investigations. | | |
| S 1.1.1B | Learn how to use and conserve resources and materials. | | |
| S 1.1.2A | Ask questions about organisms, objects, and events. | | |
| S 1.1.2B | Plan and conduct simple descriptive investigations. | | |
| S 1.1.2C | Gather information using simple equipment and tools to extend the senses. | | |
| S 1.1.2D | Construct reasonable explanations and draw conclusions. | | |
| S 1.1.2E | Communicate explanations about investigations. | | |
| S 1.1.3A | Make decisions using information. | | |
| S 1.1.3B | Discuss and justify the merits of decisions. | | |
| S 1.1.3C | Explain a problem in his/her own words and identify a task and solution related to the problem. | | |
| S 1.1.4A | Collect information using tools including hand lenses, clocks, computers, thermometers, and balances. | | |
| S 1.1.4B | Record and compare collected information. | | |
| S 1.1.4C | Measure organisms and objects and parts of organisms and objects, using nonstandard units such as paper clips, hands, and pencils. | | |
| | SCIENCE CONCEPTS | | |
| S 1.1.5A | Sort objects and events based on properties and patterns. | | |
| S 1.1.5B | Identify, predict, and create patterns including those seen in charts, graphs, and numbers. | | |
| S 1.1.6A | Sort organisms and objects according to their parts and characteristics. | | |
| S 1.1.6B | Observe and describe the parts of plants and animals. | | |
| S 1.1.6C | Manipulate objects such as toys, vehicles, or construction sets so that the parts are separated from the whole, which may result in the part or the whole not working. | | |
| S 1.1.6D | Identify parts that, when put together, can do things they cannot do by themselves, such as a working camera with film, a car moving with a motor, and an airplane flying with fuel. | | |
| S 1.1.7A | Observe, measure, and record changes in size, mass, color, position, quantity, sound, and movement. | | |
| S 1.1.7B | Identify and test ways that heat may cause change such as when ice melts. | | |
| S 1.1.7C | Observe and record changes in weather from day to day and over seasons. | | |
| S 1.1.7D | Observe and record changes in the life cycle of organisms. | | |
| S 1.1.8A | Group living organisms and nonliving objects. | | |
| S 1.1.8B | Compare living organisms and nonliving objects. | | |
| S 1.1.9A | Identify characteristics of living organisms that allow their basic needs to be met. | | |
| S 1.1.9B | Compare and give examples of the ways living organisms depend on each other for their basic needs. | | |
| S 1.1.10A | Identify and describe a variety of natural sources of water including streams, lakes, and oceans. | | |
| S 1.1.10B | Observe and describe differences in rocks and soil samples. | | |
| S 1.1.10C | Identify how rocks, soil, and water are used and how they can be recycled. | | |

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| 1 S PS | PHYSICAL SCIENCE | | | |
| 1 S PS 1.1.5 | Forces and Motion | Observe and describe how magnets can be used to make objects move without being touched. | | |
| 1 S PS 3.1.2 | Energy and Matter | Observe and describe materials in different states (i.e., solids and liquids). | | |
| 1 S LS | LIFE SCIENCE | | | |
| 1 S LS 6.1.1 | Structure and Function | Observe and describe plant attributes. | | |
| 1 S LS 6.1.2 | Structure and Function | Use the five senses to investigate the natural world. | | |
| 1 S LS 8.1.1 | Heredity and Diversity | Investigate and describe how particular plants have seeds that produce the same kind of plant. | | |
| 1 S LS 8.1.2 | Heredity and Diversity | Sort plants by observable characteristics. | | |
| 1 S ESS | EARTH AND SPACE SCIENCES | | | |
| 1 S ESS 13.1.2 | Cycles of Matter and Energy | Observe and record seasonal changes. | | |
| 1 S ES | ENVIRONMENTAL SCIENCES | | | |
| 1 S ES 15.1.1 | Ecosystems | Recognize that plants grow in different places. | | |
| 1 S NHS | THE NATURE AND HISTORY OF SCIENCE | | | |
| 1 S NHS 20.1.1 | Systems, Models, Risk, and Predictions | Use toy models (e.g., miniature cars, toy animals) to explain the things they represent. | | |
| 1 S SI | SCIENTIFIC INQUIRY: PROCESSES AND SKILLS | | | |
| 1 S SI 21.1.1 | Scientific Values and Attitudes | Make observations and give descriptions. | | |
| 1 S SI 22.1.2 | Communication Skills | Draw pictures that describe observations. | | |
| 1 S SI 22.1.3 | Communication Skills | Respect ideas and contributions of others. | | |
| 1 S SI 23.1.5 | Scientific Applications of Mathematics | Make predictions based on observed patterns. | | |
| 1 S SI 24.1.4 | Laboratory Skills and Safety | Record observations. | | |

| Identifier | Lander - Grade 1 - Science | Introduced | Completed |
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| 1Sc1 | PHYSICAL SCIENCE | | |
| 1Sc1.1 | Make objects move, stop, change direction, or balance | | |
| 1Sc1.2 | Observe and describe how magnets can be used to make objects move without being touched | | |
| 1Sc1.3 | Observe and describe materials in different states (e.g., solids and liquids) | | |
| 1Sc2 | LIFE SCIENCE | | |
| 1Sc2.1 | Observe, compare, and describe attributes of plants | | |
| 1Sc2.2 | Use the five senses to investigate the natural world | | |
| 1Sc2.3 | Identify and compare needs common to most living things (e.g., air, water, light) | | |
| 1Sc2.4 | Investigate and describe how particular plants have seeds that produce the same kind of plant | | |
| 1Sc2.5 | Sort plants by observable characteristics | | |
| 1Sc3 | EARTH AND SPACE SCIENCES | | |
| 1Sc3.1 | Observe, describe, and record seasonal changes over time | | |
| 1Sc3.2 | Observe and describe basic properties of soil and rocks | | |
| 1Sc4 | ENVIRONMENTAL SCIENCES | | |
| 1Sc4.1 | Recognize that plants grow in different places | | |
| 1Sc5 | THE NATURE AND HISTORY OF SCIENCE | | |
| 1Sc5.1 | Design and build structures | | |
| 1Sc5.2 | Use models (e.g., miniature toy cars, toy animals) to explain the things they represent | | |
| 1Sc6 | SCIENTIFIC INQUIRY: PROCESSES AND SKILLS | | |
| 1Sc6.1 | Conduct investigations independently and with a partner | | |
| 1Sc6.2 | Use simple equipment, tools, and resources to gather information | | |
| 1Sc6.3 | Make observations and give descriptions | | |
| 1Sc6.4 | Draw pictures that describe observations and explanations | | |
| 1Sc6.5 | Record observations using pictures and words in a science notebook/journal | | |
| 1Sc6.6 | Make predictions based on observed patterns | | |
| 1Sc6.7 | Raise new questions based on observations and interactions | | |
| 1Sc6.8 | Respect ideas and contributions of others | | |

| Identifier | Kamico - Grade 2 - Science | Introduced | Completed |
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| SCIENTIFIC PROCESSES | | | |
| S 2.1.1A | Demonstrate safe practices during classroom and field investigations. | | |
| S 2.1.1B | Learn how to use and conserve resources and dispose of materials. | | |
| S 2.1.2A | Ask questions about organisms, objects, and events. | | |
| S 2.1.2B | Plan and conduct simple descriptive investigations. | | |
| S 2.1.2C | Compare results of investigations with what students and scientists know about the world. | | |
| S 2.1.2D | Gather information using simple equipment and tools to extend the senses. | | |
| S 2.1.2E | Construct reasonable explanations and draw conclusions using information and prior knowledge. | | |
| S 2.1.2F | Communicate explanations about investigations. | | |
| S 2.1.3A | Make decisions using information. | | |
| S 2.1.3B | Discuss and justify the merits of decisions. | | |
| S 2.1.3C | Explain a problem in his/her own words and identify a task and solution related to the problem. | | |
| S 2.1.4A | Collect information using tools including rulers, meter sticks, measuring cups, clocks, hand lenses, computers, thermometers, and balances. | | |
| S 2.1.4B | Measure and compare organisms and objects and parts of organisms and objects, using standard and nonstandard units. | | |
| SCIENCE CONCEPTS | | | |
| S 2.1.5A | Classify and sequence organisms, objects, and events based on properties and patterns. | | |
| S 2.1.5B | Identify, predict, replicate, and create patterns including those seen in charts, graphs, and numbers. | | |
| S 2.1.6A | Manipulate, predict, and identify parts that, when separated from the whole, may result in the part or the whole not working, such as flashlights without batteries and plants without leaves. | | |
| S 2.1.6B | Manipulate, predict, and identify parts that, when put together, can do things they cannot do by themselves, such as a guitar and guitar strings. | | |
| S 2.1.6C | Observe and record the functions of plant parts. | | |
| S 2.1.6D | Observe and record the functions of animal parts. | | |
| S 2.1.7A | Observe, measure, record, analyze, predict, and illustrate changes in size, mass, temperature, color, position, quantity, sound, and movement. | | |
| S 2.1.7B | Identify, predict, and test uses of heat to cause change such as melting and evaporation. | | |
| S 2.1.7C | Demonstrate a change in the motion of an object by giving the object a push or a pull. | | |
| S 2.1.7D | Observe, measure, and record changes in weather, the night sky, and seasons. | | |
| S 2.1.8A | Identify characteristics of living organisms. | | |
| S 2.1.8B | Identify characteristics of nonliving objects. | | |
| S 2.1.9A | Identify the external characteristics of different kinds of plants and animals that allow their needs to be met. | | |
| S 2.1.9B | Compare and give examples of the ways living organisms depend on each other and on their environments. | | |
| S 2.1.10A | Describe and illustrate the water cycle. | | |
| S 2.1.10B | Identify uses of natural resources. | | |

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|----------------|--|--|------------|-----------|
| 2 S PS | PHYSICAL SCIENCE | | | |
| 2 S PS 1.2.1 | Forces and Motion | Observe and describe objects moving at different speeds. | | |
| 2 S PS 1.2.3 | Forces and Motion | Assemble, take apart, and reassemble constructions using interlocking blocks, erector sets, and the like. | | |
| 2 S PS 2.2.1 | Structure and Properties of Matter | Describe objects in terms of their observable properties (e.g., state of matter, size, shape, color, texture). | | |
| 2 S PS 2.2.3 | Structure and Properties of Matter | Put small objects together to form bigger objects. | | |
| 2 S PS 3.2.1 | Energy and Matter | Describe an object as hot or cold. | | |
| 2 S PS 3.2.2 | Energy and Matter | Investigate and describe how objects can change state (e.g., melting ice cube). | | |
| 2 S PS 3.2.3 | Energy and Matter | Investigate and describe how sound can be produced by vibrating objects and how it has different properties (e.g., high-low, soft-loud). | | |
| 2 S LS | LIFE SCIENCE | | | |
| 2 S LS 6.2.1 | Structure and Function | Investigate and describe how living things grow and change. | | |
| 2 S LS 6.2.2 | Structure and Function | Distinguish living from nonliving things using established criteria. | | |
| 2 S LS 7.2.4 | Internal and External Influences on Organisms | Explain that some diseases are caused by germs and some are not; diseases caused by germs may be spread by people who have them. | | |
| 2 S LS 8.2.1 | Heredity and Diversity | Investigate and describe how particular animals have offspring that are the same kind of animal. | | |
| 2 S LS 8.2.2 | Heredity and Diversity | Investigate and describe how some living things look alike and others do not. | | |
| 2 S ESS | EARTH AND SPACE SCIENCES | | | |
| 2 S ESS 10.2.1 | Earth Structures and Composition | Describe that rocks come in many sizes and shapes and have interesting textures, colors, and patterns. | | |
| 2 S ESS 12.2.1 | Earth History | Investigate and describe how changes happen to many things (e.g., weather). | | |
| 2 S ESS 13.2.1 | Cycles of Matter and Energy | Investigate and describe how the sun warms the land, air, and water. | | |
| 2 S ESS 13.2.2 | Cycles of Matter and Energy | Investigate and describe how weather changes from day to day and throughout the year. | | |
| 2 S ESS 14.2.1 | Solar System and Universe | Observe and describe the sun, moon, planets, and stars. | | |
| 2 S ESS 14.2.2 | Solar System and Universe | Describe the movement of some of the objects in the sky. | | |
| 2 S ES | ENVIRONMENTAL SCIENCES | | | |
| 2 S ES 15.2.1 | Ecosystems | Investigate and describe the roles of plants as producers and animals as consumers and how living things may depend on each other. | | |
| 2 S ES 15.2.2 | Ecosystems | Investigate and describe how animals eat plants or other animals for food and may also use plants or even other animals (for shelter and nesting). | | |
| 2 S ES 16.2.1 | Natural Resources | Investigate and describe how some resources can be used and reused. | | |
| 2 S ES 16.2.2 | Natural Resources | Describe the various resources that provide the necessary things that are used by people in their daily lives. | | |
| 2 S ES 17.2.1 | Conservation | Describe how people live in different places in different ways. | | |
| 2 S ES 17.2.2 | Conservation | Describe how some things in students' daily lives change and other things stay the same. | | |
| 2 S NHS | THE NATURE AND HISTORY OF SCIENCE | | | |
| 2 S NHS 18.2.1 | Scientific, Historical, and Technological Perspectives | Explain that everybody can invent things and ideas. | | |
| 2 S NHS 20.2.3 | Systems, Models, Risk, and Predictions | Explain that something may not work if some of its parts are missing. | | |
| 2 S SI | SCIENTIFIC INQUIRY: PROCESSES AND SKILLS | | | |
| 2 S SI 21.2.1 | Scientific Values and Attitudes | Make observations and give descriptions using words, numbers, and drawings. | | |
| 2 S SI 21.2.2 | Scientific Values and Attitudes | Record observations of investigations over time in a notebook or journal (e.g., growth of a plant, changes in weather). | | |
| 2 S SI 22.2.1 | Communication Skills | Follow verbal instructions accurately. | | |
| 2 S SI 22.2.2 | Communication Skills | Produce simple pictographs to describe observations. | | |
| 2 S SI 22.2.3 | Communication Skills | Cooperate and contribute ideas within a group. | | |
| 2 S SI 23.2.3 | Scientific Applications of Mathematics | Give rough estimates of numerical answers to problems before calculating. | | |
| 2 S SI 23.2.5 | Scientific Applications of Mathematics | Recognize unexpected or unusual results in activities. | | |
| 2 S SI 24.2.4 | Laboratory Skills and Safety | Keep a record of observations and measurements taken over time. | | |

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| 2Sc1 | PHYSICAL SCIENCE | | |
| 2Sc1.1 | Investigate, observe, and describe objects moving at different speeds | | |
| 2Sc1.2 | Build, take apart, and reassemble constructions using materials such as interlocking blocks, erector sets, etc. | | |
| 2Sc1.3 | Describe and sort objects in terms of their observable properties (e.g., state of matter, shape, color, texture) | | |
| 2Sc1.4 | Combine small objects to form larger objects | | |
| 2Sc1.5 | Sort solids and liquids according to similarities and differences | | |
| 2Sc1.6 | Observe and describe the interactions of solids mixed with water and liquids mixed with water | | |
| 2Sc1.7 | Describe an object as hot or cold | | |
| 2Sc1.8 | Investigate and describe how objects can change state (e.g., melting ice cube) | | |
| 2Sc1.9 | Investigate and describe how sound can be produced by vibrating objects and how it has different properties (e.g., high-low, soft-loud) | | |
| 2Sc2 | LIFE SCIENCE | | |
| 2Sc2.1 | Investigate, observe, and describe how animals grow and change through their life cycles | | |
| 2Sc2.2 | Investigate, observe, and describe how plants grow and change through their life cycles | | |
| 2Sc2.3 | Distinguish living from non-living things using established criteria | | |
| 2Sc2.4 | Explain that some diseases are caused by germs and some are not; diseases caused by germs may be spread by people who have them | | |
| 2Sc2.5 | Investigate and describe how particular animals have offspring that are the same kind of animal | | |
| 2Sc2.6 | Investigate and describe how some living things look alike and others do not | | |
| 2Sc3 | EARTH AND SPACE SCIENCES | | |
| 2Sc3.1 | Describe that rocks come in many sizes and shapes and have interesting textures, colors, and patterns | | |
| 2Sc3.2 | Investigate and describe how changes happen to many things (e.g., weather) | | |
| 2Sc3.3 | Investigate and describe how the sun warms the land, air, and water | | |
| 2Sc3.4 | Investigate and describe how weather changes from day to day and throughout the year | | |
| 2Sc3.5 | Observe and describe the sun, moon, planets, and stars | | |
| 2Sc3.6 | Describe the movement of some of the objects in the sky | | |
| 2Sc4 | ENVIRONMENTAL SCIENCES | | |
| 2Sc4.1 | Investigate and describe the roles of plants as producers and animals as consumers and how living things may depend on each other | | |
| 2Sc4.2 | Investigate and describe how animals eat plants or other animals for food and may also use plants or even other animals (for shelter and nesting) | | |
| 2Sc4.3 | Investigate and describe how some resources can be used and reused | | |
| 2Sc4.4 | Describe the various resources that provide the necessary things that are used by people in their daily lives | | |
| 2Sc4.5 | Describe how people live in different places in different ways | | |
| 2Sc4.6 | Describe how some things in students' daily lives change and other things stay the same | | |
| 2Sc5 | THE NATURE AND HISTORY OF SCIENCE | | |
| 2Sc5.1 | Explain that everyone can invent things and ideas | | |
| 2Sc5.2 | Construct models of useful things | | |
| 2Sc5.3 | Explain that something may not work if some of its parts are missing | | |
| 2Sc6 | SCIENTIFIC INQUIRY: PROCESSES AND SKILLS | | |
| 2Sc6.1 | Conduct investigations and experiments independently or with a partner | | |
| 2Sc6.2 | Use simple equipment, tools, and resources (e.g., books, technology) to gather information | | |
| 2Sc6.3 | Make observations and give descriptions using words, numbers, and drawings | | |
| 2Sc6.4 | Record observations of investigations over time in a science notebook/journal (e.g., growth of a plant, changes in weather) | | |
| 2Sc6.5 | Follow verbal instructions accurately | | |
| 2Sc6.6 | Produce simple pictographs to describe observations and explanations | | |
| 2Sc6.7 | Cooperate and contribute ideas within a group | | |
| 2Sc6.8 | Estimate numerical answers to problems before calculating | | |
| 2Sc6.9 | Recognize unexpected or unusual results in activities | | |

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| 2Sc6.10 | Keep a record of observations and measurements taken over time | | |
| 2Sc6.11 | Raise new questions based on observations and interactions | | |

| Identifier | Kamico - Grade 3 - Science | Introduced | Completed |
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| SCIENTIFIC PROCESSES | | | |
| S 3.1.1A | Demonstrate safe practices during field and laboratory investigations. | | |
| S 3.1.1B | Make wise choices in the use and conservation of resources and the disposal or recycling of materials. | | |
| S 3.1.2A | Plan and implement descriptive investigations including asking well-defined questions, formulating testable hypotheses, and selecting and using equipment and technology. | | |
| S 3.1.2B | Collect information by observing and measuring. | | |
| S 3.1.2C | Analyze and interpret information to construct reasonable explanations from direct and indirect evidence. | | |
| S 3.1.2D | Communicate valid conclusions. | | |
| S 3.1.2E | Construct simple graphs, tables, maps, and charts to organize, examine, and evaluate information. | | |
| S 3.1.3A | Analyze, review, and critique scientific explanations, including hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information. | | |
| S 3.1.3B | Draw inferences based on information related to promotional materials for products and services. | | |
| S 3.1.3C | Represent the natural world using models and identify their limitations. | | |
| S 3.1.3D | Evaluate the impact of research on scientific thought, society, and the environment. | | |
| S 3.1.3E | Connect Grade 3 science concepts with the history of science and contributions of scientists. | | |
| S 3.1.4A | Collect and analyze information using tools including calculators, microscopes, cameras, safety goggles, sound recorders, clocks, computers, thermometers, hand lenses, meter sticks, rulers, balances, magnets, and compasses. | | |
| S 3.1.4B | Demonstrate that repeated investigations may increase the reliability of results. | | |
| SCIENCE CONCEPTS | | | |
| S 3.1.5A | Observe and identify simple systems such as a sprouted seed and a wooden toy car. | | |
| S 3.1.5B | Observe a simple system and describe the role of various parts such as a yo-yo and string. | | |
| S 3.1.6A | Measure and record changes in the position and direction of the motion of an object to which a force such as a push or pull has been applied. | | |
| S 3.1.6B | Identify that the surface of the Earth can be changed by forces such as earthquakes and glaciers. | | |
| S 3.1.7A | Gather information including temperature, magnetism, hardness, and mass using appropriate tools to identify physical properties of matter. | | |
| S 3.1.7B | Identify matter as liquids, solids, and gases. | | |
| S 3.1.8A | Observe and describe the habitats of organisms within an ecosystem. | | |
| S 3.1.8B | Observe and identify organisms with similar needs that compete with one another for resources such as oxygen, water, food, or space. | | |
| S 3.1.8C | Describe environmental changes in which some organisms would thrive, become ill, or perish. | | |
| S 3.1.8D | Describe how living organisms modify their physical environment to meet their needs such as beavers building a dam or humans building a home. | | |
| S 3.1.9A | Observe and identify characteristics among species that allow each to survive and reproduce. | | |
| S 3.1.9B | Analyze how adaptive characteristics help individuals within a species to survive and reproduce. | | |
| S 3.1.10A | Identify some inherited traits of plants. | | |
| S 3.1.10B | Identify some inherited traits of animals. | | |
| S 3.1.11A | Identify and describe the importance of earth materials including rocks, soil, water, and gases of the atmosphere in the local area and classify them as renewable, nonrenewable, or inexhaustible resources. | | |
| S 3.1.11B | Identify and record properties of soils such as color and texture, capacity to retain water, and ability to support the growth of plants. | | |
| S 3.1.11C | Identify the planets in our solar system and their position in relation to the sun. | | |
| S 3.1.11D | Describe the characteristics of the sun. | | |

| Identifier | Nevada - Grade 3 - Science | | Introduced | Completed |
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| 3 S PS | PHYSICAL SCIENCE | | | |
| 3 S PS 1.3.1 | Forces and Motion | Apply unbalanced forces (a push or pull) to cause objects to change their motion (e.g., speed, direction, or both). | | |
| 3 S PS 1.3.2 | Forces and Motion | Investigate and describe the ways that different objects may balance or topple in various situations. | | |
| 3 S PS 1.3.3 | Forces and Motion | Manipulate hammers and nails, screwdrivers and screws, scissors, and other simple tools. | | |
| 3 S PS 2.3.1 | Structure and Properties of Matter | Describe objects in terms of their observable properties (e.g., state of matter, size, shape, color, texture). | | |
| 3 S PS 2.3.2 | Structure and Properties of Matter | Sort and classify objects according to observable properties (e.g., size, weight, shape, color). | | |
| 3 S PS 3.3.1 | Energy and Matter - Interactions and Forms | Describe how hot or cold an object is by expressing its temperature. | | |
| 3 S PS 3.3.2 | Energy and Matter - Interactions and Forms | Investigate and describe how solid ice can melt and liquid water will disappear if allowed to stand in an open container. | | |
| 3 S LS | LIFE SCIENCE | | | |
| 3 S LS 6.3.1 | Structure and Function | Investigate and describe how plants and animals have life cycles and require food, water, air, and space. | | |
| 3 S LS 6.3.2 | Structure and Function | Investigate, compare, and contrast identifiable characteristics of plants and animals. | | |
| 3 S LS 6.3.3 | Structure and Function | Investigate and describe how plants and animals require certain conditions to survive. | | |
| 3 S LS 7.3.1 | Internal and External Influences on Organisms | Investigate and describe how various living things behave differently under diverse conditions. | | |
| 3 S LS 7.3.4 | Internal and External Influences on Organisms | Explain that if germs are able to get inside one's body, they may keep it from working properly. | | |
| 3 S LS 8.3.1 | Heredity and Diversity | Investigate and describe how offspring may resemble parents and siblings may resemble each other. | | |
| 3 S LS 8.3.2 | Heredity and Diversity | Investigate and describe how some living things are alike in their appearance and behaviors; others are not. | | |
| 3 S LS 9.3.1 | Process of Biological Change - Evolution | Explain that many different kinds of living things exist on Earth. | | |
| 3 S LS 9.3.2 | Process of Biological Change - Evolution | Explain how particular features of plants and animals help them live in different kinds of places. | | |
| 3 S ESS | EARTH AND SPACE SCIENCES | | | |
| 3 S ESS 10.3.1 | Earth Structures and Composition | Investigate and describe how Earth is composed of different kinds of materials (e.g., rocks and soils, water, and the atmosphere). | | |
| 3 S ESS 10.3.2 | Earth Structures and Composition | Describe how Earth is composed of different landforms. | | |
| 3 S ESS 10.3.3 | Earth Structures and Composition | Investigate and describe how Earth is nearly spherical and covered with more water than land. | | |
| 3 S ESS 11.3.1 | Earth Models | Describe that directions on Earth can be represented by north, south, east, and west. | | |
| 3 S ESS 11.3.2 | Earth Models | Locate the state of Nevada on a national map and their own city on a Nevada state map. | | |
| 3 S ESS 12.3.1 | Earth History | Investigate and describe how some changes are so slow (e.g., seasons) or so fast (e.g., lightning strikes) that they are hard to see. | | |
| 3 S ESS 13.3.1 | Cycles of Matter and Energy | Investigate and describe how things that give off light also often give off heat. | | |
| 3 S ESS 13.3.2 | Cycles of Matter and Energy | Observe, record, and describe seasonal differences using words, numbers, and drawings. | | |
| 3 S ESS 13.3.3 | Cycles of Matter and Energy | Investigate and describe how water can be a liquid or a solid and can go back and forth from one form to the other. | | |
| 3 S ESS 14.3.1 | Solar System and Universe | Identify the sun, moon, and Earth as components of our solar system. | | |
| 3 S ESS 14.3.3 | Solar System and Universe | Explain that there are more stars in the sky than anyone can easily count. | | |
| 3 S ES | ENVIRONMENTAL SCIENCES | | | |
| 3 S ES 15.3.1 | Ecosystems | Investigate and describe how animals and plants that live in different places have similarities and differences. | | |
| 3 S ES 15.3.2 | Ecosystems | Investigate and describe the interactions of organisms within an ecosystem. | | |
| 3 S ES 16.3.1 | Natural Resources | Explain that natural resources are used for many purposes. | | |
| 3 S ES 16.3.2 | Natural Resources | Describe how humans have obtained natural resources for thousands of years through farming, mining, and hunting and gathering. | | |
| 3 S ES 17.3.1 | Conservation | Explain that many materials can be recycled and used again, sometimes in different forms. | | |
| 3 S ES 17.3.2 | Conservation | Investigate and describe how patterns of change may be observable and predictable. | | |
| 3 S NHS | THE NATURE AND HISTORY OF SCIENCE | | | |
| 3 S NHS 18.3.1 | Scientific, Historical and Technological Perspectives | Explain that science is a process that involves observing and asking questions about the natural world and seeking answers to those questions. | | |

| Identifier | Nevada - Grade 3 - Science | | Introduced | Completed |
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| 3 S NHS 18.3.2 | Scientific, Historical and Technological Perspectives | Explain that accurate descriptions in science are important because they enable people to compare their observations with those of others. | | |
| 3 S NHS 18.3.3 | Scientific, Historical and Technological Perspectives | Recognize that science engages men and women of all ages and backgrounds. | | |
| 3 S NHS 18.3.4 | Scientific, Historical and Technological Perspectives | Give examples of the benefits of working with a team and sharing findings. | | |
| 3 S NHS 18.3.5 | Scientific, Historical and Technological Perspectives | Explain that tools are used to do things better or more easily (e.g., observe, measure, and make things) and to do some things that could not be done at all (e.g., see things that are too small to be seen unaided). | | |
| 3 S NHS 20.3.1 | Systems, Models, Risk, and Predictions | Compare a model with what it represents (e.g., a model of Earth to Earth itself). | | |
| 3 S NHS 20.3.2 | Systems, Models, Risk, and Predictions | Identify observable patterns and predict future events based on those patterns (e.g., seasonal weather patterns). | | |
| 3 S NHS 20.3.3 | Systems, Models, Risk, and Predictions | Demonstrate that when parts are put together, they can do things together they could not have done by themselves. | | |
| 3 S SI | SCIENTIFIC INQUIRY: PROCESSES AND SKILLS | | | |
| 3 S SI 21.3.1 | Scientific Values and Attitudes | Observe and raise questions about the world, then seek answers through investigation. | | |
| 3 S SI 21.3.2 | Scientific Values and Attitudes | Record observations of investigations over time in a notebook or journal (e.g., changes in an aquarium or terrarium). | | |
| 3 S SI 22.3.1 | Communication Skills | Follow verbal and written instructions to complete a procedure. | | |
| 3 S SI 22.3.2 | Communication Skills | Create illustrations, graphs, and charts to convey ideas and record observations. | | |
| 3 S SI 22.3.3 | Communication Skills | Cooperate and contribute ideas within a group. | | |
| 3 S SI 23.3.3 | Scientific Applications of Mathematics | Give rough estimates of numerical answers to problems before calculating. | | |
| 3 S SI 23.3.5 | Scientific Applications of Mathematics | Determine whether measurements and descriptions are reasonably accurate. | | |
| 3 S SI 24.3.1 | Laboratory Skills and Safety | Use equipment properly and safely in all science activities. | | |
| 3 S SI 24.3.3 | Laboratory Skills and Safety | Identify and gather tools and materials needed in an investigation. | | |
| 3 S SI 24.3.4 | Laboratory Skills and Safety | Keep a record of observations and measurements taken over time. | | |

| Identifier | Lander - Grade 3 - Science | Introduced | Completed |
|------------|---|------------|-----------|
| 3Sc1 | PHYSICAL SCIENCE | | |
| 3Sc1.1 | Apply unbalanced forces (a push or pull) to cause objects to change their motion (e.g., speed, direction, or both) | | |
| 3Sc1.2 | Investigate and describe the ways that different objects may balance in various situations | | |
| 3Sc1.3 | Manipulate hammers and nails, screwdrivers and crews, scissors, and other simple tools | | |
| 3Sc1.4 | Investigate changes of state of matter (solids, liquids, gases) | | |
| 3Sc1.5 | Describe objects in terms of their observable properties (e.g., state of matter, size, shape, color texture) | | |
| 3Sc1.6 | Sort and classify objects according to observable properties (e.g., size weight, shape, color) | | |
| 3Sc1.7 | Describe how hot or cold an object is by expressing its temperature | | |
| 3Sc1.8 | Investigate and explain that ice will melt and water will disappear if allowed to stand in an open container | | |
| 3Sc1.9 | Determine and describe how sound is produced | | |
| 3Sc1.10 | Compare and describe how sound travels through different materials (e.g., solids, air) | | |
| 3Sc2 | LIFE SCIENCE | | |
| 3Sc2.1 | Investigate and describe how plants and animals have life cycles and require food, water, air, and space | | |
| 3Sc2.2 | Investigate, compare, and contrast identifiable characteristics of plants and animals | | |
| 3Sc2.3 | Investigate and describe how plants and animals require certain conditions to survive | | |
| 3Sc2.4 | Investigate and describe how various living things behave differently under diverse conditions | | |
| 3Sc2.5 | Describe the ways plants and animals adapt to their changing environments | | |
| 3Sc2.6 | Explain that if germs are able to get inside one's body, they may keep it from working properly | | |
| 3Sc2.7 | Investigate and describe ways that offspring may resemble parents and siblings may resemble each other | | |
| 3Sc2.8 | Investigate and describe how some living things are alike in their appearance and behaviors; others are not | | |
| 3Sc2.9 | Explain that many different kinds of living things exist on Earth | | |
| 3Sc2.10 | Explain how particular features of plants and animals help them live in different kinds of places | | |
| 3Sc3 | EARTH AND SPACE SCIENCES | | |
| 3Sc3.1 | Investigate and describe how the Earth is composed of different kinds of materials (e.g., rocks and soils, water, and the atmosphere) | | |
| 3Sc3.2 | Compare, test, measure, record, and describe observable properties of rocks and minerals | | |
| 3Sc3.3 | Describe how the Earth is composed of different landforms | | |
| 3Sc3.4 | Investigate and describe how the Earth is nearly spherical and covered with more water than land | | |
| 3Sc3.5 | Investigate and describe the water cycle | | |
| 3Sc3.6 | Describe that directions on the Earth can be represented by north, south, east, and west | | |
| 3Sc3.7 | Locate the state of Nevada on a United States map | | |
| 3Sc3.8 | Locate Las Vegas, Reno, Battle Mountain, Austin, Nevada on a Nevada state map | | |
| 3Sc3.9 | Investigate and describe how some changes are so slow (e.g., seasons) and so fast (e.g., lightning strikes) that they are hard to see | | |
| 3Sc3.10 | Investigate and explain that things that give off light also often give off heat | | |
| 3Sc3.11 | Observe, record and describe seasonal differences using words, numbers, and drawings | | |
| 3Sc3.12 | Investigate and explain that water can be a liquid or a solid and can go back and forth from one form to the other | | |
| 3Sc3.13 | Identify the sun, moon, stars, and the Earth as components of our solar system | | |
| 3Sc3.14 | Explain that there are more stars in the sky than anyone can easily count | | |
| 3Sc4 | ENVIRONMENTAL SCIENCES | | |
| 3Sc4.1 | Investigate and describe how animals and plants that live in different places have similarities and differences | | |
| 3Sc4.2 | Investigate and describe the interactions of organisms within an ecosystem | | |
| 3Sc4.3 | Explain that natural resources are used for many purposes | | |
| 3Sc4.4 | Describe how humans have obtained natural resources for thousands of years through farming, mining, and hunting and gathering | | |
| 3Sc4.5 | Identify ways to conserve natural resources | | |

| Identifier | Lander - Grade 3 - Science | Introduced | Completed |
|------------|---|------------|-----------|
| 3Sc4.6 | Explain that many materials can be recycled and used again, sometimes in different forms | | |
| 3Sc4.7 | Investigate and describe how patterns of change may be observable and predictable | | |
| 3Sc5 | THE NATURE AND HISTORY OF SCIENCE | | |
| 3Sc5.1 | Explain that science is a process that involves observing and asking questions about the natural world and seeking answers to those questions | | |
| 3Sc5.2 | Explain that accurate descriptions in science are important because they enable people to compare their observations with those of others | | |
| 3Sc5.3 | Recognize that science engages men and women of all ages and backgrounds | | |
| 3Sc5.4 | Give examples of the benefits of working with a team and sharing findings | | |
| 3Sc5.5 | Explain that tools are used to do things better or more easily (e.g., observe, measure, and make things) and to do some things that could not be done at all (e.g., see things that are too small to be seen unaided) | | |
| 3Sc5.6 | Compare a model with what it represents (e.g., a model of the Earth to the Earth itself) | | |
| 3Sc5.7 | Identify observable patterns and predict future events based on those patterns (e.g., seasonal weather patterns) | | |
| 3Sc5.8 | Demonstrate that when parts of objects or systems are put together, the combined parts can do things that they could not have done by themselves | | |
| 3Sc6 | SCIENTIFIC INQUIRY: PROCESSES AND SKILLS | | |
| 3Sc6.1 | Observe and raise questions about the world and seek answers through investigations and experiments | | |
| 3Sc6.2 | Conduct investigations and experiments independently, with a partner, or with a small group | | |
| 3Sc6.3 | Identify and gather tools and materials needed in an investigation | | |
| 3Sc6.4 | Record observations of investigations over time in a science notebook/journal (e.g., changes in an aquarium or terrarium) | | |
| 3Sc6.5 | Follow verbal or written instructions to complete a procedure | | |
| 3Sc6.6 | Develop and communicate descriptions, explanations, and predictions, based on evidence | | |
| 3Sc6.7 | Create illustrations, graphs, and charts to convey ideas and record observations | | |
| 3Sc6.8 | Cooperate and contribute ideas within a group | | |
| 3Sc6.9 | Estimate numerical answers to problems before calculating | | |
| 3Sc6.10 | Determine whether measurements and descriptions are reasonably accurate | | |
| 3Sc6.11 | Use equipment properly and safely in all science activities | | |
| 3Sc6.12 | Keep a record of observations and measurements taken over time | | |
| 3Sc6.13 | Generate new questions based on results of investigations | | |

| Identifier | Kamico - Grade 4 - Science | Introduced | Completed |
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| SCIENTIFIC PROCESSES | | | |
| S 4.1.1A | Demonstrate safe practices during field and laboratory investigations. | | |
| S 4.1.1B | Make wise choices in the use and conservation of resources and the disposal or recycling of materials. | | |
| S 4.1.2A | Plan and implement descriptive investigations including asking well-defined questions, formulating testable hypotheses, and selecting and using equipment and technology. | | |
| S 4.1.2B | Collect information by observing and measuring. | | |
| S 4.1.2C | Analyze and interpret information to construct reasonable explanations from direct and indirect evidence. | | |
| S 4.1.2D | Communicate valid conclusions. | | |
| S 4.1.2E | Construct simple graphs, tables, maps, and charts to organize, examine, and evaluate information. | | |
| S 4.1.3A | Analyze, review, and critique scientific explanations, including hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information. | | |
| S 4.1.3B | Draw inferences based on information related to promotional materials for products and services. | | |
| S 4.1.3C | Represent the natural world using models and identify their limitations. | | |
| S 4.1.3D | Evaluate the impact of research on scientific thought, society, and the environment. | | |
| S 4.1.3E | Connect Grade 4 science concepts with the history of science and contributions of scientists. | | |
| S 4.1.4A | Collect and analyze information using tools including calculators, safety goggles, microscopes, cameras, sound recorders, computers, hand lenses, rulers, thermometers, meter sticks, timing devices, balances, and compasses. | | |
| S 4.1.4B | Demonstrate that repeated investigations may increase the reliability of results. | | |
| SCIENCE CONCEPTS | | | |
| S 4.1.5A | Identify and describe the roles of some organisms in living systems such as plants in a schoolyard, and parts in nonliving systems such as a lightbulb in a circuit. | | |
| S 4.1.5B | Predict and draw conclusions about what happens when part of a system is removed. | | |
| S 4.1.6A | Identify patterns of change such as in weather, metamorphosis, and objects in the sky. | | |
| S 4.1.6B | Illustrate that certain characteristics of an object can remain constant when the object is rotated like a spinning top, translated like a skater moving in a straight line, or reflected on a smooth surface. | | |
| S 4.1.6C | Use reflections to verify that a natural object has symmetry. | | |
| S 4.1.7A | Observe and record changes in the states of matter caused by the addition or reduction of heat. | | |
| S 4.1.7B | Conduct tests, compare data, and draw conclusions about physical properties of matter including states of matter, conduction, density, and buoyancy. | | |
| S 4.1.8A | Identify characteristics that allow members within a species to survive and reproduce. | | |
| S 4.1.8B | Compare adaptive characteristics of various species. | | |
| S 4.1.8C | Identify the kinds of species that lived in the past and compare them to existing species. | | |
| S 4.1.9A | Distinguish between inherited traits and learned characteristics. | | |
| S 4.1.9B | Identify and provide examples of inherited traits and learned characteristics. | | |
| S 4.1.10A | Identify and observe effects of events that require time for changes to be noticeable including growth, erosion, dissolving, weathering, and flow. | | |
| S 4.1.10B | Draw conclusions about "what happened before" using fossils or charts and tables. | | |
| S 4.1.11A | Test properties of soils including texture, capacity to retain water, and ability to support life. | | |
| S 4.1.11B | Summarize the effects of the oceans on land. | | |
| S 4.1.11C | Identify the sun as the major source of energy for Earth and understand its role in the growth of plants, in the creation of winds, and in the water cycle. | | |

| Identifier | Nevada - Grade 4 - Science | | Introduced | Completed |
|----------------|---|---|------------|-----------|
| 4 S PS | PHYSICAL SCIENCE | | | |
| 4 S PS 1.4.2 | Forces and Motion | Investigate and describe balance points of different objects. | | |
| 4 S PS 1.4.4 | Forces and Motion | Investigate and describe how objects can sink or float in water. | | |
| 4 S PS 2.4.1 | Structure and Properties of Matter | Investigate and describe properties of materials when they are combined (mixtures). | | |
| 4 S PS 2.4.5 | Structure and Properties of Matter | Observe and describe that different objects and materials may be composed of parts that are too small to be seen without magnification. | | |
| 4 S PS 3.4.4 | Energy and Matter - Interactions and Forms | Investigate and describe how circuits can produce light, heat, sound, and magnetic effects. | | |
| 4 S LS | LIFE SCIENCE | | | |
| 4 S LS 6.4.2 | Structure and Function | Investigate, compare, and contrast identifiable structures of plants and animals. | | |
| 4 S LS 7.4.1 | Internal and External Influences on Organisms | Investigate and describe the behavior of individual organisms when influenced by internal cues (e.g., hunger) and by external cues (e.g., environment). | | |
| 4 S LS 8.4.3 | Herdity and Diversity | Observe and describe variations among individuals within the human population. | | |
| 4 S ESS | EARTH AND SPACE SCIENCES | | | |
| 4 S ESS 10.4.1 | Earth Structures and Composition | Investigate, compare, and contrast the properties of rocks and minerals. | | |
| 4 S ESS 10.4.2 | Earth Structures and Composition | Compare and contrast the location of landforms. | | |
| 4 S ESS 10.4.4 | Earth Structures and Composition | Investigate and describe the composition of different soils. | | |
| 4 S ESS 13.4.2 | Cycles of Matter and Energy | Identify and describe various meteorological phenomena (e.g., floods, drought). | | |
| 4 S ESS 13.4.3 | Cycles of Matter and Energy | Investigate and describe the forms and uses of water. | | |
| 4 S ESS 13.4.7 | Cycles of Matter and Energy | Identify the components of our solar system (i.e., planets, moon, asteroids, comets, sun). | | |
| 4 S ESS 14.4.1 | Solar System and Universe | Observe and describe properties, locations, and movements of the sun, moon, stars, clouds, birds, and planets. | | |
| 4 S ESS 14.4.2 | Solar System and Universe | Observe and describe the changes of the moon's appearance over time. | | |
| 4 S ESS 14.4.3 | Solar System and Universe | Investigate and describe how distance affects the brightness of any light source. | | |
| 4 S ES | ENVIRONMENTAL SCIENCES | | | |
| 4 S ES 15.4.2 | Ecosystems | Investigate and describe the variables that affect the survival of organisms within an ecosystem. | | |
| 4 S ES 16.4.1 | Natural Resources | Identify the natural resources of Nevada. | | |
| 4 S ES 16.4.2 | Natural Resources | Investigate and describe resources which can be used and reused or renewed. | | |
| 4 S ES 17.4.2 | Conservation | Observe, investigate, and describe how some environmental changes occur quickly and some occur slowly. | | |
| 4 S NHS | THE NATURE AND HISTORY OF SCIENCE | | | |
| 4 S NHS 18.4.2 | Scientific, Historical and Technological Perspectives | Identify the components of scientific investigation (e.g., observing, collecting data, classifying). | | |
| 4 S NHS 18.4.4 | Scientific, Historical and Technological Perspectives | Exchange scientific observations and ideas. | | |
| 4 S NHS 18.4.5 | Scientific, Historical and Technological Perspectives | Explain that measuring instruments can be used to gather information for making scientific comparisons of objects and events for designing and constructing things that will work properly. | | |
| 4 S SI | SCIENTIFIC INQUIRY: PROCESSES AND SKILLS | | | |
| 4 S SI 21.4.1 | Scientific Values and Attitudes | Conduct fair tests to make observations. | | |

| Identifier | Lander - Grade 4 - Science | Introduced | Completed |
|------------|--|------------|-----------|
| 4Sc1 | PHYSICAL SCIENCE | | |
| 4Sc1.1 | Investigate and describe balance points of different objects | | |
| 4Sc1.2 | Investigate and describe how objects can sink or float in water | | |
| 4Sc1.3 | Investigate and describe properties of materials when they are combined (mixtures) | | |
| 4Sc1.4 | Observe and describe that different objects and materials may be composed of parts that are too small to be seen without magnification | | |
| 4Sc1.5 | Investigate, construct, and describe how electrical circuits can produce light, heat, sound, and magnetic effects | | |
| 4Sc2 | LIFE SCIENCE | | |
| 4Sc2.1 | Investigate, describe, compare, and contrast identifiable structures and characteristics of plants and animals | | |
| 4Sc2.2 | Investigate and describe the behavior of individual organisms when influenced by internal cues (e.g., hunger) and by external cues (e.g., environment) | | |
| 4Sc2.3 | Observe and describe variations among individuals within the human population | | |
| 4Sc3 | EARTH AND SPACE SCIENCES | | |
| 4Sc3.1 | Investigate, compare, contrast, and describe the properties of rocks and minerals | | |
| 4Sc3.2 | Compare and contrast the location of landforms | | |
| 4Sc3.3 | Investigate and describe the composition of different soils | | |
| 4Sc3.4 | Identify and describe various meteorological phenomena (e.g., floods, drought) | | |
| 4Sc3.5 | Investigate and describe the properties, forms, and uses of water | | |
| 4Sc3.6 | Identify the components of our solar system (e.g., planets, moon, asteroids, comets, sun) | | |
| 4Sc3.7 | Observe and describe properties, locations, and movements of the sun, moon, stars, clouds, birds, and planes | | |
| 4Sc3.8 | Observe and describe the changes of the moon's appearance over time | | |
| 4Sc3.9 | Investigate and describe how distance affects the brightness of any light source | | |
| 4Sc4 | ENVIRONMENTAL SCIENCES | | |
| 4Sc4.1 | Investigate and describe the variables that affect the survival of organisms within an ecosystem | | |
| 4Sc4.2 | Identify the natural resources of Nevada | | |
| 4Sc4.3 | Investigate and describe resources which can be used and reused or renewed | | |
| 4Sc4.4 | Observe, investigate, and describe how some environmental changes occur quickly and some occur slowly | | |
| 4Sc5 | THE NATURE AND HISTORY OF SCIENCE | | |
| 4Sc5.1 | Identify the components of scientific investigation (e.g., observing, collecting data, classifying) | | |
| 4Sc5.2 | Exchange scientific observations and ideas | | |
| 4Sc5.3 | Model and describe contributions made to scientific thought and design technology | | |
| 4Sc5.4 | Explain that measuring instruments can be used to gather information for making scientific comparisons of objects and events and for designing and constructing things that will work properly | | |
| 4Sc5.5 | Compare the advantages and disadvantages of using technology (e.g., tools for measurement, calculators, computers) | | |
| 4Sc5.6 | Explore and research science-related careers | | |
| 4Sc5.7 | Design or construct models of mechanical devices | | |
| 4Sc5.8 | Describe how well a product/tool does what it was designed to do (e.g., zippers, can openers) | | |
| 4Sc5.9 | Identify and describe technological systems | | |
| 4Sc6 | SCIENTIFIC INQUIRY: PROCESSES AND SKILLS | | |
| 4Sc6.1 | Observe and interact with objects, organisms, and phenomena and raise questions that can be investigated and researched | | |
| 4Sc6.2 | Plan and conduct investigations and experiments independently, with a partner, or with a small group | | |
| 4Sc6.3 | Use appropriate equipment, tools, techniques, and resources to gather, analyze, and interpret data/information | | |
| 4Sc6.4 | Conduct fair tests to make observations | | |
| 4Sc6.5 | Record observations of investigations over time in a science notebook/journal (e.g., changes in structures or characteristics of a plant or animal) | | |
| 4Sc6.6 | Develop and communicate descriptions, explanations, and predictions, based on evidence | | |
| 4Sc6.7 | Create illustrations, graphs, and charts to convey ideas and record observations | | |

| Identifier | Lander - Grade 4 - Science | Introduced | Completed |
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| 4Sc6.8 | Cooperate and contribute ideas within a group | | |
| 4Sc6.9 | Estimate numerical answers to problems before calculating | | |
| 4Sc6.10 | Determine whether measurements and descriptions are reasonably accurate | | |
| 4Sc6.11 | Generate new questions based on results of investigations and research | | |

| Identifier | Kamico - Grade 5 - Science | Introduced | Completed |
|--------------|---|------------|-----------|
| S 5.1 | NATURE OF SCIENCE - SCIENTIFIC PROCESSES | | |
| S 5.1.1A | Demonstrate safe practices during field and laboratory investigations. | | |
| S 5.1.2A | Plan and implement descriptive and simple experimental investigations including asking well-defined questions, formulating testable hypotheses, and selecting and using equipment and technology. | | |
| S 5.1.2B | Collect information by observing and measuring. | | |
| S 5.1.2C | Analyze and interpret information to construct reasonable explanations from direct and indirect evidence. | | |
| S 5.1.2D | Communicate valid conclusions. | | |
| S 5.1.2E | Construct simple graphs, tables, maps, and charts using tools to organize, examine, and evaluate information. | | |
| S 5.1.3A | Analyze and review scientific explanations, including hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information. | | |
| S 5.1.3B | Draw inferences based on information for products and services. | | |
| S 5.1.3C | Represent the natural world using models and identify their limitations. | | |
| S 5.1.4A | Collect and analyze information using tools including calculators, microscopes, hand lenses, rulers, thermometers, compasses, balances, meter sticks, timing devices, magnets, collecting nets, and safety goggles. | | |
| S 5.2 | LIFE SCIENCES - SCIENCE CONCEPTS | | |
| S 5.2.1A | Identify traits that are inherited from parent to offspring in plants and animals. | | |
| S 5.2.1B | Give examples of learned characteristics that result from the influence of the environment. | | |
| S 5.2.2A | Compare the adaptive characteristics of species that improve their ability to survive and reproduce in an ecosystem. | | |
| S 5.2.2B | Analyze and describe adaptive characteristics that result in an organism's unique niche in an ecosystem. | | |
| S 5.2.2C | Predict some adaptive characteristics required for survival and reproduction by an organism in an ecosystem. | | |
| S 5.2.3A | Describe and compare life cycles of plants and animals. | | |
| S 5.2.4A | Observe and describe the habitats of organisms within an ecosystem. | | |
| S 5.2.4B | Observe and identify organisms with similar needs that compete with one another for resources such as oxygen, water, food, or space. | | |
| S 5.2.4C | Describe environmental changes in which some organisms would thrive, become ill, or perish. | | |
| S 5.2.4D | Describe how living organisms modify their physical environment to meet their needs such as beavers building a dam or humans building a home. | | |
| S 5.2.5A | Identify the external characteristics of different kinds of plants and animals that allow their needs to be met. | | |
| S 5.2.5B | Compare and give examples of the ways living organisms depend on each other and on their environments. | | |
| S 5.2.6A | Describe some cycles, structures, and processes that are found in a simple system. | | |
| S 5.2.6B | Describe some interactions that occur in a simple system. | | |
| S 5.2.7A | Identify patterns of change such as in weather, metamorphosis, and objects in the sky. | | |
| S 5.3 | PHYSICAL SCIENCES - SCIENCE CONCEPTS | | |
| S 5.3.1A | Differentiate among forms of energy including light, heat, electrical, and solar energy. | | |
| S 5.3.1B | Identify and demonstrate everyday examples of how light is reflected, such as from tinted windows, and refracted, such as in cameras, telescopes, and eyeglasses. | | |
| S 5.3.1C | Demonstrate that electricity can flow in a circuit and can produce heat, light, sound, and magnetic effects. | | |
| S 5.3.1D | Verify that vibrating an object can produce sound. | | |
| S 5.3.2A | Classify matter based on its physical properties including magnetism, physical state, and the ability to conduct or insulate heat, electricity, and sound. | | |
| S 5.3.2B | Demonstrate that some mixtures maintain the physical properties of their ingredients. | | |
| S 5.3.2C | Identify changes that can occur in the physical properties of the ingredients of solutions such as dissolving sugar in water. | | |
| S 5.3.2D | Observe and measure characteristic properties of substances that remain constant such as boiling points and melting points. | | |
| S 5.3.3A | Measure and record changes in the position and direction of the motion of an object to which a force such as a push or pull has been applied. | | |
| S 5.3.4A | Describe some cycles, structures, and processes that are found in a simple system. | | |
| S 5.3.4B | Describe some interactions that occur in a simple system. | | |
| S 5.3.5A | Identify patterns of change such as in weather, metamorphosis, and objects in the sky. | | |
| S 5.4 | EARTH SCIENCES - SCIENCE CONCEPTS | | |
| S 5.4.1A | Interpret how land forms are the result of a combination of constructive and destructive forces such as deposition of sediment and weathering. | | |
| S 5.4.1B | Identify the physical characteristics of Earth and compare them to the physical characteristics of the moon. | | |
| S 5.4.2A | Identify and observe actions that require time for changes to be measurable, including growth, erosion, dissolving, weathering, and flow. | | |
| S 5.4.2B | Draw conclusions about 'what happened before' using data such as from tree-growth rings and sedimentary rock sequences. | | |
| S 5.4.2C | Identify past events that led to the formation of Earth's renewable, nonrenewable, and inexhaustible resources. | | |
| S 5.4.3A | Identify events and describe changes that occur on a regular basis such as in daily, weekly, lunar, and seasonal cycles. | | |
| S 5.4.3B | Identify the significance of the water, carbon, and nitrogen cycles. | | |
| S 5.4.4A | Test properties of soils including texture, capacity to retain water, and ability to support life. | | |
| S 5.4.4B | Summarize the effects of the oceans on land. | | |
| S 5.4.4C | Identify the sun as the major source of energy for Earth and understand its role in the growth of plants, in the creation of winds, and in the water cycle. | | |

| Identifier | Kamico - Grade 5 - Science | Introduced | Completed |
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| S 5.4.5A | Identify and describe the importance of earth materials including rocks, soil, water, and gases of the atmosphere in the local area and classify them as renewable, nonrenewable, or inexhaustible resources. | | |
| S 5.4.5B | Identify the planets in our solar system and their position in relation to the sun. | | |
| S 5.4.5C | Describe the characteristics of the sun. | | |
| S 5.4.6A | Identify that the surface of Earth can be changed by forces such as earthquakes and glaciers. | | |
| S 5.4.7A | Describe some cycles, structures, and processes that are found in a simple system. | | |
| S 5.4.7B | Describe some interactions that occur in a simple system. | | |
| S 5.4.8A | Identify patterns of change such as in weather, metamorphosis, and objects in the sky. | | |

| Identifier | Nevada - Grade 5 - Science | | Introduced | Completed |
|----------------|---|---|------------|-----------|
| 5 S PS | PHYSICAL SCIENCE | | | |
| 5 S PS 1.5.1 | Forces and Motion | Investigate and describe the relationship that exists between the size of a change in motion of an object to the size of a push or pull on that object. | | |
| 5 S PS 1.5.2 | Forces and Motion | Investigate and describe that objects usually move downward when they fall or are released in the air or on ramps. | | |
| 5 S PS 1.5.3 | Forces and Motion | Investigate and describe that objects may move in a variety of ways (e.g., straight lines or by rotating, rolling, or revolving). | | |
| 5 S PS 1.5.4 | Forces and Motion | Classify objects by whether they sink or float in air or water. | | |
| 5 S PS 1.5.5 | Forces and Motion | Investigate and describe the ways that magnets attract and repel each other and certain kinds of other materials. | | |
| 5 S PS 2.5.1 | Structure and Properties of Matter | Separate mixtures based on their properties. | | |
| 5 S PS 2.5.2 | Structure and Properties of Matter | Describe and classify matter in terms of elements, compounds, and mixtures. | | |
| 5 S PS 2.5.3 | Structure and Properties of Matter | Investigate and describe the ways that solids remaining after a solvent has been evaporated may form distinctive patterns of crystals. | | |
| 5 S PS 2.5.5 | Structure and Properties of Matter | Investigate and describe how materials can be broken down physically into smaller and smaller pieces, and that each piece may retain its same properties. | | |
| 5 S PS 2.5.6 | Structure and Properties of Matter | Investigate and describe how the observable properties of a material depend on its composition. | | |
| 5 S PS 3.5.1 | Energy and Matter - Interactions and Forms | Investigate and describe how warm objects cool and cool objects warm when they are put together, until they reach the same temperature. | | |
| 5 S PS 3.5.2 | Energy and Matter - Interactions and Forms | Investigate and describe how energy can be used to bring about changes in matter (e.g., melting an ice cube). | | |
| 5 S PS 3.5.3 | Energy and Matter - Interactions and Forms | Investigate and describe how vibrations produce sound. | | |
| 5 S PS 3.5.4 | Energy and Matter - Interactions and Forms | Describe how electrical components are utilized in the design of simple electrical circuits. | | |
| 5 S PS 4.5.1 | Chemical Reaction | Investigate and describe how observable changes in matter may occur when different materials are heated, mixed, or cooled. | | |
| 5 S LS | LIFE SCIENCE | | | |
| 5 S LS 6.5.1 | Structure and Function | Investigate, compare, and contrast the different life cycles of different living things. | | |
| 5 S LS 6.5.2 | Structure and Function | Investigate, compare, and contrast the different structures of organisms that serve different functions for growth, reproduction, and survival. | | |
| 5 S LS 6.5.3 | Structure and Function | Investigate and describe how plants and animals have features that help them live in various environments. | | |
| 5 S LS 7.5.1 | Internal and External Influences on Organisms | Investigate and describe how clues for behavior may be detected by the senses in humans and other living things. | | |
| 5 S LS 7.5.2 | Internal and External Influences on Organisms | Investigate and describe how some organisms can learn from their experiences. | | |
| 5 S LS 7.5.3 | Internal and External Influences on Organisms | Investigate and describe how some environmental conditions are more favorable than others to living things. | | |
| 5 S LS 8.5.1 | Heredity and Diversity | Investigate and describe how some characteristics between offspring and parents are inherited, but other characteristics are learned. | | |
| 5 S LS 8.5.2 | Heredity and Diversity | Explain how living things may be classified on the basis of similar features, behaviors, and/or habits. | | |
| 5 S LS 8.5.3 | Heredity and Diversity | Describe how there are variations among individuals within a population of a certain species. | | |
| 5 S LS 8.5.4 | Heredity and Diversity | Reproduction is a characteristic essential to the continuation of every species. | | |
| 5 S LS 9.5.1 | Evolution - Process of Biological Change | Classify animals and plants according to their physical characteristics. | | |
| 5 S LS 9.5.2 | Evolution - Process of Biological Change | Investigate and describe how environmental changes allow some plants and animals to survive and reproduce, but others may die. | | |
| 5 S LS 9.5.3 | Evolution - Process of Biological Change | Investigate and describe how individuals of the same kind differ in their characteristics and sometimes the differences give an advantage in surviving and reproducing. | | |
| 5 S ESS | EARTH AND SPACE SCIENCES | | | |
| 5 S ESS 10.5.1 | Earth Structures and Composition | Investigate and describe how rocks are composed of different combinations of minerals. | | |
| 5 S ESS 10.5.2 | Earth Structures and Composition | Investigate and describe how erosion and deposition rates can be affected by the slope of the land and by human activities. | | |
| 5 S ESS 10.5.3 | Earth Structures and Composition | Investigate and describe how the surface of Earth, including the ocean floor has a varied topography. | | |
| 5 S ESS 10.5.4 | Earth Structures and Composition | Investigate and describe how soil is made of many different biological and mineral materials, and varies from place to place. | | |
| 5 S ESS 11.5.1 | Earth Models | Identify compass directions on a map. | | |
| 5 S ESS 11.5.2 | Earth Models | Explain how the Nevada state road map is a tool that can be used to navigate from one location to another. | | |
| 5 S ESS 11.5.3 | Earth Models | Explain how many things can be represented by two-dimensional maps and three-dimensional models. | | |
| 5 S ESS 12.5.1 | Earth History | Explain that the surface of Earth changes due to a variety of factors (e.g., some are abrupt like volcanoes and earthquakes, and others happen very slowly, such as the wearing down of mountains). | | |
| 5 S ESS 12.5.2 | Earth History | Investigate and describe how fossils are evidence of past life. | | |

| Identifier | Nevada - Grade 5 - Science | | Introduced | Completed |
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| 5 S ESS 13.5.1 | Cycles of Matter and Energy | Explain that the sun is the main source of energy for people, which they use in many ways (e.g., fossil fuels derive their energy indirectly from the sun). | | |
| 5 S ESS 13.5.2 | Cycles of Matter and Energy | Investigate and describe various meteorological phenomena (e.g., flooding, thunderstorms, and drought). | | |
| 5 S ESS 13.5.3 | Cycles of Matter and Energy | Investigate and describe the factors which affect the processes such as evaporation and condensation. | | |
| 5 S ESS 13.5.5 | Cycles of Matter and Energy | Investigate and describe how change is an ongoing process that can be seen throughout the natural world. | | |
| 5 S ESS 14.5.1 | Solar System and Universe | Investigate and describe the basic components of our solar system (e.g., planets, moons, asteroids, comets, and the sun). | | |
| 5 S ESS 14.5.2 | Solar System and Universe | Describe the apparent motion of celestial objects across the sky. | | |
| 5 S ESS 14.5.3 | Solar System and Universe | Describe how the stars in the sky are not scattered evenly, and they are not all the same in brightness or color. | | |
| 5 S ES | ENVIRONMENTAL SCIENCES | | | |
| 5 S ES 15.5.1 | Ecosystems | Investigate and describe how organisms interact with each other and with nonliving parts of their habitats. | | |
| 5 S ES 15.5.2 | Ecosystems | Investigate and describe how, for any particular environment, some kinds of plants and animals survive well, some survive less well, and some cannot survive at all. | | |
| 5 S ES 15.5.3 | Ecosystems | Explain how the sun is the primary source of energy for nearly every ecosystem and that living things get what they need to survive from their environments. | | |
| 5 S ES 15.5.4 | Ecosystems | Investigate and describe how the local ecosystem has unique characteristics. | | |
| 5 S ES 16.5.1 | Natural Resources | Investigate and describe how resources have distinct properties which determine their usefulness. | | |
| 5 S ES 16.5.2 | Natural Resources | Investigate and describe how technology can be used to extend resources (e.g., recycling). | | |
| 5 S ES 16.5.3 | Natural Resources | Explain how Earth materials, including those found in Nevada, provide many of the resources that humans use. | | |
| 5 S ES 16.5.4 | Natural Resources | Explain that humans tend to use resources to meet more than their minimal needs for food, shelter and warmth. | | |
| 5 S ES 17.5.1 | Conservation | Investigate and describe how consumptive patterns of people vary in different places. | | |
| 5 S ES 17.5.2 | Conservation | Investigate and describe that ecosystems have components that can be observed to change, while other components appear to stay the same. | | |
| 5 S ES 17.5.3 | Conservation | Explain that changes in environments can be natural events or influenced by human activities. | | |
| 5 S NHS | THE NATURE AND HISTORY OF SCIENCE | | | |
| 5 S NHS 18.5.1 | Scientific, Historical and Technological Perspectives | Explain that science is a systematic way of exploring the world. | | |
| 5 S NHS 18.5.2 | Scientific, Historical and Technological Perspectives | Develop explanations using observations (evidence) from investigations. | | |
| 5 S NHS 18.5.3 | Scientific, Historical and Technological Perspectives | Describe key scientists, classical experiments in science, and technological inventions that lead to a better understanding of the impact of science on society. | | |
| 5 S NHS 18.5.4 | Scientific, Historical and Technological Perspectives | Recognize and explain that science is an activity done by more than one person working together. | | |
| 5 S NHS 18.5.5 | Scientific, Historical and Technological Perspectives | Explain that technology enables scientists and others to study the motion of objects that are moving rapidly or that are hardly moving at all. | | |
| 5 S NHS 18.5.6 | Scientific, Historical and Technological Perspectives | Explain that science is an ongoing process of investigation (inquiry). | | |
| 5 S NHS 19.5.4 | Reasoning and Critical Response Skills | Explain that claims must be supported by evidence and logical argument. | | |
| 5 S SI | SCIENTIFIC INQUIRY: PROCESSES AND SKILLS | | | |
| 5 S SI 20.5.1 | Systems, Models, Risk, and Predictions | Develop a physical model to explain how something works or how something is constructed. | | |
| 5 S SI 20.5.2 | Systems, Models, Risk, and Predictions | Predict that some events are more likely to happen than others. | | |
| 5 S SI 20.5.3 | Systems, Models, Risk, and Predictions | Describe and compare the components and interrelationships of a simple system (e.g., trace the flow of water through an aquarium, a filter, and a pump). | | |
| 5 S SI 21.5.1 | Scientific Values and Attitudes | Keep records of investigations and observations, without changing those records later. | | |
| 5 S SI 21.5.2 | Scientific Values and Attitudes | Make careful observations and test things more than once. | | |
| 5 S SI 21.5.3 | Scientific Values and Attitudes | Offer reasons for findings and consider the reasons suggested by others. | | |
| 5 S SI 22.5.1 | Communication Skills | Give written or oral instructions that others are able to follow. | | |
| 5 S SI 22.5.2 | Communication Skills | Organize information into charts, tables, and graphs. | | |
| 5 S SI 22.5.3 | Communication Skills | Collaborate on a group project. | | |
| 5 S SI 23.5.1 | Scientific Applications of Mathematics | Explain that sometimes changing one thing causes changes in another. | | |
| 5 S SI 23.5.2 | Scientific Applications of Mathematics | Explain to other students how to go about solving numerical problems. | | |
| 5 S SI 23.5.3 | Scientific Applications of Mathematics | Make quantitative estimates of familiar lengths, weights, and time intervals, and check them by measurements. | | |
| 5 S SI 23.5.4 | Scientific Applications of Mathematics | Recognize the appropriate unit for a particular measurement (e.g., meters for length, seconds for time, and kilograms for mass). | | |
| 5 S SI 23.5.5 | Scientific Applications of Mathematics | Recognize that repeated measurements of the same thing are likely to vary slightly. | | |
| 5 S SI 24.5.1 | Laboartory Skills and Safety | Use safety equipment and attire. | | |
| 5 S SI 24.5.2 | Laboartory Skills and Safety | Measure and mix dry and liquid materials safely in prescribed amounts. | | |

| Identifier | Nevada - Grade 5 - Science | | Introduced | Completed |
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| 5 S SI 24.5.3 | Laboratory Skills and Safety | Use provided materials to construct objects for a particular task. | | |
| 5 S SI 24.5.4 | Laboratory Skills and Safety | Label measurements and diagrams properly. | | |
| 5 S SI 24.5.5 | Laboratory Skills and Safety | Use appropriate technology in lab procedures for measuring and recording. | | |
| 5 S SI 24.5.6 | Laboratory Skills and Safety | Manipulate objects and observe events in an experiment. | | |

| Identifier | Lander - Grade 5 - Science | Introduced | Completed |
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| 5Sc1 | PHYSICAL SCIENCE | | |
| 5Sc1.1 | Investigate and describe the relationship that exists between the size of a change in motion of an object to the size of a push or pull on that object | | |
| 5Sc1.2 | Investigate and describe that objects usually move downward when they fall or are released in the air or on ramps | | |
| 5Sc1.3 | Investigate and describe that objects may move in a variety of ways | | |
| 5Sc1.4 | Classify objects by whether they sink or float in air or water | | |
| 5Sc1.5 | Investigate and describe the way that magnets attract and repel each other and certain kinds of other materials | | |
| 5Sc1.6 | Compare mixtures and solutions; compare and separate mixtures based on their properties | | |
| 5Sc1.7 | Describe, classify, and compare matter in terms of elements, compounds, mixtures, and solutions | | |
| 5Sc1.8 | Investigate and describe distinctive crystal patterns remaining after a solvent has evaporated | | |
| 5Sc1.9 | Investigate and describe how materials can be broken down physically into smaller and smaller pieces, and that each piece may retain its same properties | | |
| 5Sc1.10 | Investigate and describe how the observable properties of a material depend on its composition | | |
| 5Sc1.11 | Investigate and describe how warm objects cool and cool objects warm when they are put together until they reach the same temperature | | |
| 5Sc1.12 | Investigate and describe how energy can be used to bring about changes in matter | | |
| 5Sc1.13 | Investigate and describe how vibrations produce sound | | |
| 5Sc1.14 | Describe how electrical components are utilized in the design of simple electrical circuits | | |
| 5Sc1.15 | Investigate and describe how observable changes in matter may occur when different materials are heated, mixed, or cooled | | |
| 5Sc2 | LIFE SCIENCE | | |
| 5Sc2.1 | Investigate, compare, and contrast the different life cycles of different living things | | |
| 5Sc2.2 | Investigate, compare, and contrast the different structures of organisms that serve different functions for growth, reproduction, and survival | | |
| 5Sc2.3 | Investigate and describe how plants and animals have features that help them live in various environments | | |
| 5Sc2.4 | Investigate and describe how clues for behavior may be detected by the senses in humans and other living things | | |
| 5Sc2.5 | Investigate and describe how some organisms can learn from their experiences | | |
| 5Sc2.6 | Investigate and describe how some environmental conditions are more favorable than others to living things | | |
| 5Sc2.7 | Investigate and describe how some characteristics between offspring and parents are inherited, but other characteristics are learned | | |
| 5Sc2.8 | Explain how living things may be classified on the basis of similar features, behaviors, and/or habits | | |
| 5Sc2.9 | Describe how there are variations among individuals within a population of a certain species | | |
| 5Sc2.10 | Explain that reproduction is a characteristic essential to the continuation of every species | | |
| 5Sc2.11 | Classify animals and plants according to their physical characteristics | | |
| 5Sc2.12 | Investigate and describe how environmental changes allow some plants and animals to survive and reproduce, but others may die | | |
| 5Sc2.13 | Investigate and describe how individuals of the same kind differ in their characteristics and sometimes the differences give an advantage in surviving and reproducing | | |
| 5Sc3 | EARTH AND SPACE SCIENCES | | |
| 5Sc3.1 | Investigate and describe how rocks are composed of different combinations of minerals | | |
| 5Sc3.2 | Investigate and describe how erosion and deposition rates can be affected by the slope of the land and by human activities | | |
| 5Sc3.3 | Investigate and describe how the surface of the Earth, including the ocean floor, has a varied topography | | |
| 5Sc3.4 | Investigate and describe how soil is made of many different biological and mineral materials and varies from place to place | | |
| 5Sc3.5 | Identify compass directions on a map | | |
| 5Sc3.6 | Explain how the Nevada state road map is a tool that can be used to navigate from one location to another | | |
| 5Sc3.7 | Explain how many things can be represented by two-dimensional maps and three-dimensional models | | |
| 5Sc3.8 | Explain that the surface of the Earth changes due to a variety of factors | | |
| 5Sc3.9 | Investigate and describe how fossils are evidence of past life | | |
| 5Sc3.10 | Explain that the sun is the main source of energy for people | | |
| 5Sc3.11 | Investigate and describe various meteorological phenomena | | |
| 5Sc3.12 | Investigate and describe the factors that affect processes such as evaporation and condensation | | |
| 5Sc3.13 | Investigate and describe how change is an ongoing process that can be seen throughout the natural world | | |
| 5Sc3.14 | Investigate and describe the basic components of our solar system | | |
| 5Sc3.15 | Describe the apparent motion of celestial objects across the sky | | |
| 5Sc3.16 | Describe that stars in the sky are not scattered evenly and are not all the same in brightness or color | | |
| 5Sc4 | ENVIRONMENTAL SCIENCES | | |
| 5Sc4.1 | Investigate and describe interrelationships and interdependence of organisms with each other and with the non-living parts of their habitats | | |
| 5Sc4.2 | Investigate and describe how, for any particular environment, some kinds of plants and animals survive well, some survive less well, and some cannot survive at all | | |

| Identifier | Lander - Grade 5 - Science | Introduced | Completed |
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| 5Sc4.3 | Explain how the sun is the primary source of energy for nearly every ecosystem and that living things get that they need to survive from their environments | | |
| 5Sc4.4 | Investigate and describe how the local ecosystem has unique characteristics | | |
| 5Sc4.5 | Investigate and describe how resources have distinct properties that determine their usefulness | | |
| 5Sc4.6 | Investigate and describe how technology can be used to extend resources (e.g., recycling) | | |
| 5Sc4.7 | Explain how earth materials, including those found in Nevada, provide many of the resources that humans use | | |
| 5Sc4.8 | Explain that humans tend to use resources to meet more than their minimal needs for food, shelter and warmth | | |
| 5Sc4.9 | Investigate and describe how consumptive patterns of people vary in different places | | |
| 5Sc4.10 | Investigate and describe that ecosystems have components that can be observed to change, while other components appear to stay the same | | |
| 5Sc4.11 | Explain that changes in environments can be natural events or influenced by human activities, including technology | | |
| 5Sc5 | THE NATURE AND HISTORY OF SCIENCE | | |
| 5Sc5.1 | Explain that science is a systematic way of exploring the world | | |
| 5Sc5.2 | Develop descriptions, models, explanations, and predictions based on evidence from investigations | | |
| 5Sc5.3 | Describe key scientists, classical experiments in science, and technological inventions that lead to a better understanding of the impact of science on society | | |
| 5Sc5.4 | Recognize and explain that science is an activity done by more than one person working together | | |
| 5Sc5.5 | Explain that technology enables scientists and others to study the motion of objects that are moving rapidly or that are hardly moving at all | | |
| 5Sc5.6 | Explain that science is an ongoing process of investigation (inquiry) | | |
| 5Sc5.7 | Investigate and describe careers related to technological design | | |
| 5Sc5.8 | Explain that claims must be supported by evidence and logical argument | | |
| 5Sc5.9 | Identify a problem or need; design a product/tool; and communicate a proposed technological solution for the identified problem | | |
| 5Sc5.10 | Develop physical and mechanical models to explain how something works or how something is constructed | | |
| 5Sc5.11 | Predict that some events are more likely to happen than others | | |
| 5Sc5.12 | Describe and compare the components and interrelationships of a simple system | | |
| 5Sc6 | SCIENTIFIC INQUIRY: PROCESSES AND SKILLS | | |
| 5Sc6.1 | Observe and interact with objects, organisms, and phenomena and raise questions that can be scientifically researched | | |
| 5Sc6.2 | Design and conduct investigations and experiments independently, with a partner, and with a small group | | |
| 5Sc6.3 | Keep records of investigations and observations in a science notebook/journal | | |
| 5Sc6.4 | Make careful observations and test things more than once | | |
| 5Sc6.5 | Offer reasons for findings and consider the reasons suggested by others | | |
| 5Sc6.6 | Investigate, replicate, and describe experiments conducted by others and review and question their conclusions; compare findings of others to findings of similar investigations | | |
| 5Sc6.7 | Give written or oral instructions that others are able to follow | | |
| 5Sc6.8 | Organize information into charts, tables, and graphs | | |
| 5Sc6.9 | Collaborate on a group project | | |
| 5Sc6.10 | Explain that sometimes changing one thing causes changes in another | | |
| 5Sc6.11 | Explain to other students how to go about solving numerical problems | | |
| 5Sc6.12 | Make quantitative estimates of familiar lengths, weights, and time intervals, and check them by measurements | | |
| 5Sc6.13 | Recognize the appropriate unit for a particular measurement | | |
| 5Sc6.14 | Recognize that repeated measurements of the same thing are likely to vary slightly | | |
| 5Sc6.15 | Use appropriate equipment tools, techniques, and information resources to gather, analyze, and interpret data/information | | |
| 5Sc6.16 | Use safety equipment and attire | | |
| 5Sc6.17 | Measure and mix dry and liquid materials safely in prescribed amounts | | |
| 5Sc6.18 | Use provided materials to construct objects for a particular task | | |
| 5Sc6.19 | Label measurements and diagrams properly | | |
| 5Sc6.20 | Use appropriate technology in lab procedures for measuring and recording | | |
| 5Sc6.21 | Manipulate objects and observe events in an experiment | | |

| Identifier | Nevada - Grade 6 - Science | | Introduced | Completed |
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| 6 S PS | PHYSICAL SCIENCE | | | |
| 6 S PS 1.6.1 | Forces and Motion | Investigate and describe the concept that some objects move so slowly or so rapidly that their motion is difficult to detect. | | |
| 6 S PS 1.6.3 | Forces and Motion | Investigate and describe how machines can use motion to do work. | | |
| 6 S PS 1.6.4 | Forces and Motion | Investigate and describe the relationship between the mass and the volume of various objects. | | |
| 6 S PS 2.6.4 | Structure and Properties of Matter | Explain that all matter is composed of atoms, and atoms are composed of smaller particles. | | |
| 6 S PS 2.6.6 | Structure and Properties of Matter | Investigate and describe how elements can combine to form new substances which often have different properties. | | |
| 6 S PS 3.6.4 | Energy and Matter - Interactions and Forms | Interactions and Forms: Investigate and describe how electrical energy can be transferred through various materials. | | |
| 6 S PS 3.6.5 | Energy and Matter - Interactions and Forms | Interactions and Forms: Investigate and describe how energy exists in different forms (e.g., heat, light, chemical, electrical, and others). | | |
| 6 S PS 4.6.2 | Chemical Reaction | Investigate and describe how chemical reactions may be fast or slow. | | |
| 6 S PS 5.6.1 | Nuclear Energy and Electromagnetic Energy | Describe light in terms of simple properties (e.g., color, brightness). | | |
| 6 S ESS | EARTH AND SPACE SCIENCE | | | |
| 6 S ESS 11.6.3 | Earth Models | Investigate, design, and use various kinds of maps. | | |
| 6 S NHS | THE NATURE AND HISTORY OF SCIENCE | | | |
| 6 S NHS 18.6.5 | Scientific, Historical, and Technological Perspectives | Identify and describe various technological tools that scientists use to help them do their work. | | |
| 6 S NHS 19.6.3 | Reasoning and Critical Response Skills | Investigate and describe the components of systems (including processes or parts). | | |
| 6 S NHS 19.6.4 | Reasoning and Critical Response Skills | Distinguish between fact and opinion when responding to information. | | |
| 6 S SI | SCIENTIFIC INQUIRY, PROCESSES AND SKILLS | | | |
| 6 S SI 20.6.2 | Systems, Models, Risk, and Predictions | Analyze data to predict likely outcomes (e.g., how temperature range can affect the survival rate of a species). | | |
| 6 S SI 24.6.1 | Laboratory Skills and Safety | Use safety equipment and attire. | | |

| Identifier | Lander - Grade 6 - Science | Introduced | Completed |
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| 6Sc1 | FOUNDATIONS OF SCIENCE | | |
| 6Sc1.1 | Describe the steps of the scientific method | | |
| 6Sc1.2 | Use the appropriate metric measurement for length, mass, volume, and temperature | | |
| 6Sc1.3 | Practice safety measures in the laboratory | | |
| 6Sc2 | THE CELL | | |
| 6Sc2.1 | Distinguish between living and non-living matter | | |
| 6Sc2.2 | Compare plant and animal cells | | |
| 6Sc2.3 | Discuss the relationships among cells, tissues, organs, systems, and organisms | | |
| 6Sc3 | HUMANS AND ENVIRONMENT | | |
| 6Sc3.1 | Explain how human populations interact with the environment | | |
| 6Sc3.2 | Distinguish between renewable and nonrenewable resources | | |
| 6Sc3.3 | Diagram various natural cycles | | |
| 6Sc4 | DIVERSITY OF LIFE | | |
| 6Sc4.1 | Explore the major groups of animals | | |
| 6Sc4.2 | Explore the major groups of plants | | |
| 6Sc4.3 | Analyze the characteristics of organisms that do not fit the description of plants or animals | | |
| 6Sc5 | TAXONOMY | | |
| 6Sc5.1 | Describe characteristics scientists use to classify organisms | | |
| 6Sc5.2 | Distinguish between common names and scientific names | | |
| 6Sc5.3 | Use a key to identify organisms | | |
| 6Sc6 | CELLULAR REPRODUCTION AND GENETICS | | |
| 6Sc6.1 | Explore cells as the structural foundation for all living things | | |
| 6Sc6.2 | Describe how traits are passed from one generation to the next | | |
| 6Sc6.3 | Explain how natural selection leads to new and varied species | | |

| Identifier | Nevada - Grade 7 - Science | | Introduced | Completed |
|----------------|--|--|------------|-----------|
| 7 S PS | PHYSICAL SCIENCE | | | |
| 7 S PS 1.7.1 | Forces and Motion | Investigate and describe the effect of retarding forces such as friction on the motion of objects. | | |
| 7 S PS 1.7.2 | Forces and Motion | Investigate and describe the gravitational relationship that exists between the masses of objects and how far apart they are. | | |
| 7 S PS 1.7.4 | Forces and Motion | Investigate and describe the density of solids, liquids, and gases. | | |
| 7 S PS 2.7.1 | Structure and Properties of Matter | Investigate and describe the differences between homogeneous and heterogeneous mixtures. | | |
| 7 S PS 2.7.4 | Structure and Properties of Matter | Describe atomic structure by using various historic models of the atom. | | |
| 7 S PS 3.7.3 | Energy and Matter - Interactions and Forms | Investigate and describe that forms of energy can travel in waves (e.g., seismic, light, radio, TV). | | |
| 7 S LS | LIFE SCIENCE | | | |
| 7 S LS 8.7.7 | Heredity and Diversity | Explain how the experiences an organism has during its lifetime can affect it. | | |
| 7 S ES | ENVIRONMENTAL SCIENCES | | | |
| 7 S ES 17.7.1 | Conservation | Investigate and explain that Nevada has a variety of useful resources. | | |
| 7 S NHS | THE NATURE AND HISTORY OF SCIENCE | | | |
| 7 S NHS 18.7.3 | Scientific, Historical, and Technological Perspectives | Investigate and describe how people create models to explain the world as scientific knowledge has increased, and that these models are modified or discarded. | | |
| 7 S NHS 19.7.3 | Reasoning and Critical Response Skills | Identify and describe how the parts of a system relate to one another and/or to other systems. | | |
| 7 S SI | SCIENTIFIC INQUIRY: PROCESSES AND SKILLS | | | |
| 7 S SI 24.7.1 | Laboratory Skills and Safety | Use safety equipment and attire. | | |

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| 7Sc1 | THE NATURE OF SCIENCE - Scientific Inquiry | | |
| 7Sc1.1 | List and construct charts and graphs by gathering data and statistics | | |
| 7Sc1.2 | Compare and distinguish between various forms of fact and opinion examining the characteristics of data | | |
| 7Sc1.3 | Organize and manipulate data to illustrate a pattern of relationship and connection | | |
| 7Sc1.4 | Classify, distinguish and examine relationships through investigation methods | | |
| 7Sc2 | THE NATURE OF SCIENCE - Science, Technology, and Society | | |
| 7Sc2.1 | Define and identify the components of an interactive ecosystem | | |
| 7Sc2.2 | Explain how perceptions have changed with the inclusion of new information | | |
| 7Sc3 | PHYSICAL SCIENCE - Matter | | |
| 7Sc3.1 | Define different arrangements of particles within substances | | |
| 7Sc3.2 | Explain how the periodic table is constructed | | |
| 7Sc3.3 | Identify and explain various properties of mixtures | | |
| 7Sc3.4 | Define the properties and observations of scientists explaining chemical and atomic bonding | | |
| 7Sc3.5 | Define and outline the basic ideas of atomic theory | | |
| 7Sc3.6 | Observe and define various forms of matter, sorting items by their similarities and differences | | |
| 7Sc3.7 | Define the properties of electrons, protons and neutrons | | |
| 7Sc3.8 | Define and sort differences and characteristics of various elements | | |
| 7Sc4 | PHYSICAL SCIENCE - Forces and Motion | | |
| 7Sc4.1 | Explain the characteristics of various electrical forces | | |
| 7Sc4.2 | Explain observations of gravitational force and magnetic properties | | |
| 7Sc4.3 | Explain, predict and organize a set of observations regarding balanced and unbalanced forces | | |
| 7Sc4.4 | Define and label different object movement patterns and possibilities | | |
| 7Sc5 | PHYSICAL SCIENCE - Energy | | |
| 7Sc5.1 | Explain, sort and characterize various seasonal differences across the Earth's surface | | |
| 7Sc5.2 | Define the electromagnetic spectrum | | |
| 7Sc5.3 | Observe and define vibration energy | | |
| 7Sc5.4 | Define different reactions and observe the transfer of energy that occurs through them | | |
| 7Sc5.5 | Define the properties of energy and reactions; define the elements of transformation | | |
| 7Sc5.6 | Define and observe the properties that separate kinetic and potential energy | | |
| 7Sc5.7 | Explain the ideas of heat flow; define conduction, convection and radiation | | |
| 7Sc5.8 | Explain the theory of the flow of electricity through various circuits | | |
| 7Sc6 | LIFE SCIENCE - Heredity | | |
| 7Sc6.1 | Identify and explain genetic coding | | |
| 7Sc6.2 | Identify and sort the different roles of genes and their combination | | |
| 7Sc6.3 | Explain and document characteristics that can be shared in a species; explain and document characteristics that separate within a species | | |
| 7Sc6.4 | Define characteristics that delineate environment and genetic information | | |
| 7Sc7 | LIFE SCIENCE - Structure of Life | | |
| 7Sc7.1 | Identify various infections; separate intrusive from symbiotic | | |
| 7Sc7.2 | Observe and define different types of cells | | |
| 7Sc7.3 | Describe and identify different types of cells in higher order life forms | | |
| 7Sc7.4 | Explain how various cells specialize in function and their role in a higher level life form | | |
| 7Sc8 | LIFE SCIENCE - Organisms and Their Environment | | |
| 7Sc8.1 | Document and explain the roles of matter and energy in an ecosystem | | |
| 7Sc8.2 | Explain how an ecosystem is sustained by the functions of the organisms involved | | |
| 7Sc8.3 | Speculate and draw conclusions regarding the effects of altering various environments | | |
| 7Sc8.4 | Explain and observe the uses and roles of technological advances in altering environmental conditions | | |
| 7Sc8.5 | Demonstrate a symbiotic inter-dependent ecosystem; test out elements of the system; explain flaws and potential hazards of the design | | |
| 7Sc9 | LIFE SCIENCE - Diversity of Life | | |
| 7Sc9.1 | Identify those characteristics that are shared by a species | | |

| Identifier | Lander - Grade 7 - Science | Introduced | Completed |
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| 7Sc9.2 | Describe genetic passage | | |
| 7Sc9.3 | Label and sort possible genetic alterations and their connection to inherited characteristics | | |
| 7Sc9.4 | Show how fossil evidence illuminates environmental conditions through Earth's geological cycles | | |
| 7Sc9.5 | Define and describe how an organism's behavior is connected to its species history | | |
| 7Sc10 | EARTH AND SPACE SCIENCES - Atmospheric Processes and the Water Cycle | | |
| 7Sc10.1 | Illustrate the causal relationship between sun and the Earth | | |
| 7Sc10.2 | Observe and record the role of water on the Earth | | |
| 7Sc10.3 | Define the elements of atmospheric conditions; define various extreme weather conditions; map possible causes of these conditions | | |
| 7Sc11 | EARTH AND SPACE SCIENCES - Solar System and Universe | | |
| 7Sc11.1 | Define and sort the various components of the universe | | |
| 7Sc11.2 | Define the characteristics that make up a planet as contrasted with other objects | | |
| 7Sc11.3 | Define and sort the various objects in the universe and the placement of the earth and the solar system in relationship to them | | |
| 7Sc12 | EARTH AND SPACE SCIENCES - Earth's Composition and Structure | | |
| 7Sc12.1 | Define and observe the difference between rocks and fossils | | |
| 7Sc12.2 | Define the elements that identify the age of rocks and fossils | | |
| 7Sc12.3 | Define the differences between layers of rock | | |
| 7Sc12.4 | Define the various forces that interact with the Earth's surface; sort and list the various landforms on the Earth's surface | | |
| 7Sc12.5 | Define and observe the content of soil | | |
| 7Sc12.6 | Define the properties of resources; sort them by their stability and life span | | |
| 7Sc12.7 | Define the essential elements of a supporting environment | | |
| 7Sc12.8 | Observe and list technological advances through the history of man | | |
| 7Sc12.9 | List the elements that would influence cultures and progress; recount events in the Earth's environment that have changed a culture | | |
| 7Sc12.10 | Define the different available energy resources available on Earth | | |

| Identifier | Kamico - Grade 8 - Science | Introduced | Completed |
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| S 8.1 | EARTH AND SPACE SCIENCES | | |
| S 8.1.A | Describe how the positions and motions of the objects in the universe cause predictable and cyclic events. | | |
| S 8.1.B | Explain that the universe is composed of vast amounts of matter, most of which is at incomprehensible distances and held together by gravitational force. Describe how the universe is studied by the use of equipment such as telescopes, probes, satellites and spacecraft. | | |
| S 8.1.C | Describe interactions of matter and energy throughout the lithosphere, hydrosphere and atmosphere (e.g., water cycle, weather and pollution). | | |
| S 8.1.D | Identify that the lithosphere contains rocks and minerals and that minerals make up rocks. Describe how rocks and minerals are formed and/or classified. | | |
| S 8.1.E | Describe the processes that contribute to the continuous changing of Earth's surface (e.g., earthquakes, volcanic eruptions, erosion, mountain building and lithospheric plate movements). | | |
| S 8.2 | LIFE SCIENCES | | |
| S 8.2.A | Explain that the basic functions of organisms are carried out in cells and groups of specialized cells form tissues and organs; the combination of these cells make up multicellular organisms that have a variety of body plans and internal structures. | | |
| S 8.2.B | Describe the characteristics of an organism in terms of a combination of inherited traits and recognize reproduction as a characteristic of living organisms essential to the continuation of the species. | | |
| S 8.2.C | Explain how energy entering the ecosystems as sunlight supports the life of organisms through photosynthesis and the transfer of energy through the interactions of organisms and the environment. | | |
| S 8.2.D | Explain how extinction of a species occurs when the environment changes and its adaptive characteristics are insufficient to allow survival (as seen in evidence of the fossil record). | | |
| S 8.3 | PHYSICAL SCIENCES | | |
| S 8.3.A | Relate uses, properties and chemical processes to the behavior and/or arrangement of the small particles that compose matter. | | |
| S 8.3.B | In simple cases, describe the motion of objects and conceptually describe the effects of forces on an object. | | |
| S 8.3.C | Describe renewable and nonrenewable sources of energy (e.g., solar, wind, fossil fuels, biomass, hydroelectricity, geothermal and nuclear energy) and the management of these sources. | | |
| S 8.3.D | Describe that energy takes many forms, some forms represent kinetic energy and some forms represent potential energy; and during energy transformations the total amount of energy remains constant. | | |
| S 8.4 | SCIENCE AND TECHNOLOGY | | |
| S 8.4.A | Give examples of how technological advances, influenced by scientific knowledge, affect the quality of life. | | |
| S 8.4.B | Design a solution or product taking into account needs and constraints (e.g., cost, time, trade-offs, properties of materials, safety and aesthetics). | | |
| S 8.5 | SCIENTIFIC INQUIRY | | |
| S 8.5.A | Explain that there are differing sets of procedures for guiding scientific investigations and procedures are determined by the nature of the investigation, safety considerations and appropriate tools. | | |
| S 8.5.B | Analyze and interpret data from scientific investigations using appropriate mathematical skills in order to draw valid conclusions. | | |
| S 8.6 | SCIENTIFIC WAYS OF KNOWING | | |
| S 8.6.A | Use skills of scientific inquiry processes (e.g., hypothesis, record keeping, description and explanation). | | |
| S 8.6.B | Explain the importance of reproducibility and reduction of bias in scientific methods. | | |
| S 8.6.C | Give examples of how thinking scientifically is helpful in daily life. | | |

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| 8 S PS | PHYSICAL SCIENCE | | | |
| 8 S PS 1.8.1 | Forces and Motion | Investigate and describe that multiple forces acting on an object along a straight line affect the motion of an object. | | |
| 8 S PS 1.8.2 | Forces and Motion | Describe the force (gravity) which makes objects fall and planets move in their orbits. | | |
| 8 S PS 1.8.3 | Forces and Motion | Investigate and describe that certain physical principles are used in the design and function of simple machines. | | |
| 8 S PS 1.8.4 | Forces and Motion | Investigate and describe that buoyancy changes the apparent weight of an object immersed in a fluid. | | |
| 8 S PS 1.8.5 | Forces and Motion | Investigate and explain that electric current produces magnetic forces, and moving magnets produce electric forces in conductors. | | |
| 8 S PS 2.8.1 | Structure and Properties of Matter | Use simple models to explain observed properties of matter (e.g., use a particle model to account for the states of matter). | | |
| 8 S PS 2.8.2 | Structure and Properties of Matter | Separate substances based on their physical and chemical properties (e.g., color, solubility, chemical reactivity, melting point, boiling point). | | |
| 8 S PS 2.8.3 | Structure and Properties of Matter | Use models or drawings to explain how atoms may join together to form molecules or large groups of molecules. | | |
| 8 S PS 2.8.4 | Structure and Properties of Matter | Explain that all atoms are made up of protons, neutrons, and electrons. | | |
| 8 S PS 2.8.5 | Structure and Properties of Matter | Explain that liquids, solids, and gases are systems of particles. | | |
| 8 S PS 2.8.6 | Structure and Properties of Matter | Explain that various elements combine in a multitude of ways to produce all known living and nonliving substances. | | |
| 8 S PS 3.8.1 | Energy and Matter - Interactions and Forms | Interactions and Forms: 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. | | |
| 8 S PS 3.8.2 | Energy and Matter - Interactions and Forms | Interactions and Forms: Investigate and describe how all phase changes are accompanied by changes in energy. | | |
| 8 S PS 3.8.3 | Energy and Matter - Interactions and Forms | Interactions and Forms: Investigate and describe how waves transfer energy and move at different speeds in different materials. | | |
| 8 S PS 3.8.4 | Energy and Matter - Interactions and Forms | Interactions and Forms: Investigate, create, and describe parallel, series, and combination circuits. | | |
| 8 S PS 3.8.5 | Energy and Matter - Interactions and Forms | Interactions and Forms: Investigate and describe how energy may be transferred into or out of a system or object in many ways and readily changes forms. | | |
| 8 S PS 3.8.6 | Energy and Matter - Interactions and Forms | Interactions and Forms: Identify the energy involved in a particular process as potential (energy of position and stored chemical energy) or kinetic (energy of motion). | | |
| 8 S PS 4.8.1 | Chemical Reaction | Investigate and describe how in chemical reactions, the total mass is conserved and the elements involved do not change into other elements. | | |
| 8 S PS 4.8.2 | Chemical Reaction | Investigate and describe how the rate of a chemical reaction can be influenced by variables such as temperature, pH, and light. | | |
| 8 S PS 4.8.3 | Chemical Reaction | Investigate and describe how materials may give off heat or light when they react chemically with each other. | | |
| 8 S PS 4.8.4 | Chemical Reaction | Predict common properties of elements using the periodic table. | | |
| 8 S PS 5.8.1 | Nuclear Energy and Electromagnetic Energy | Investigate and describe how light interacts with matter by moving through the matter, being absorbed by matter, or being scattered by the matter. | | |
| 8 S PS 5.8.2 | Nuclear Energy and Electromagnetic Energy | Describe some applications of radioactive isotopes including using nuclear energy to produce heat. | | |
| 8 S PS 5.8.3 | Nuclear Energy and Electromagnetic Energy | Compare and contrast between high and low level nuclear wastes and their associated hazards. | | |
| 8 S PS 5.8.4 | Nuclear Energy and Electromagnetic Energy | Investigate and describe how the sun produces energy in a range of wavelengths within the electromagnetic spectrum. | | |
| 8 S PS 5.8.5 | Nuclear Energy and Electromagnetic Energy | Compare and contrast the nuclear processes that occur in the sun and stars as well as in nuclear reactors. | | |
| 8 S PS 5.8.6 | Nuclear Energy and Electromagnetic Energy | Explain how nuclear reactions convert small amounts of matter into a relatively large amount of energy. | | |
| 8 S LS | LIFE SCIENCE | | | |
| 8 S LS 6.8.1 | Structure and Function | Explain how disease is a breakdown in structures or functions of an organism due to intrinsic system failures or damage caused by infection. | | |
| 8 S LS 6.8.2 | Structure and Function | Investigate and describe how multicellular living things have tissues, organs, and organ systems that are specialized to perform life functions. | | |
| 8 S LS 6.8.3 | Structure and Function | Investigate and describe how cells, grow, divide, and take in nutrients, which they use to provide energy for cellular functions. | | |

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| 8 S LS 6.8.4 | Structure and Function | Investigate and describe how most organisms are composed of a single cell and others are multicellular. | | |
| 8 S LS 6.8.5 | Structure and Function | Investigate and describe how plants have specialized structures and systems for a variety of functions. | | |
| 8 S LS 6.8.6 | Structure and Function | Explain how information used to guide cellular functions is stored in DNA. | | |
| 8 S LS 7.8.1 | Internal and External Influences on Organisms | Explain how behavior may be innate or learned. | | |
| 8 S LS 7.8.2 | Internal and External Influences on Organisms | Explain how an organism's behavior is based on experience and on the species' evolutionary history. | | |
| 8 S LS 7.8.3 | Internal and External Influences on Organisms | Investigate and describe how behavior is one kind of response an organism can make to an internal or environmental stimulus. | | |
| 8 S LS 7.8.4 | Internal and External Influences on Organisms | Explain how various viruses, bacteria, fungi, and parasites may infect the human body and interfere with normal body functions. | | |
| 8 S LS 8.8.1 | Heredity and Diversity | Explain how heredity is the passage of genetic instructions from one generation to another. | | |
| 8 S LS 8.8.2 | Heredity and Diversity | Classify organisms on the basis of similar characteristics, and explain the basis for such a classification system. | | |
| 8 S LS 8.8.3 | Heredity and Diversity | Explain how new varieties of cultivated plants and domestic animals have resulted from selective breeding for particular traits. | | |
| 8 S LS 8.8.4 | Heredity and Diversity | Explain how genetic information coded in DNA is passed through sexual or asexual reproduction. | | |
| 8 S LS 8.8.5 | Heredity and Diversity | Explain how some patterns of inheritance can be explained by pairs of genes that separate when sex cells are formed. | | |
| 8 S LS 8.8.6 | Heredity and Diversity | 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. | | |
| 8 S LS 8.8.7 | Heredity and Diversity | Explain how changes in the genes of sex cells can affect offspring. | | |
| 8 S LS 9.8.1 | Evolution - Process of Biological Change | Explain that millions of species of animals, plants, and microorganisms are alive today. | | |
| 8 S LS 9.8.2 | Evolution - Process of Biological Change | Investigate and describe how biological evolution provides a scientific explanation for the differences and many similarities between species. | | |
| 8 S LS 9.8.3 | Evolution - Process of Biological Change | Investigate and describe how biological adaptations include changes that enhance survival and reproductive success in a particular environment. | | |
| 8 S LS 9.8.4 | Evolution - Process of Biological Change | Investigate and describe how unity among organisms is found in similarities of internal structures, chemical processes, and modern evidence of common ancestry. | | |
| 8 S LS 9.8.5 | Evolution - Process of Biological Change | Explain how extinction of a species occurs when the adaptive characteristics of a species are insufficient to allow it to survive environmental change. | | |
| 8 S ESS | EARTH AND SPACE SCIENCES | | | |
| 8 S ESS 10.8.1 | Earth Structures and Composition | Investigate and describe how rocks and minerals have different properties and characteristics. | | |
| 8 S ESS 10.8.2 | Earth Structures and Composition | Investigate and describe how the combination of constructive and destructive forces result in the formation of landforms. | | |
| 8 S ESS 10.8.3 | Earth Structures and Composition | Explain, using models, how Earth is layered with a crust, both continental and oceanic; hot, convecting mantle; and dense, metallic core. | | |
| 8 S ESS 10.8.4 | Earth Structures and Composition | Investigate and describe how soils have properties of color, texture, and capacity to retain water and provide nutrients for life. | | |
| 8 S ESS 10.8.5 | Earth Structures and Composition | Explain how the atmosphere is a mixture of particular gases, whose properties vary with elevation. | | |
| 8 S ESS 10.8.6 | Earth Structures and Composition | Explain that earthquakes, landslides, volcanoes, and floods are geologic phenomena. | | |
| 8 S ESS 11.8.1 | Earth Models | Describe how positions on Earth's surface can be located using latitude and longitude. | | |
| 8 S ESS 11.8.2 | Earth Models | Compare a variety of map types, and locate Nevada and Nevada features on each. | | |
| 8 S ESS 11.8.3 | Earth Models | Use a color-coded map to compare and contrast various geological features such as temperature, population density, geology, or precipitation. | | |
| 8 S ESS 11.8.4 | Earth Models | Identify the time of day in various places throughout the world, given the local time of day. | | |
| 8 S ESS 12.8.1 | Earth History | Explain how some changes on Earth's surface are due to slow processes and others due to rapid processes. | | |
| 8 S ESS 12.8.2 | Earth History | Investigate and describe how fossils provide important evidence of how life and environmental conditions have changed throughout geologic time. | | |

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| 8 S ESS 12.8.3 | Earth History | Explain how Earth's processes we observe today are similar to those that occurred in the past. | | |
| 8 S ESS 13.8.1 | Cycles of Matter and Energy | 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). | | |
| 8 S ESS 13.8.2 | Cycles of Matter and Energy | 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 Earth's axis. | | |
| 8 S ESS 13.8.3 | Cycles of Matter and Energy | Explain how water, which covers the majority of Earth's surface, circulates through the crust, oceans, and atmosphere. | | |
| 8 S ESS 13.8.4 | Cycles of Matter and Energy | Simulate and describe how clouds, latitude, altitude, topographical features, and proximity to large bodies of water affect weather and climate. | | |
| 8 S ESS 13.8.5 | Cycles of Matter and Energy | Investigate and describe some changes that are reversible and others that are not. | | |
| 8 S ESS 13.8.7 | Cycles of Matter and Energy | Explain that the energy that Earth receives over geologic time approximately equals the energy that it loses. | | |
| 8 S ESS 13.8.8 | Cycles of Matter and Energy | Describe the relationships among geothermal and tectonic processes. | | |
| 8 S ESS 14.8.1 | Solar System and Universe | Investigate and describe the size, composition, and surface features of the planets in our solar system. | | |
| 8 S ESS 14.8.2 | Solar System and Universe | 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. | | |
| 8 S ESS 14.8.3 | Solar System and Universe | Explain that billions of galaxies form most of the visible mass in the universe. | | |
| 8 S ESS 14.8.5 | Solar System and Universe | 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. | | |
| 8 S ESS 14.8.6 | Solar System and Universe | Investigate and describe the laws of motion and gravity and their development. | | |
| 8 S ES | ENVIRONMENTAL SCIENCES | | | |
| 8 S ES 15.8.1 | Ecosystems | Investigate and describe how living and nonliving components of ecosystems interact in various ways. | | |
| 8 S ES 15.8.2 | Ecosystems | Characterize organisms in any ecosystems by their function. | | |
| 8 S ES 15.8.3 | Ecosystems | Investigate and describe how the major energy source in most ecosystems is sunlight which is converted by producers into chemical energy. | | |
| 8 S ES 15.8.4 | Ecosystems | Describe how geographically distinct ecosystems on Earth have similarities and differences. | | |
| 8 S ES 16.8.1 | Natural Resources | Investigate and describe the identifying characteristics of renewable and nonrenewable resources. | | |
| 8 S ES 16.8.2 | Natural Resources | Explain how some natural resources are limited in their abundance and/or accessible location (e.g., water in the desert). | | |
| 8 S ES 16.8.3 | Natural Resources | Investigate and describe the location and distribution of various natural resources. | | |
| 8 S ES 16.8.4 | Natural Resources | Investigate and describe how organisms alter their local environment through their use of natural resources. | | |
| 8 S ES 16.8.5 | Natural Resources | 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. | | |
| 8 S ES 17.8.1 | Conservation | Analyze different conservation options for Nevada's resources. | | |
| 8 S ES 17.8.2 | Conservation | Investigate and describe how in some ecosystems, populations of organisms are in dynamic equilibrium, and in other ecosystems they are not. | | |
| 8 S ES 17.8.3 | Conservation | Evaluate how changes in environments can be beneficial or harmful. | | |
| 8 S ES 17.8.4 | Conservation | 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. | | |
| 8 S NHS | THE NATURE AND HISTORY OF SCIENCE | | | |
| 8 S NHS 18.8.1 | Scientific, Historical, and Technological Perspectives | 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. | | |
| 8 S NHS 18.8.2 | Scientific, Historical, and Technological Perspectives | Explain that scientific inquiry done in a school setting is similar to what scientists do. | | |

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| 8 S NHS 18.8.3 | Scientific, Historical, and Technological Perspectives | 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. | | |
| 8 S NHS 18.8.4 | Scientific, Historical, and Technological Perspectives | Explain that scientists may work in teams and some may work alone, but all communicate extensively with each other. | | |
| 8 S NHS 18.8.5 | Scientific, Historical, and Technological Perspectives | 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. | | |
| 8 S NHS 18.8.6 | Scientific, Historical, and Technological Perspectives | Explain that scientific knowledge is revised through a process of incorporating new evidence gained through continual investigation. | | |
| 8 S NHS 18.8.7 | Scientific, Historical, and Technological Perspectives | Identify and describe how science is subject to strengths and limitations related to other human social and intellectual activities. | | |
| 8 S NHS 19.8.1 | Reasoning and Critical Response Skills | Identify and evaluate critically the use of statistics, data, and graphs. | | |
| 8 S NHS 19.8.2 | Reasoning and Critical Response Skills | Give examples of human activities with their associated benefits, costs, and risks. | | |
| 8 S NHS 19.8.3 | Reasoning and Critical Response Skills | Analyze and describe a system for efficiency, optimal function, and possible sources of malfunction. | | |
| 8 S NHS 19.8.4 | Reasoning and Critical Response Skills | Critically evaluate information to distinguish between fact and opinion when responding to information. | | |
| 8 S SI | SCIENTIFIC INQUIRY: PROCESSES AND SKILLS | | | |
| 8 S SI 20.8.1 | Systems, Models, Risk, and Predictions | Investigate and describe how different models can be used to demonstrate the same thing. | | |
| 8 S SI 20.8.2 | Systems, Models, Risk, and Predictions | Use a model to predict change (e.g., stream table). | | |
| 8 S SI 20.8.3 | Systems, Models, Risk, and Predictions | Identify and illustrate natural cycles within systems (e.g., water, planetary motion, climate, geological changes). | | |
| 8 S SI 20.8.4 | Systems, Models, Risk, and Predictions | Analyze data from two groups, comparing both their middles and ranges. | | |
| 8 S SI 20.8.5 | Systems, Models, Risk, and Predictions | Use a systematic approach to thinking critically about risks and benefits. | | |
| 8 S SI 21.8.1 | Scientific Values and Attitudes | Explain why it is important to keep honest, clear, and accurate records. | | |
| 8 S SI 21.8.2 | Scientific Values and Attitudes | Explain that hypotheses are valuable even if they turn out to be incorrect, if they lead to fruitful investigations. | | |
| 8 S SI 21.8.3 | Scientific Values and Attitudes | Describe how different explanations can often be given for the same evidence, and it is not always possible to tell which one is correct. | | |
| 8 S SI 22.8.1 | Communication Skills | Write clear, step-by-step instructions for a procedure. | | |
| 8 S SI 22.8.2 | Communication Skills | Organize information in tables and graphs and describe the relationships they reveal. | | |
| 8 S SI 22.8.3 | Communication Skills | Discuss scientific topics by paraphrasing, asking for clarification or elaboration, and expressing alternative positions using available multimedia resources. | | |
| 8 S SI 23.8.1 | Scientific Applications of Mathematics | Explain that quantities can vary in proportion to one another (e.g., the ratio of mass to volume in the calculation of density). | | |
| 8 S SI 23.8.2 | Scientific Applications of Mathematics | State the purpose of each step in a calculation. | | |
| 8 S SI 23.8.3 | Scientific Applications of Mathematics | Estimate probabilities of outcomes in familiar situations. | | |
| 8 S SI 23.8.4 | Scientific Applications of Mathematics | Select and use the appropriate SI unit for a particular measurement (e.g., meters for length, seconds for time, and kilograms for mass). | | |
| 8 S SI 23.8.5 | Scientific Applications of Mathematics | Judge whether repeated measurements and computations of quantities are reasonably precise and accurate. | | |
| 8 S SI 23.8.6 | Scientific Applications of Mathematics | Make predictions based on all known data from similar conditions. | | |
| 8 S SI 24.8.1 | Laboratory Skills and Safety | Use instruments and laboratory safety equipment properly. | | |
| 8 S SI 24.8.2 | Laboratory Skills and Safety | Handle and dispose of chemicals according to established standards. | | |
| 8 S SI 24.8.3 | Laboratory Skills and Safety | Choose appropriate common materials for making and repairing simple mechanical constructions. | | |
| 8 S SI 24.8.4 | Laboratory Skills and Safety | Keep an organized record of scientific investigations. | | |
| 8 S SI 24.8.5 | Laboratory Skills and Safety | Use appropriate technology in laboratory procedures for measuring, recording, and analyzing data (e.g., computers, graphing calculators, and probes). | | |
| 8 S SI 24.8.6 | Laboratory Skills and Safety | Design a controlled experiment. | | |

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| 8Sc1 | THE NATURE OF SCIENCE - Scientific Inquiry | | |
| 8Sc1.1 | Identify and evaluate critically the use of statistics, data, and graphs | | |
| 8Sc1.2 | Critically evaluate information to distinguish between fact and opinion when responding to information | | |
| 8Sc1.3 | Analyze data from two groups, comparing both their middles and ranges; explore different explanations that can be given for the same evidence | | |
| 8Sc1.4 | Evaluate results through scientific inquiry of scientific investigations, experiments, observations, theoretical and mathematical models, and explanations proposed by other scientists | | |
| 8Sc2 | THE NATURE OF SCIENCE - Science, Technology, and Society | | |
| 8Sc2.1 | Investigate and describe how living and non-living components of ecosystems interact in various ways, both positively and negatively | | |
| 8Sc2.2 | Show and demonstrate that scientific knowledge is revised through a process of incorporating new evidence gained through on-going investigation and collaborative discussion | | |
| 8Sc3 | PHYSICAL SCIENCE - Matter | | |
| 8Sc3.1 | Explain that particles are arranged differently in solids, liquids, and gasses of the same substance | | |
| 8Sc3.2 | Use the periodic table to show repeating patterns that group elements with similar properties | | |
| 8Sc3.3 | Show and demonstrate techniques of applying properties to separate mixtures | | |
| 8Sc3.4 | Explain that atoms often combine to form molecules, and that compounds form when two or more different kinds of atoms chemically bond | | |
| 8Sc3.5 | Explain using the atomic theory why mass is conserved in physical and chemical changes | | |
| 8Sc3.6 | Report and describe that matter is made up of tiny particles called atoms | | |
| 8Sc3.7 | Identify and explain the characteristics of electrons, protons, and neutrons | | |
| 8Sc3.8 | Explain that substances containing only one kind of atom are elements which cannot be broken into smaller pieces by normal laboratory reactions | | |
| 8Sc4 | PHYSICAL SCIENCE - Forces and Motion | | |
| 8Sc4.1 | Manipulate and show that electric currents can produce magnetic forces and magnets can cause electric currents | | |
| 8Sc4.2 | Show and demonstrate that every object exerts gravitational force on every other object; explain that the magnitude of this force depends on the mass of the objects and their distance from one another | | |
| 8Sc4.3 | Construct and formulate demonstrations showing the effects of balanced and unbalanced forces on an object's motion | | |
| 8Sc4.4 | Identify, report and describe an object's motion graphically | | |
| 8Sc5 | PHYSICAL SCIENCE - Energy | | |
| 8Sc5.1 | Analyze the seasons as caused by variations in the amounts of the sun's energy reaching the Earth's surface due to the planet's axial tilt | | |
| 8Sc5.2 | Explain and describe how visible light is a narrow band within the electromagnetic spectrum | | |
| 8Sc5.3 | Explain and describe how vibrations (e.g., sounds, earthquakes) move at different speeds in different materials, have different wavelengths, and set up wave-like disturbances that spread away from the source uniformly | | |
| 8Sc5.4 | Explain and describe the transfer of energy involving physical, chemical, and nuclear reactions | | |
| 8Sc5.5 | Explain and describe that energy cannot be created or destroyed, in a chemical or physical reaction, but only changed from one form to another | | |
| 8Sc5.6 | Explain and describe that forms of energy can be considered to be either kinetic energy or potential energy | | |
| 8Sc5.7 | Examine, explain and describe how heat energy flows from warmer materials or regions to cooler ones through conduction, convection, and radiation | | |
| 8Sc5.8 | Show, demonstrate and apply how electricity can flow in series and parallel circuits | | |
| 8Sc6 | LIFE SCIENCE - Heredity | | |
| 8Sc6.1 | Show, illustrate, and demonstrate the passage of genetic instructions from one generation to the next generation | | |
| 8Sc6.2 | Explain and illustrate that changes in genes of eggs and sperm can cause changes in inherited characteristics | | |
| 8Sc6.3 | Organize, demonstrate and show characteristics of a species | | |
| 8Sc6.4 | Explain that some characteristics of an organism are the result of a combination of interaction with the environment and genetic information | | |
| 8Sc7 | LIFE SCIENCE - Structure of Life | | |
| 8Sc7.1 | Describe, explain and illustrate that disease can result from defects in body systems or from damage caused by infection | | |
| 8Sc7.2 | Describe, explain and illustrate that some organisms are made of just one cell and that multi-cellular organisms can consist of thousands to millions of cells working together | | |
| 8Sc7.3 | Describe, explain and illustrate that the cell is the basic structural unit for all living things | | |
| 8Sc7.4 | Describe explain and illustrate how cells grow, divide and take in nutrients which they use to provide energy for cell functions | | |
| 8Sc7.5 | Show how cells combine to form tissues that combine to form organs and organ systems that are specialized to perform life functions | | |

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| 8Sc8 | LIFE SCIENCE - Organisms and Their Environment | | |
| 8Sc8.1 | Illustrate and show how matter and energy are transferred through food webs in an ecosystem | | |
| 8Sc8.2 | Classify and characterize organisms in any ecosystem by their functions | | |
| 8Sc8.3 | Evaluate how changes in environments can be beneficial or harmful | | |
| 8Sc8.4 | Research, interpret, debate and analyze 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 | | |
| 8Sc8.5 | Research, interpret, debate and analyze inter-related factors that affect the number and type of organisms an ecosystem can support | | |
| 8Sc9 | LIFE SCIENCE - Diversity of Life | | |
| 8Sc9.1 | Organize, demonstrate and show characteristics of a species | | |
| 8Sc9.2 | Show, illustrate, and demonstrate the passage of genetic instructions from one generation to the next generation | | |
| 8Sc9.3 | Explain and illustrate that changes in genes of eggs and sperm can cause changes in inherited characteristics | | |
| 8Sc9.4 | Research and map how fossils provide evidence of how life and environmental conditions have changed throughout geologic time | | |
| 8Sc9.5 | Explain and illustrate how an organism's behavior is based on both experience and on the species' evolutionary history | | |
| 8Sc10 | EARTH AND SPACE SCIENCES - Atmospheric Processes and the Water Cycle | | |
| 8Sc10.1 | Analyze the seasons as caused by variations in the amounts of the sun's energy reaching the Earth's surface due to the planet's axial tilt | | |
| 8Sc10.2 | 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 | | |
| 8Sc10.3 | Explain how water, which covers the majority of the Earth's surface, circulates through the crust, oceans, and atmosphere | | |
| 8Sc10.4 | 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 | | |
| 8Sc11 | EARTH AND SPACE SCIENCES - Solar System and Universe | | |
| 8Sc11.1 | Identify solar system objects including planetary moons, asteroids, and comets | | |
| 8Sc11.2 | Identify characteristics of planets in our solar system | | |
| 8Sc11.3 | Describe the placement of the Earth and the solar system within the Milky Way Galaxy | | |
| 8Sc11.4 | Define how most objects in the solar system are in regular and predictable motion noting phenomena as the day, the year, phases of the moon, and eclipses | | |
| 8Sc12 | EARTH AND SPACE SCIENCES - Earth's Composition and Structure | | |
| 8Sc12.1 | Identify sedimentary rocks and fossils as providing evidence for changing environments and the constancy of geologic processes | | |
| 8Sc12.2 | Identify the weathering of rocks at Earth's surface | | |
| 8Sc12.3 | Identify the continental and oceanic crust and its properties | | |
| 8Sc12.4 | Investigate and describe how the combination of constructive and destructive forces result in the formation of landforms. | | |
| 8Sc12.5 | Identify and sort the abundances and properties of different minerals | | |
| 8Sc12.6 | Identify the properties of soil including color, texture, water capacity and nutrients for providing and sustaining life | | |
| 8Sc12.7 | Identify the characteristics of renewable and non-renewable resources focusing on their abundance and accessibility | | |
| 8Sc12.8 | Recognize and distinguish beneficial or harmful changes in a physical environment | | |
| 8Sc12.9 | Report unintended consequences of technologies that can cause resource depletion and environmental degradation contrasted with technological increases in resource availability and utilization | | |
| 8Sc12.10 | Explain how some changes on the Earth's surface are due to slow processes, and others due to rapid processes | | |
| 8Sc12.11 | Explain that energy cannot be created or destroyed, but only changed from one form to another | | |

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| 9 S PS | PHYSICAL SCIENCE | | | |
| 9 S PS 1.12.1 | Forces and Motion | Investigate and describe how changes in motion are based on the laws of motion. | | |
| 9 S PS 1.12.2 | Forces and Motion | Explain that the force of attraction that exists between two masses is inversely proportional to the square of the distance between them. | | |
| 9 S PS 1.12.3 | Forces and Motion | Investigate and describe that the usefulness of a simple machine such as a wheel or axle is based on its function, mechanical advantage, and efficiency. | | |
| 9 S PS 1.12.4 | Forces and Motion | Investigate and describe the relationship that exists between force, pressure, and area in general, and between pressure and depth in liquids. | | |
| 9 S PS 1.12.5 | Forces and Motion | Investigate and explain that magnetic forces are related to electric forces and can be thought of as different aspects of a single electromagnetic force (e.g., electric motors, generators, radios). | | |
| 9 S PS 2.12.1 | Structure and Properties of Matter | Investigate and describe intrinsic (color, odor, density) and extrinsic (e.g., size, mass, volume) physical properties of matter. | | |
| 9 S PS 2.12.2 | Structure and Properties of Matter | Explain that substances can be identified on the basis of specific energies given off or taken in by that substance. | | |
| 9 S PS 2.12.3 | Structure and Properties of Matter | Explain how atoms may bond with one another by transferring or sharing electrons that are farthest from the nucleus. | | |
| 9 S PS 2.12.4 | Structure and Properties of Matter | Explain that the electromagnetic force between the nucleus and electrons holds the atom together. | | |
| 9 S PS 2.12.5 | Structure and Properties of Matter | Explain the properties of phases of matter in terms of the kinetic molecular theory and forces of attraction between particles. | | |
| 9 S PS 2.12.6 | Structure and Properties of Matter | Explain that carbon atoms can bond to one another to form a large variety of structures, including the molecules essential to life. | | |
| 9 S PS 3.12.1 | Energy and Matter - Interactions and Forms | Interactions and Forms: Explain that the transformation of energy usually results in some energy in the form of heat, which spreads by radiation, conduction, and sometimes convection into cooler places. | | |
| 9 S PS 3.12.2 | Energy and Matter - Interactions and Forms | Interactions and Forms: Investigate and describe how pressure may affect changes of state. | | |
| 9 S PS 3.12.3 | Energy and Matter - Interactions and Forms | Interactions and Forms: Investigate and describe how waves can superimpose on one another, bend around corners, reflect off surfaces, be absorbed by materials they enter, and change direction when entering a new material. | | |
| 9 S PS 3.12.4 | Energy and Matter - Interactions and Forms | Interactions and Forms: Describe the properties of electrical circuits in terms of moving electrons, conductivity, resistance, and electrical potential energy. | | |
| 9 S PS 3.12.5 | Energy and Matter - Interactions and Forms | Interactions and Forms: Investigate and describe how matter and energy may be changed and energy can be transferred in many ways, but the entire mass-energy budget of the universe remains constant. | | |
| 9 S PS 3.12.6 | Energy and Matter - Interactions and Forms | Interactions and Forms: Investigate and describe how systems tend to become less ordered over time. | | |
| 9 S PS 4.12.1 | Chemical Reaction | Investigate and describe how, in chemical reactions, elements combine in predictable ratios, and the numbers of atoms of each element do not change. | | |
| 9 S PS 4.12.2 | Chemical Reaction | Investigate and describe how chemical reaction rates depend on conditions in the reacting system, the properties of reacting materials, and the presence of certain rate-regulating chemicals. | | |
| 9 S PS 4.12.3 | Chemical Reaction | Investigate and describe how chemical reactions may release or consume energy. | | |
| 9 S PS 4.12.4 | Chemical Reaction | Relate the chemical properties of an element to the outermost electrons of an element. | | |
| 9 S PS 5.12.1 | Nuclear Energy and Electromagnetic Energy | Predict how light interacts with matter (e.g., reflection and refraction). | | |
| 9 S PS 5.12.2 | Nuclear Energy and Electromagnetic Energy | Simulate how the predictable rates of nuclear reactions can be used to estimate the age of some materials. | | |
| 9 S PS 5.12.3 | Nuclear Energy and Electromagnetic Energy | Describe the different disposal techniques used for high and low level nuclear wastes. | | |
| 9 S PS 5.12.4 | Nuclear Energy and Electromagnetic Energy | Describe electromagnetic waves including a wide range of forms and varying wavelengths. | | |
| 9 S PS 5.12.5 | Nuclear Energy and Electromagnetic Energy | Explain how the forces that hold the nucleus of an atom together are usually stronger than other forces that could make the nucleus fly apart. | | |
| 9 S PS 5.12.6 | Nuclear Energy and Electromagnetic Energy | Explain how energy is released when the nuclei of very heavy atoms (e.g., uranium or plutonium) split into middleweight ones, or when very light nuclei (e.g., hydrogen and helium) combine into heavier ones. | | |
| 9 S LS | LIFE SCIENCE | | | |
| 9 S LS 6.12.1 | Structure and Function | Explain how disease disrupts the equilibrium that exists in a healthy organism. | | |
| 9 S LS 6.12.2 | Structure and Function | Explain how the human body has a specialized anatomy and physiology composed of an hierarchical arrangement of differentiated cells. | | |
| 9 S LS 6.12.3 | Structure and Function | Investigate and describe how food molecules are broken down through a series of chemical reactions to provide energy and the material to make new molecules. | | |

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| 9 S LS 6.12.4 | Structure and Function | Investigate and describe how every cell is covered by a cell membrane and most cells also have specialized parts for the transport of materials, energy, transfer, protein building, waste disposal, information feedback, and movement. | | |
| 9 S LS 6.12.5 | Structure and Function | In photosynthesis, plants and many microorganisms use solar energy to combine molecules of carbon dioxide and water to form energy rich compounds and oxygen. | | |
| 9 S LS 7.12.1 | Internal and External Influences on Organisms | Investigate and describe how some broad patterns of behavior exhibited by animals have evolved to ensure survival of the species. | | |
| 9 S LS 7.12.2 | Internal and External Influences on Organisms | Investigate and describe how plant and animals have mechanisms that allow them to respond to changes in their environment. | | |
| 9 S LS 7.12.3 | Internal and External Influences on Organisms | Investigate and describe how multicellular animals have nervous systems that receive input through sensory organs and generate behavioral responses. | | |
| 9 S LS 7.12.4 | Internal and External Influences on Organisms | Explain how certain viral diseases make the body vulnerable to multiple infectious agents and cancerous cells by destroying critical cells of the immune system. | | |
| 9 S LS 8.12.1 | Heredity and Diversity | Explain how all body cells in an organism are developed from a single cell and contain essentially identical genetic instructions. Explain how different parts of the instruction are used in different kinds of cells. | | |
| 9 S LS 8.12.2 | Heredity and Diversity | Explain how relatedness among organisms can be estimated from the similarity of their DNA sequences. | | |
| 9 S LS 8.12.3 | Heredity and Diversity | Investigate and describe how sorting and recombination of genes in sexual reproduction results in a great variety of possible gene combinations. | | |
| 9 S LS 8.12.4 | Heredity and Diversity | Explain how genetic information from parents is encoded in DNA molecules and provides instruction for assembling protein molecules. | | |
| 9 S LS 8.12.5 | Heredity and Diversity | Investigate and describe how patterns of inheritance are described by laws of segregation and independent assortment. | | |
| 9 S LS 8.12.6 | Heredity and Diversity | Explain how diversity of species and variation among organisms within a species increase the chances for survival of life when large changes occur in the environment. | | |
| 9 S LS 8.12.7 | Heredity and Diversity | Explain how gene mutations may be caused by a variety of influences, when mutations occur in sex cells, they can be passed on to offspring. | | |
| 9 S LS 9.12.1 | Evolution - Process of Biological Change | Investigate and describe the basic idea of the theory of biological evolution is that through genetic and/or environmental influences Earth's present-day species developed from earlier, distinctly different, but common ancestors. | | |
| 9 S LS 9.12.2 | Evolution - Process of Biological Change | Explain the fossil record of ancient life forms by applying the idea of natural selection and its evolutionary consequences. | | |
| 9 S LS 9.12.3 | Evolution - Process of Biological Change | Simulate and explain how the adaptation of a species can occur over many generations because of the unique characteristics that favor those individuals in an environment. | | |
| 9 S LS 9.12.4 | Evolution - Process of Biological Change | Explain how the classification of species is based on similarities (e.g., structural, genetic, molecular) which indicate evolutionary relationships. | | |
| 9 S LS 9.12.5 | Evolution - Process of Biological Change | Explain how the extinction of species is a common occurrence and fossil records indicate that most species that have lived on Earth no longer exist. | | |
| 9 S LS 9.12.6 | Evolution - Process of Biological Change | Investigate and describe how the process of evolution is driven by genetic and environmental influences. | | |
| 9 S LS 9.12.7 | Evolution - Process of Biological Change | Explain how there is evidence that at least a billion years ago, cells with nuclei existed allowing the evolution of increasingly complex multicellular organisms. | | |
| 9 S ESS | EARTH AND SPACE SCIENCES | | | |
| 9 S ESS 10.12.1 | Earth Structures and Composition | Investigate and describe how rocks and minerals have different characteristics that reflect their origins and use. | | |
| 9 S ESS 10.12.2 | Earth Structures and Composition | Investigate and describe how landforms are the result of a combination of constructive and destructive forces resulting from weathering, erosion, and the movement of lithosphere plates. | | |
| 9 S ESS 10.12.3 | Earth Structures and Composition | Explain how there is a relationship between the relative densities and states (phases) of Earth materials and the layering on, in, and above Earth. | | |
| 9 S ESS 10.12.4 | Earth Structures and Composition | Investigate and describe how soil is derived from weathered rocks and decomposed organic material, and is found in layers. | | |
| 9 S ESS 10.12.5 | Earth Structures and Composition | Explain how the composition of Earth's atmosphere has changed in the past and continues to change. | | |
| 9 S ESS 10.12.6 | Earth Structures and Composition | Compare and contrast the geologic features of Nevada and local geological features. | | |
| 9 S ESS 11.12.3 | Earth Models | Investigate, design, and use contour maps. | | |
| 9 S ESS 11.12.4 | Earth Models | Define location on Earth in terms of latitude, longitude, and time zones. | | |
| 9 S ESS 12.12.1 | Earth History | Explain how catastrophic events have occurred and greatly influenced Earth's history. | | |
| 9 S ESS 12.12.2 | Earth History | Simulate and explain how relative geologic time can be estimated by observing rock sequences and using fossils to correlate the sequences at various locations. | | |
| 9 S ESS 12.12.3 | Earth History | Compare and contrast the variety of methods by which geologic time is determined, including radioactive dating. | | |
| 9 S ESS 13.12.1 | Cycles of Matter and Energy | Explain how Earth systems have two major internal sources of energy (decay of radioactive isotopes and the gravitational energy from Earth's original formation) and one major external sources (the sun), all of which create heat. | | |

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| 9 S ESS 13.12.2 | Cycles of Matter and Energy | Explain how uneven heating of Earth's surface by the sun forms convection currents within the atmosphere and ocean, producing wind and ocean currents that are modified by Earth's rotation. | | |
| 9 S ESS 13.12.3 | Cycles of Matter and Energy | Investigate and describe how water is a solvent (e.g., how it dissolves minerals and gases as it passes through the water cycle and carries them to oceans and lakes). | | |
| 9 S ESS 13.12.4 | Cycles of Matter and Energy | Simulate and describe how global climate is determined primarily by energy transfer from the sun at and near Earth's surface, and fluctuations in solar output may have contributed to large changes in Earth's climate in the past. | | |
| 9 S ESS 13.12.5 | Cycles of Matter and Energy | Explain how large-scale, long-term equilibrium can accommodate small-scale changes. | | |
| 9 S ESS 13.12.6 | Cycles of Matter and Energy | Investigate and describe how elements necessary for life on Earth pass through both living and nonliving cycles in a series of changes that form a global system. | | |
| 9 S ESS 13.12.7 | Cycles of Matter and Energy | Compare and contrast the relationships between the greenhouse effect and the idea of global warming. | | |
| 9 S ESS 13.12.8 | Cycles of Matter and Energy | Model and explain how the energy that propels Earth's lithosphere plates is dominantly a result of nuclear processes deep in Earth. | | |
| 9 S ESS 14.12.1 | Solar System and Universe | Investigate and describe how Earth's atmosphere, water, temperature, and composition compare with conditions on other planets. | | |
| 9 S ESS 14.12.2 | Solar System and Universe | Explain how most objects in the solar system are in regular and predictable motion which explains such phenomena as the day, the year, phases of the moon, and eclipses. | | |
| 9 S ESS 14.12.3 | Solar System and Universe | Explain how stars produce energy and elements heavier than hydrogen from nuclear reactions. | | |
| 9 S ESS 14.12.4 | Solar System and Universe | Explain that on the basis of scientific evidence, the universe is estimated to be about ten billion years old. | | |
| 9 S ESS 14.12.5 | Solar System and Universe | Describe how increasingly sophisticated technology (e.g., mathematical models and computer simulations) is used to learn about the universe. | | |
| 9 S ESS 14.12.6 | Solar System and Universe | Explain that the physical laws, such as laws of Newton, Kepler, thermodynamics, relativity, and quantum physics, appear to apply to all bodies in the universe. | | |
| 9 S ES | ENVIRONMENTAL SCIENCES | | | |
| 9 S ES 15.12.1 | Ecosystems | Investigate and describe how changes in an ecosystem can affect biodiversity and biodiversity contributes to an ecosystem's stability. | | |
| 9 S ES 15.12.2 | Ecosystems | Investigate and describe how ecosystems change or remain the same in response to different kinds of influences. | | |
| 9 S ES 15.12.3 | Ecosystems | Investigate and describe how materials and energy are cycled and recycled through ecosystems via pathways known as food webs. | | |
| 9 S ES 15.12.4 | Ecosystems | Describe the unique geologic, hydrologic, climatic, and biological characteristics of Nevada's bioregions. (e.g., Northern NV cold desert, Southern low warm desert, Mountain). | | |
| 9 S ES 16.12.1 | Natural Resources | Evaluate the consequences of changing patterns of resources use. | | |
| 9 S ES 16.12.2 | Natural Resources | Investigate and describe the various processes involved in obtaining, using, and recycling materials such as wood products, minerals, food, and manufactured objects. | | |
| 9 S ES 16.12.3 | Natural Resources | Investigate and describe the career opportunities associated with the study, exploration, extraction, utilization, protection, and restoration of natural resources. | | |
| 9 S ES 16.12.4 | Natural Resources | Analyze and describe the limitations of the Earth's ability to respond to stresses produced by human or natural activities. | | |
| 9 S ES 16.12.5 | Natural Resources | Analyze and evaluate the effects that increases in human populations can cause (e.g., resource depletion and environmental degradation). | | |
| 9 S ES 17.12.1 | Conservation | Analyze and evaluate how consumption patterns, conservation efforts, and cultural or social practices in countries have varying environmental impacts. | | |
| 9 S ES 17.12.2 | Conservation | Investigate and describe how human actions may impact the dynamic equilibrium of global systems (e.g., global warming, ozone depletion). | | |
| 9 S ES 17.12.3 | Conservation | Explain that there is scientific uncertainty regarding many environmental issues. | | |
| 9 S ES 17.12.4 | Conservation | Evaluate and describe actions which affect the global environment in terms of trade-offs that may have effects on local environments or economics. | | |
| 9 S NHS | THE NATURE AND HISTORY OF SCIENCE | | | |
| 9 S NHS 18.12.1 | Scientific, Historical, and Technological Perspectives | Explain that the scientific way of knowing uses a critique and consensus process (e.g., peer review, openness to criticism, logical argument, skepticism). | | |
| 9 S NHS 18.12.2 | Scientific, Historical, and Technological Perspectives | Investigate and explain how research emphasis is influenced by economic and public policy. | | |
| 9 S NHS 18.12.3 | Scientific, Historical, and Technological Perspectives | Investigate and explain how scientific innovations that were originally challenged are now widely accepted. | | |

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| 9 S NHS 18.12.4 | Scientific, Historical, and Technological Perspectives | Explain that scientists work with others to resolve differences in interpretation of observations. | | |
| 9 S NHS 18.12.5 | Scientific, Historical, and Technological Perspectives | Explain that technological problems create a demand for new scientific knowledge and new technologies which make it possible for scientists to extend their research in new ways or to undertake entirely new lines of research. | | |
| 9 S NHS 18.12.6 | Scientific, Historical, and Technological Perspectives | Explain that scientific knowledge builds on previous information, and rarely are entire theories completely discarded in favor of new ones. | | |
| 9 S NHS 18.12.7 | Scientific, Historical, and Technological Perspectives | Explain that scientists have ethical procedures, violations of which have consequences. | | |
| 9 S NHS 19.12.1 | Reasoning and Critical Response Skills | Identify and determine the credibility of sources of information based on the techniques used to gather that information. | | |
| 9 S NHS 19.12.2 | Reasoning and Critical Response Skills | Apply cost benefit and risk analyses in decision-making processes. | | |
| 9 S NHS 19.12.3 | Reasoning and Critical Response Skills | Recognize and describe situations in which a system is qualitatively different from the parts which comprise it (e.g., how a population differs from an individual). | | |
| 9 S NHS 19.12.4 | Reasoning and Critical Response Skills | Distinguish among hypotheses, laws, theories, and rules, and explain the level of their limitations. | | |
| 9 S NHS 19.12.5 | Reasoning and Critical Response Skills | Determine the limits of generalizations, assumptions, analogies, and models. | | |
| 9 S SI | SCIENTIFIC INQUIRY: PROCESSES AND SKILLS | | | |
| 9 S SI 20.12.1 | Systems, Models, Risk, and Predictions | Use mathematical symbols and formulas to express relationships that behave in the same ways as the objects or processes under investigation. | | |
| 9 S SI 20.12.2 | Systems, Models, Risk, and Predictions | Use models to identify and predict cause-effect relationships (e.g., effect of temperature on gas volume, effect of carbon dioxide level on the greenhouse effect). | | |
| 9 S SI 20.12.3 | Systems, Models, Risk, and Predictions | Identify and describe how systems are often different from their components (e.g., aquaria or automobiles). | | |
| 9 S SI 20.12.4 | Systems, Models, Risk, and Predictions | Compare groups of data, taking into account both percentages and actual numbers. | | |
| 9 S SI 20.12.5 | Systems, Models, Risk, and Predictions | Identify the type of hazard, estimate the extent and consequences of exposure, and determine the options for reducing or eliminating risks. | | |
| 9 S SI 21.12.1 | Scientific Values and Attitudes | Demonstrate curiosity, honesty, and skepticism in doing science. | | |
| 9 S SI 21.12.2 | Scientific Values and Attitudes | Repeat experimentation for statistical analysis and to produce conclusions that are without bias. | | |
| 9 S SI 21.12.3 | Scientific Values and Attitudes | Evaluate multiple explanations for the same evidence. | | |
| 9 S SI 22.12.1 | Communication Skills | Analyze experimental procedures and suggest appropriate revisions for improvement. | | |
| 9 S SI 22.12.2 | Communication Skills | Use tables, charts, and graphs in making arguments and claims in oral and written presentations. | | |
| 9 S SI 22.12.3 | Communication Skills | Discuss scientific topics by restating or summarizing accurately what others have said; ask for clarifications or elaborations, and express alternative positions using available multimedia resources. | | |
| 9 S SI 23.12.1 | Scientific Applications of Mathematics | Determine if the correlation between variables is high or low. | | |
| 9 S SI 23.12.2 | Scientific Applications of Mathematics | Use algebraic equations when appropriate. | | |
| 9 S SI 23.12.3 | Scientific Applications of Mathematics | Estimate answers to the correct order of magnitude. | | |
| 9 S SI 23.12.4 | Scientific Applications of Mathematics | Use derived quantities, ratios, proportions, and constants. | | |
| 9 S SI 23.12.5 | Scientific Applications of Mathematics | Trace the source of differences between an estimate and the calculated answer that exceeds agreed-upon standards for precision. | | |
| 9 S SI 23.12.6 | Scientific Applications of Mathematics | Select samples by some random system to avoid bias. | | |
| 9 S SI 24.12.1 | Laboratory Skills and Safety | Demonstrate personal responsibility for using safety equipment and observing all safety standards. | | |
| 9 S SI 24.12.2 | Laboratory Skills and Safety | Use the information found in materials safety data sheets to handle, store, and dispose of chemicals properly. | | |
| 9 S SI 24.12.3 | Laboratory Skills and Safety | Inspect, manipulate, and describe the functions of various parts of technical and scientific equipment. | | |
| 9 S SI 24.12.4 | Laboratory Skills and Safety | Maintain a permanent record of procedures, data, analyses, decisions, and understandings of scientific investigations. | | |

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| 9 S SI 24.12.5 | Laboratory Skills and Safety | Write procedures for the investigation of delegated or original scientific problems. | | |
| 9 S SI 24.12.6 | Laboratory Skills and Safety | Carry out an independent scientific investigation. | | |

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| 9Sc1 | THE NATURE OF SCIENCE - Scientific Inquiry | | |
| 9Sc1.1 | Organize, group and manipulate statistical data into graphs and reports | | |
| 9Sc1.2 | Observe and match the connection between data and conclusions in investigations | | |
| 9Sc1.3 | Define and sort through various data resources filtering important and unimportant information | | |
| 9Sc1.4 | Observe and report relationships | | |
| 9Sc2 | THE NATURE OF SCIENCE - Science, Technology, and Society | | |
| 9Sc2.1 | Dramatize how systems can be changed from the interaction of components | | |
| 9Sc2.2 | Define and identify different view positions | | |
| 9Sc2.3 | Identify and describe various historical frameworks of knowledge categories and methods | | |
| 9Sc3 | PHYSICAL SCIENCE - Matter | | |
| 9Sc3.1 | Demonstrate and illustrate how particles can be arranged differently for the same substance | | |
| 9Sc3.2 | Classify elements by gathering information and sorting their properties | | |
| 9Sc3.3 | Compare and contrast various types of mixtures | | |
| 9Sc3.4 | Demonstrate the characteristics of atomic bonding | | |
| 9Sc3.5 | Demonstrate the changes that occur in physical states by chemical changes | | |
| 9Sc3.6 | Demonstrate and illustrate atomic structures in matter | | |
| 9Sc3.7 | Select and illustrate properties of various elements based on their atomic makeup | | |
| 9Sc3.8 | Demonstrate the differences between various elements in stable and combined elemental states | | |
| 9Sc4 | PHYSICAL SCIENCE - Forces and Motion | | |
| 9Sc4.1 | Classify and distinguish between various magnetic and electric forces | | |
| 9Sc4.2 | Compare various objects that react to magnetic imposition | | |
| 9Sc4.3 | Speculate on the consequences of unbalanced motion | | |
| 9Sc4.4 | Explain why an object will move in a particular way for a certain set of conditions | | |
| 9Sc5 | PHYSICAL SCIENCE - Energy | | |
| 9Sc5.1 | Compare and distinguish the seasonal variations throughout the Earth caused by the differing positions with the sun | | |
| 9Sc5.2 | Show and demonstrate different light bands in the spectrum | | |
| 9Sc5.3 | Show and demonstrate different wave energy forms | | |
| 9Sc5.4 | Illustrate the transfer of energy citing various types of reactions | | |
| 9Sc5.5 | Demonstrate energy transformation | | |
| 9Sc5.6 | Illustrate the differences between kinetic and potential energy | | |
| 9Sc5.7 | Demonstrate and measure the transfer of heat | | |
| 9Sc5.8 | Contrast through data presentation the differences between circuits, resistance and conductors | | |
| 9Sc6 | LIFE SCIENCE - Heredity | | |
| 9Sc6.1 | Distinguish between different genetic transference | | |
| 9Sc6.2 | Organize a study of inherited characteristics over several propagations of plant and animal life | | |
| 9Sc6.3 | Classify organisms by their shared characteristics, justify the decisions made in the process | | |
| 9Sc6.4 | Illustrate through examining several life forms the interaction between environment and genetics | | |
| 9Sc7 | LIFE SCIENCE - Structure of Life | | |
| 9Sc7.1 | Document and report on alterations to life systems caused by infection | | |
| 9Sc7.2 | Illustrate different organisms and compare their complexity | | |
| 9Sc7.3 | Show how combinations of cells work together; identify cells that have specialty assignments in larger organisms | | |
| 9Sc7.4 | Classify and organize different cells by their function within one organism | | |
| 9Sc8 | LIFE SCIENCE - Organisms and Their Environment | | |
| 9Sc8.1 | Classify different webs of an ecosystem | | |
| 9Sc8.2 | Define and observe the characteristics of different physical environments | | |
| 9Sc8.3 | Observe and list changes that have occurred in ecosystems through the cycles of the Earth | | |
| 9Sc8.4 | Construct an ecosystem simulation | | |
| 9Sc8.5 | Observe and define the various regions of Nevada | | |
| 9Sc9 | LIFE SCIENCE - Diversity of Life | | |
| 9Sc9.1 | Classify various species by their characteristics | | |

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| 9Sc9.2 | Map genetic passage from one generation to another | | |
| 9Sc9.3 | Define and observe evolutionary sequence | | |
| 9Sc9.4 | Define and observe DNA alterations to organisms | | |
| 9Sc9.5 | Identify, sort and list fossil evidence | | |
| 9Sc9.6 | Observe the characteristics of various animal and plant fossil evidence | | |
| 9Sc9.7 | Show how an organism's behavior is connected to its evolutionary history | | |
| 9Sc10 | EARTH AND SPACE SCIENCES - Atmospheric Processes and the Water Cycle | | |
| 9Sc10.1 | Infer and speculate on how seasonal environments and variations are part of every planet; speculate and imagine those environments | | |
| 9Sc10.2 | Illustrate the role of water in the Earth's ecosystem | | |
| 9Sc10.3 | Identify the components of the greenhouse effect | | |
| 9Sc10.4 | Illustrate atmospheric patterns and its causes | | |
| 9Sc11 | EARTH AND SPACE SCIENCES - Solar System and Universe | | |
| 9Sc11.1 | Explain and document the interaction between various components of the universe | | |
| 9Sc11.2 | Illustrate the differing characteristics of various planets in our solar system including the Earth | | |
| 9Sc11.3 | Explain how phenomena have predictable motion and cycles | | |
| 9Sc12 | EARTH AND SPACE SCIENCES - Earth's Composition and Structure | | |
| 9Sc12.1 | Select and organize rocks and fossil evidence by similar and contrasting characteristics | | |
| 9Sc12.2 | Illustrate how landforms can be altered by various forces | | |
| 9Sc12.3 | Explain where and why certain elements are located on the Earth | | |
| 9Sc12.4 | Sort different contrasting evidence of different soil samples; identify the elements that support or inhibit life | | |
| 9Sc12.5 | Illustrate and map resources by their abundance, accessibility, and renew-ability to areas of the Earth; report on the possibility of difficulty in sustaining and procuring necessary resources; speculate on alternatives to resources and consequences of their unavailability | | |
| 9Sc12.6 | Define the characteristics of various life stages | | |
| 9Sc12.7 | Show how changes in a physical environment can be harmful | | |
| 9Sc12.8 | Show how technologies influence the environment | | |
| 9Sc12.9 | Define the elements that make up different cultures and countries; observe how their environment is dictated by resources or the ability to obtain resources | | |
| 9Sc12.10 | Illustrate how the constancy of one energy source has changed a society; illustrate how the change in energy source has created and mutated a society | | |

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| | BIOLOGY AND INTEGRATED PHYSICS AND CHEMISTRY / SCIENTIFIC PROCESSES | | |
| S 10.1.1A | Demonstrate safe practices during field and laboratory investigations. | | |
| S 10.1.2A | Plan and implement investigative procedures including asking questions, formulating testable hypotheses, and selecting equipment and technology. | | |
| S 10.1.2B | Collect data and make measurements with precision. | | |
| S 10.1.2C | Organize, analyze, evaluate, make inferences, and predict trends from data. | | |
| S 10.1.2D | Communicate valid conclusions. | | |
| | INTEGRATED PHYSICS AND CHEMISTRY / SCIENTIFIC PROCESSES | | |
| S 10.1.3A | Analyze and review scientific explanations, including hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information. | | |
| S 10.1.3B | Draw inferences based on data related to products and services. | | |
| | BIOLOGY | | |
| S 10.2.1A | Investigate and identify cellular processes including homeostasis, permeability, energy production, transportation of molecules, disposal of wastes, function of cellular parts, and synthesis of new molecules. | | |
| S 10.2.2A | Describe components of deoxyribonucleic acid (DNA), and illustrate how information for specifying the traits of an organism is carried in the DNA. | | |
| S 10.2.2B | Identify and illustrate how changes in DNA cause mutations. | | |
| S 10.2.2C | Compare genetic variations observed in plants and animals. | | |
| S 10.2.3A | Identify characteristics of kingdoms including monerans, protists, fungi, plants, and animals. | | |
| S 10.2.4A | Interpret the functions of systems in organisms including circulatory, digestive, nervous, endocrine, reproductive, integumentary, skeletal, respiratory, muscular, excretory, and immune. | | |
| S 10.3.1A | Compare the structures and functions of viruses to cells and describe the role of viruses in causing diseases and conditions such as acquired immune deficiency syndrome, common colds, smallpox, influenza, and warts. | | |
| S 10.3.1B | Identify and describe the role of bacteria in maintaining health such as in digestion and in causing diseases such as in streptococcus infections and diphtheria. | | |
| S 10.3.2A | Illustrate the results of natural selection in speciation, diversity, phylogeny, adaptation, behavior, and extinction. | | |
| S 10.3.3A | Interpret interactions among organisms exhibiting predation, parasitism, commensalism, and mutualism. | | |
| S 10.3.3B | Investigate and explain the interactions in an ecosystem including food chains, food webs, and food pyramids. | | |
| S 10.3.4A | Evaluate the significance of structural and physiological adaptations of plants to their environments. | | |
| | INTEGRATED PHYSICS AND CHEMISTRY | | |
| S 10.4.1A | Investigate and identify properties of fluids including density, viscosity, and buoyancy. | | |
| S 10.4.1B | Classify samples of matter from everyday life as being elements, compounds, or mixtures. | | |
| S 10.4.2A | Distinguish between physical and chemical changes in matter such as oxidation, digestion, changes in states, and stages in the rock cycle. | | |
| S 10.4.2B | Investigate and identify the law of conservation of mass. | | |
| S 10.4.3A | Relate the structure of water to its function. | | |
| S 10.4.3B | Demonstrate how various factors influence solubility including temperature, pressure, and nature of the solute and solvent. | | |
| S 10.5.1A | Calculate speed, momentum, acceleration, work, and power in systems such as in the human body, moving toys, and machines. | | |
| S 10.5.1B | Investigate and describe Newton's laws such as in vehicle restraints, sports activities, geological processes, and satellite orbits. | | |
| S 10.5.2A | Demonstrate wave types and their characteristics through a variety of activities such as modeling with ropes and coils, activating tuning forks, and interpreting data on seismic waves. | | |
| S 10.5.3A | Describe the law of conservation of energy. | | |
| S 10.5.3B | Investigate and demonstrate the movement of heat through solids, liquids, and gases by convection, conduction, and radiation. | | |
| S 10.5.3C | Investigate and compare series and parallel circuits. | | |

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| 10 S PS | PHYSICAL SCIENCE | | | |
| 10 S PS 1.12.1 | Forces and Motion | Investigate and describe how changes in motion are based on the laws of motion. | | |
| 10 S PS 1.12.2 | Forces and Motion | Explain that the force of attraction that exists between two masses is inversely proportional to the square of the distance between them. | | |
| 10 S PS 1.12.3 | Forces and Motion | Investigate and describe that the usefulness of a simple machine such as a wheel or axle is based on its function, mechanical advantage, and efficiency. | | |
| 10 S PS 1.12.4 | Forces and Motion | Investigate and describe the relationship that exists between force, pressure, and area in general, and between pressure and depth in liquids. | | |
| 10 S PS 1.12.5 | Forces and Motion | Investigate and explain that magnetic forces are related to electric forces and can be thought of as different aspects of a single electromagnetic force (e.g., electric motors, generators, radios). | | |
| 10 S PS 2.12.1 | Structure and Properties of Matter | Investigate and describe intrinsic (color, odor, density) and extrinsic (e.g., size, mass, volume) physical properties of matter. | | |
| 10 S PS 2.12.2 | Structure and Properties of Matter | Explain that substances can be identified on the basis of specific energies given off or taken in by that substance. | | |
| 10 S PS 2.12.3 | Structure and Properties of Matter | Explain how atoms may bond with one another by transferring or sharing electrons that are farthest from the nucleus. | | |
| 10 S PS 2.12.4 | Structure and Properties of Matter | Explain that the electromagnetic force between the nucleus and electrons holds the atom together. | | |
| 10 S PS 2.12.5 | Structure and Properties of Matter | Explain the properties of phases of matter in terms of the kinetic molecular theory and forces of attraction between particles. | | |
| 10 S PS 2.12.6 | Structure and Properties of Matter | Explain that carbon atoms can bond to one another to form a large variety of structures, including the molecules essential to life. | | |
| 10 S PS 3.12.1 | Energy and Matter - Interactions and Forms | Explain that the transformation of energy usually results in some energy in the form of heat, which spreads by radiation, conduction, and sometimes convection into cooler places. | | |
| 10 S PS 3.12.2 | Energy and Matter - Interactions and Forms | Investigate and describe how pressure may affect changes of state. | | |
| 10 S PS 3.12.3 | Energy and Matter - Interactions and Forms | Investigate and describe how waves can superimpose on one another, bend around corners, reflect off surfaces, be absorbed by materials they enter, and change direction when entering a new material. | | |
| 10 S PS 3.12.4 | Energy and Matter - Interactions and Forms | Describe the properties of electrical circuits in terms of moving electrons, conductivity, resistance, and electrical potential energy. | | |
| 10 S PS 3.12.5 | Energy and Matter - Interactions and Forms | Investigate and describe how matter and energy may be changed and energy can be transferred in many ways, but the entire mass-energy budget of the universe remains constant. | | |
| 10 S PS 3.12.6 | Energy and Matter - Interactions and Forms | Investigate and describe how systems tend to become less ordered over time. | | |
| 10 S PS 4.12.1 | Chemical Reaction | Investigate and describe how, in chemical reactions, elements combine in predictable ratios, and the numbers of atoms of each element do not change. | | |
| 10 S PS 4.12.2 | Chemical Reaction | Investigate and describe how chemical reaction rates depend on conditions in the reacting system, the properties of reacting materials, and the presence of certain rate-regulating chemicals. | | |
| 10 S PS 4.12.3 | Chemical Reaction | Investigate and describe how chemical reactions may release or consume energy. | | |
| 10 S PS 4.12.4 | Chemical Reaction | Relate the chemical properties of an element to the outermost electrons of an element. | | |
| 10 S PS 5.12.1 | Nuclear Energy and Electromagnetic Energy | Predict how light interacts with matter (e.g., reflection and refraction). | | |
| 10 S PS 5.12.2 | Nuclear Energy and Electromagnetic Energy | Simulate how the predictable rates of nuclear reactions can be used to estimate the age of some materials. | | |
| 10 S PS 5.12.3 | Nuclear Energy and Electromagnetic Energy | Describe the different disposal techniques used for high and low level nuclear wastes. | | |
| 10 S PS 5.12.4 | Nuclear Energy and Electromagnetic Energy | Describe electromagnetic waves including a wide range of forms and varying wavelengths. | | |
| 10 S PS 5.12.5 | Nuclear Energy and Electromagnetic Energy | Explain how the forces that hold the nucleus of an atom together are usually stronger than other forces that could make the nucleus fly apart. | | |
| 10 S PS 5.12.6 | Nuclear Energy and Electromagnetic Energy | Explain how energy is released when the nuclei of very heavy atoms (e.g., uranium or plutonium) split into middleweight ones, or when very light nuclei (e.g., hydrogen and helium) combine into heavier ones. | | |
| 10 S LS | LIFE SCIENCE | | | |
| 10 S LS 6.12.1 | Structure and Function | Explain how disease disrupts the equilibrium that exists in a healthy organism. | | |
| 10 S LS 6.12.2 | Structure and Function | Explain how the human body has a specialized anatomy and physiology composed of an hierarchical arrangement of differentiated cells. | | |
| 10 S LS 6.12.3 | Structure and Function | Investigate and describe how food molecules are broken down through a series of chemical reactions to provide energy and the material to make new molecules. | | |
| 10 S LS 6.12.4 | Structure and Function | Investigate and describe how every cell is covered by a cell membrane and most cells also have specialized parts for the transport of materials, energy, transfer, protein building, waste disposal, information feedback, and movement. | | |
| 10 S LS 6.12.5 | Structure and Function | In photosynthesis, plants and many microorganisms use solar energy to combine molecules of carbon dioxide and water to form energy rich compounds and oxygen. | | |

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| 10 S LS 7.12.1 | Internal and External Influences on Organisms | Investigate and describe how some broad patterns of behavior exhibited by animals have evolved to ensure survival of the species. | | |
| 10 S LS 7.12.2 | Internal and External Influences on Organisms | Investigate and describe how plant and animals have mechanisms that allow them to respond to changes in their environment. | | |
| 10 S LS 7.12.3 | Internal and External Influences on Organisms | Investigate and describe how multicellular animals have nervous systems that receive input through sensory organs and generate behavioral responses. | | |
| 10 S LS 7.12.4 | Internal and External Influences on Organisms | Explain how certain viral diseases make the body vulnerable to multiple infectious agents and cancerous cells by destroying critical cells of the immune system. | | |
| 10 S LS 8.12.1 | Heredity and Diversity | Explain how all body cells in an organism are developed from a single cell and contain essentially identical genetic instructions. Explain how different parts of the instruction are used in different kinds of cells. | | |
| 10 S LS 8.12.2 | Heredity and Diversity | Explain how relatedness among organisms can be estimated from the similarity of their DNA sequences. | | |
| 10 S LS 8.12.3 | Heredity and Diversity | Investigate and describe how sorting and recombination of genes in sexual reproduction results in a great variety of possible gene combinations. | | |
| 10 S LS 8.12.4 | Heredity and Diversity | Explain how genetic information from parents is encoded in DNA molecules and provides instruction for assembling protein molecules. | | |
| 10 S LS 8.12.5 | Heredity and Diversity | Investigate and describe how patterns of inheritance are described by laws of segregation and independent assortment. | | |
| 10 S LS 8.12.6 | Heredity and Diversity | Explain how diversity of species and variation among organisms within a species increase the chances for survival of life when large changes occur in the environment. | | |
| 10 S LS 8.12.7 | Heredity and Diversity | Explain how gene mutations may be caused by a variety of influences, when mutations occur in sex cells, they can be passed on to offspring. | | |
| 10 S LS 9.12.1 | Evolution - The Process of Biological Change | Investigate and describe the basic idea of the theory of biological evolution is that through genetic and/or environmental influences Earth's present-day species developed from earlier, distinctly different, but common ancestors. | | |
| 10 S LS 9.12.2 | Evolution - The Process of Biological Change | Explain the fossil record of ancient life forms by applying the idea of natural selection and its evolutionary consequences. | | |
| 10 S LS 9.12.3 | Evolution - The Process of Biological Change | Simulate and explain how the adaptation of a species can occur over many generations because of the unique characteristics that favor those individuals in an environment. | | |
| 10 S LS 9.12.4 | Evolution - The Process of Biological Change | Explain how the classification of species is based on similarities (e.g., structural, genetic, molecular) which indicate evolutionary relationships. | | |
| 10 S LS 9.12.5 | Evolution - The Process of Biological Change | Explain how the extinction of species is a common occurrence and fossil records indicate that most species that have lived on Earth no longer exist. | | |
| 10 S LS 9.12.6 | Evolution - The Process of Biological Change | Investigate and describe how the process of evolution is driven by genetic and environmental influences. | | |
| 10 S LS 9.12.7 | Evolution - The Process of Biological Change | Explain how there is evidence that at least a billion years ago, cells with nuclei existed allowing the evolution of increasingly complex multicellular organisms. | | |
| 10 S ESS | EARTH AND SPACE SCIENCES | | | |
| 10 S ESS 10.12.1 | Earth Structures and Composition | Investigate and describe how rocks and minerals have different characteristics that reflect their origins and use. | | |
| 10 S ESS 10.12.2 | Earth Structures and Composition | Investigate and describe how landforms are the result of a combination of constructive and destructive forces resulting from weathering, erosion, and the movement of lithosphere plates. | | |
| 10 S ESS 10.12.3 | Earth Structures and Composition | Explain how there is a relationship between the relative densities and states (phases) of Earth materials and the layering on, in, and above Earth. | | |
| 10 S ESS 10.12.4 | Earth Structures and Composition | Investigate and describe how soil is derived from weathered rocks and decomposed organic material, and is found in layers. | | |
| 10 S ESS 10.12.5 | Earth Structures and Composition | Explain how the composition of Earth's atmosphere has changed in the past and continues to change. | | |
| 10 S ESS 10.12.6 | Earth Structures and Composition | Compare and contrast the geologic features of Nevada and local geological features. | | |
| 10 S ESS 11.12.3 | Earth Models | Investigate, design, and use contour maps. | | |
| 10 S ESS 11.12.4 | Earth Models | Define location on Earth in terms of latitude, longitude, and time zones. | | |
| 10 S ESS 12.12.1 | Earth History | Explain how catastrophic events have occurred and greatly influenced Earth's history. | | |
| 10 S ESS 12.12.2 | Earth History | Simulate and explain how relative geologic time can be estimated by observing rock sequences and using fossils to correlate the sequences at various locations. | | |
| 10 S ESS 12.12.3 | Earth History | Compare and contrast the variety of methods by which geologic time is determined, including radioactive dating. | | |
| 10 S ESS 13.12.1 | Cycles of Matter and Energy | Explain how Earth systems have two major internal sources of energy (decay of radioactive isotopes and the gravitational energy from Earth's original formation) and one major external sources (the sun), all of which create heat. | | |
| 10 S ESS 13.12.2 | Cycles of Matter and Energy | Explain how uneven heating of Earth's surface by the sun forms convection currents within the atmosphere and ocean, producing wind and ocean currents that are modified by Earth's rotation. | | |
| 10 S ESS 13.12.3 | Cycles of Matter and Energy | Investigate and describe how water is a solvent (e.g., how it dissolves minerals and gases as it passes through the water cycle and carries them to oceans and lakes). | | |
| 10 S ESS 13.12.4 | Cycles of Matter and Energy | Simulate and describe how global climate is determined primarily by energy transfer from the sun at and near Earth's surface, and fluctuations in solar output may have contributed to large changes in Earth's climate in the past. | | |

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| 10 S ESS 13.12.5 | Cycles of Matter and Energy | Explain how large-scale, long-term equilibrium can accommodate small-scale changes. | | |
| 10 S ESS 13.12.6 | Cycles of Matter and Energy | Investigate and describe how elements necessary for life on Earth pass through both living and nonliving cycles in a series of changes that form a global system. | | |
| 10 S ESS 13.12.7 | Cycles of Matter and Energy | Compare and contrast the relationships between the greenhouse effect and the idea of global warming. | | |
| 10 S ESS 13.12.8 | Cycles of Matter and Energy | Model and explain how the energy that propels Earth's lithosphere plates is dominantly a result of nuclear processes deep in Earth. | | |
| 10 S ESS 14.12.1 | Solar System and Universe | Investigate and describe how Earth's atmosphere, water, temperature, and composition compare with conditions on other planets. | | |
| 10 S ESS 14.12.2 | Solar System and Universe | Explain how most objects in the solar system are in regular and predictable motion which explains such phenomena as the day, the year, phases of the moon, and eclipses. | | |
| 10 S ESS 14.12.3 | Solar System and Universe | Explain how stars produce energy and elements heavier than hydrogen from nuclear reactions. | | |
| 10 S ESS 14.12.4 | Solar System and Universe | Explain that on the basis of scientific evidence, the universe is estimated to be about ten billion years old. | | |
| 10 S ESS 14.12.5 | Solar System and Universe | Describe how increasingly sophisticated technology (e.g., mathematical models and computer simulations) is used to learn about the universe. | | |
| 10 S ESS 14.12.6 | Solar System and Universe | Explain that the physical laws, such as laws of Newton, Kepler, thermodynamics, relativity, and quantum physics, appear to apply to all bodies in the universe. | | |
| 10 S ES | ENVIRONMENTAL SCIENCES | | | |
| 10 S ES 15.12.1 | Ecosystems | Investigate and describe how changes in an ecosystem can affect biodiversity and biodiversity contributes to an ecosystem's stability. | | |
| 10 S ES 15.12.2 | Ecosystems | Investigate and describe how ecosystems change or remain the same in response to different kinds of influences. | | |
| 10 S ES 15.12.3 | Ecosystems | Investigate and describe how materials and energy are cycled and recycled through ecosystems via pathways known as food webs. | | |
| 10 S ES 15.12.4 | Ecosystems | Describe the unique geologic, hydrologic, climatic, and biological characteristics of Nevada's bioregions. (e.g., Northern NV cold desert, Southern low warm desert, Mountain). | | |
| 10 S ES 16.12.1 | Natural Resources | Evaluate the consequences of changing patterns of resources use. | | |
| 10 S ES 16.12.2 | Natural Resources | Investigate and describe the various processes involved in obtaining, using, and recycling materials such as wood products, minerals, food, and manufactured objects. | | |
| 10 S ES 16.12.3 | Natural Resources | Investigate and describe the career opportunities associated with the study, exploration, extraction, utilization, protection, and restoration of natural resources. | | |
| 10 S ES 16.12.4 | Natural Resources | Analyze and describe the limitations of the Earth's ability to respond to stresses produced by human or natural activities. | | |
| 10 S ES 16.12.5 | Natural Resources | Analyze and evaluate the effects that increases in human populations can cause (e.g., resource depletion and environmental degradation). | | |
| 10 S ES 17.12.1 | Conservation | Analyze and evaluate how consumption patterns, conservation efforts, and cultural or social practices in countries have varying environmental impacts. | | |
| 10 S ES 17.12.2 | Conservation | Investigate and describe how human actions may impact the dynamic equilibrium of global systems (e.g., global warming, ozone depletion). | | |
| 10 S ES 17.12.3 | Conservation | Explain that there is scientific uncertainty regarding many environmental issues. | | |
| 10 S ES 17.12.4 | Conservation | Evaluate and describe actions which affect the global environment in terms of trade-offs that may have effects on local environments or economics. | | |
| 10 S NHS | THE NATURE AND HISTORY OF SCIENCE | | | |
| 10 S NHS 18.12.1 | Scientific, Historical and Technological Perspectives | Explain that the scientific way of knowing uses a critique and consensus process (e.g., peer review, openness to criticism, logical argument, skepticism). | | |
| 10 S NHS 18.12.2 | Scientific, Historical and Technological Perspectives | Investigate and explain how research emphasis is influenced by economic and public policy. | | |
| 10 S NHS 18.12.3 | Scientific, Historical and Technological Perspectives | Investigate and explain how scientific innovations that were originally challenged are now widely accepted. | | |
| 10 S NHS 18.12.4 | Scientific, Historical and Technological Perspectives | Explain that scientists work with others to resolve differences in interpretation of observations. | | |
| 10 S NHS 18.12.5 | Scientific, Historical and Technological Perspectives | Explain that technological problems create a demand for new scientific knowledge and new technologies which make it possible for scientists to extend their research in new ways or to undertake entirely new lines of research. | | |
| 10 S NHS 18.12.6 | Scientific, Historical and Technological Perspectives | Explain that scientific knowledge builds on previous information, and rarely are entire theories completely discarded in favor of new ones. | | |
| 10 S NHS 18.12.7 | Scientific, Historical and Technological Perspectives | Explain that scientists have ethical procedures, violations of which have consequences. | | |
| 10 S NHS 19.12.1 | Reasoning and Critical Repsonse Skills | Identify and determine the credibility of sources of information based on the techniques used to gather that information. | | |
| 10 S NHS 19.12.2 | Reasoning and Critical Repsonse Skills | Apply cost benefit and risk analyses in decision-making processes. | | |
| 10 S NHS 19.12.3 | Reasoning and Critical Repsonse Skills | Recognize and describe situations in which a system is qualitatively different from the parts which comprise it (e.g., how a population differs from an individual). | | |
| 10 S NHS 19.12.4 | Reasoning and Critical Repsonse Skills | Distinguish among hypotheses, laws, theories, and rules, and explain the level of their limitations. | | |

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| 10 S NHS 19.12.5 | Reasoning and Critical Repsonse Skills | Determine the limits of generalizations, assumptions, analogies, and models. | | |
| 10 S SI | SCIENTIFIC INQUIRY: PROCESSES AND SKILLS | | | |
| 10 S SI 20.12.1 | Systems, Models, Risk, and Predictions | Use mathematical symbols and formulas to express relationships that behave in the same ways as the objects or processes under investigation. | | |
| 10 S SI 20.12.2 | Systems, Models, Risk, and Predictions | Use models to identify and predict cause-effect relationships (e.g., effect of temperature on gas volume, effect of carbon dioxide level on the greenhouse effect). | | |
| 10 S SI 20.12.3 | Systems, Models, Risk, and Predictions | Identify and describe how systems are often different from their components (e.g., aquaria or automobiles). | | |
| 10 S SI 20.12.4 | Systems, Models, Risk, and Predictions | Compare groups of data, taking into account both percentages and actual numbers. | | |
| 10 S SI 20.12.5 | Systems, Models, Risk, and Predictions | Identify the type of hazard, estimate the extent and consequences of exposure, and determine the options for reducing or eliminating risks. | | |
| 10 S SI 21.12.1 | Scientific Values and Attitudes | Demonstrate curiosity, honesty, and skepticism in doing science. | | |
| 10 S SI 21.12.2 | Scientific Values and Attitudes | Repeat experimentation for statistical analysis and to produce conclusions that are without bias. | | |
| 10 S SI 21.12.3 | Scientific Values and Attitudes | Evaluate multiple explanations for the same evidence. | | |
| 10 S SI 22.12.1 | Communication Skills | Analyze experimental procedures and suggest appropriate revisions for improvement. | | |
| 10 S SI 22.12.2 | Communication Skills | Use tables, charts, and graphs in making arguments and claims in oral and written presentations. | | |
| 10 S SI 22.12.3 | Communication Skills | Discuss scientific topics by restating or summarizing accurately what others have said; ask for clarifications or elaborations, and express alternative positions using available multimedia resources. | | |
| 10 S SI 23.12.1 | Scientific Applications of Mathematics | Determine if the correlation between variables is high or low. | | |
| 10 S SI 23.12.2 | Scientific Applications of Mathematics | Use algebraic equations when appropriate. | | |
| 10 S SI 23.12.3 | Scientific Applications of Mathematics | Estimate answers to the correct order of magnitude. | | |
| 10 S SI 23.12.4 | Scientific Applications of Mathematics | Use derived quantities, ratios, proportions, and constants. | | |
| 10 S SI 23.12.5 | Scientific Applications of Mathematics | Trace the source of differences between an estimate and the calculated answer that exceeds agreed-upon standards for precision. | | |
| 10 S SI 23.12.6 | Scientific Applications of Mathematics | Select samples by some random system to avoid bias. | | |
| 10 S SI 24.12.1 | Laboratory Skills and Safety | Demonstrate personal responsibility for using safety equipment and observing all safety standards. | | |
| 10 S SI 24.12.2 | Laboratory Skills and Safety | Use the information found in materials safety data sheets to handle, store, and dispose of chemicals properly. | | |
| 10 S SI 24.12.3 | Laboratory Skills and Safety | Inspect, manipulate, and describe the functions of various parts of technical and scientific equipment. | | |
| 10 S SI 24.12.4 | Laboratory Skills and Safety | Maintain a permanent record of procedures, data, analyses, decisions, and understandings of scientific investigations. | | |
| 10 S SI 24.12.5 | Laboratory Skills and Safety | Write procedures for the investigation of delegated or original scientific problems. | | |
| 10 S SI 24.12.6 | Laboratory Skills and Safety | Carry out an independent scientific investigation. | | |

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| 10Sc1 | THE NATURE OF SCIENCE - Scientific Inquiry | | |
| 10Sc1.1 | Examine various statistical models, graphs and reports | | |
| 10Sc1.2 | Explain how various conclusions can be derived from data | | |
| 10Sc1.3 | Review and report on various data usage in argument and research | | |
| 10Sc1.4 | Explain cause and effect relationships | | |
| 10Sc2 | THE NATURE OF SCIENCE - Science, Technology, and Society | | |
| 10Sc2.1 | Speculate and propose possible changes to systems by the interjection of new elements into a system | | |
| 10Sc2.2 | Review various differing views of a particular phenomena | | |
| 10Sc2.3 | Explain various frameworks of knowledge | | |
| 10Sc3 | PHYSICAL SCIENCE - Matter | | |
| 10Sc3.1 | Compare different substances while holding certain conditions constant | | |
| 10Sc3.2 | Define and record characteristics of different elements | | |
| 10Sc3.3 | Formulate conclusions based on observation regarding the makeup of various mixtures | | |
| 10Sc3.4 | Compare and contrast differing configurations of atomic bonding | | |
| 10Sc3.5 | Speculate on various chemical reaction possibilities | | |
| 10Sc3.6 | Distinguish and classify between different elements and matter due to their atomic structure | | |
| 10Sc3.7 | Define electrical polarity in atomic structures | | |
| 10Sc4 | PHYSICAL SCIENCE - Forces and Motion | | |
| 10Sc4.1 | Imagine a machine or system that would take advantage of differing forces and their variants | | |
| 10Sc4.2 | Plan a demonstration or a simple machine taking advantage of magnetic and gravitational attributes | | |
| 10Sc4.3 | Research and evaluate past activities in history that utilized balanced and unbalanced forces | | |
| 10Sc4.4 | Graphically illustrate and reconstruct the motion of a particular object | | |
| 10Sc5 | PHYSICAL SCIENCE - Energy | | |
| 10Sc5.1 | Speculate on adaptations necessary to adjust to variations in the relationship between the Earth and the sun | | |
| 10Sc5.2 | Contrast different light spectrums and their uses | | |
| 10Sc5.3 | Contrast different wave forms and their benefits and detriments to life and objects | | |
| 10Sc5.4 | Differentiate between different physical, chemical and nuclear reactions charting various data produced | | |
| 10Sc5.5 | Imagine the results from various energy transformations through speculative interactions | | |
| 10Sc5.6 | Examine the different properties through real experiences of kinetic and potential energy | | |
| 10Sc5.7 | Differentiate between different transfer sequences of heat through various objects and conditions | | |
| 10Sc5.8 | Define and observe the transference of electricity | | |
| 10Sc6 | LIFE SCIENCE - Heredity | | |
| 10Sc6.1 | Examine, interpret and debate genetic engineering in different arenas of life; analyze the arguments regarding eugenics | | |
| 10Sc6.2 | Compare two or more different alterations to the genetic code and report on its results | | |
| 10Sc6.3 | Define and sort normal and abnormal cell growth | | |
| 10Sc6.4 | Observe patterns of growth and adaptation by genetic and inherited trait alteration and sustainability | | |
| 10Sc7 | LIFE SCIENCE - Structure of Life | | |
| 10Sc7.1 | Organize and illustrate interventions that offset infection and the role they play in altering the system | | |
| 10Sc7.2 | Observe cells and their actions and functions | | |
| 10Sc7.3 | Define cell roles and functions | | |
| 10Sc8 | LIFE SCIENCE - Organisms and Their Environment | | |
| 10Sc8.1 | Identify and label aspects of an interdependent system | | |
| 10Sc8.2 | Explain the relationships between life and its physical environment | | |
| 10Sc8.3 | Review and explain situations that alter an ecosystem; debate the positive and negative aspects of this alteration | | |
| 10Sc8.4 | Demonstrate and illustrate an alteration in the environment | | |
| 10Sc8.5 | Define the elements, both essential and superfluous, that sustain or inhibit an ecosystem | | |
| 10Sc8.6 | Explain the current status of Nevada's various regions in terms of its geology, water, climate and biological inhabitants | | |

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| 10Sc9 | LIFE SCIENCE - Diversity of Life | | |
| 10Sc9.1 | Speculate on alterations that can occur to a species that will benefit or hinder its development | | |
| 10Sc9.2 | Propose and speculate on interventions available for genetic passage | | |
| 10Sc9.3 | Explain the connections between organisms based on their evolutionary sequence | | |
| 10Sc9.4 | Explain different DNA alterations | | |
| 10Sc9.5 | Explain the tracking of fossil evidence; identify and recognize various fossil evidence | | |
| 10Sc9.6 | Identify the factors involved with species extinction; identify the elements of the natural selection process | | |
| 10Sc9.7 | Project how organisms can alter their evolutionary history by their behavior | | |
| 10Sc10 | EARTH AND SPACE SCIENCES - Atmospheric Processes and the Water Cycle | | |
| 10Sc10.1 | Define the make-up and characteristics that differentiate the sun from a planet and in particular the Earth | | |
| 10Sc10.2 | Compare the differences when there is an overabundance or scarcity of water resources on Earth | | |
| 10Sc10.3 | Record local atmospheric conditions tracking moisture, temperature, conditions and pollutants | | |
| 10Sc10.4 | Describe the characteristics of the greenhouse effect and it's consequences | | |
| 10Sc10.5 | Sort the various energy fields by their characteristics | | |
| 10Sc10.6 | Compare different atmospheric patterns throughout the Earth; examine atmospheric conditions on other planets explaining their cause | | |
| 10Sc11 | EARTH AND SPACE SCIENCES - Solar System and Universe | | |
| 10Sc11.1 | Illustrate how various components of the universe interact, are co-dependent, or in opposition to each other; test out various scenarios of interaction and conflict | | |
| 10Sc11.2 | Compare and contrast different planets and their environments; speculate on the alterations necessary to sustain life as we know it | | |
| 10Sc11.3 | Define and sort different aspects of the universe | | |
| 10Sc11.4 | Define the range of differences in phenomena in the universe and their interplay through motion | | |
| 10Sc12 | EARTH AND SPACE SCIENCES - Earth's Composition and Structure | | |
| 10Sc12.1 | Define the elements of geological time; define the characteristics of fossil evidence | | |
| 10Sc12.2 | Speculate on the results of the interaction with various forces with landforms | | |
| 10Sc12.3 | Illustrate the relationship between Earth's elements and living forms | | |
| 10Sc12.4 | Explain the properties of different kinds and layers of soil | | |
| 10Sc12.5 | Define and sort resources by their characteristics of renew-ability | | |
| 10Sc12.6 | Describe the various stages in the cycles of life | | |
| 10Sc12.7 | Debate how a physical environment alteration can be harmful or helpful | | |
| 10Sc12.8 | Illustrate the positive and negative influences of technological change to the environment | | |
| 10Sc12.9 | Explain the role of economics in determining patterns in the use and abuse of resources; identify the transition in some cultures from abundance to scarcity or obsolescence | | |
| 10Sc12.10 | Explain how energy is used to sustain or cripple a culture | | |

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| | BIOLOGY AND INTEGRATED PHYSICS AND CHEMISTRY / SCIENTIFIC PROCESSES | | |
| S 11.1.1A | Demonstrate safe practices during field and laboratory investigations. | | |
| S 11.1.2A | Plan and implement investigative procedures including asking questions, formulating testable hypotheses, and selecting equipment and technology. | | |
| S 11.1.2B | Collect data and make measurements with precision. | | |
| S 11.1.2C | Organize, analyze, evaluate, make inferences, and predict trends from data. | | |
| S 11.1.2D | Communicate valid conclusions. | | |
| | INTEGRATED PHYSICS AND CHEMISTRY / SCIENTIFIC PROCESSES | | |
| S 11.1.3A | Analyze, review, and critique scientific explanations, including hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information. | | |
| S 11.1.3B | Draw inferences based on data related to promotional materials for products and services. | | |
| | BIOLOGY | | |
| S 11.2.1A | Investigate and identify cellular processes including homeostasis, permeability, energy production, transportation of molecules, disposal of wastes, function of cellular parts, and synthesis of new molecules. | | |
| S 11.2.2A | Describe components of deoxyribonucleic acid (DNA), and illustrate how information for specifying the traits of an organism is carried in the DNA. | | |
| S 11.2.2B | Explain replication, transcription, and translation using models of DNA and ribonucleic acid (RNA). | | |
| S 11.2.2C | Identify and illustrate how changes in DNA cause mutations and evaluate the significance of these changes. | | |
| S 11.2.3A | Identify characteristics of kingdoms including monerans, protists, fungi, plants, and animals. | | |
| S 11.2.4A | Interpret the functions of systems in organisms including circulatory, digestive, nervous, endocrine, reproductive, integumentary, skeletal, respiratory, muscular, excretory, and immune. | | |
| S 11.2.4B | Compare the interrelationships of organ systems to each other and to the body as a whole. | | |
| S 11.3.1A | Compare the structures and functions of viruses to cells and describe the role of viruses in causing diseases and conditions such as acquired immune deficiency syndrome, common colds, smallpox, influenza, and warts. | | |
| S 11.3.1B | Identify and describe the role of bacteria in maintaining health such as in digestion and in causing diseases such as in streptococcus infections and diphtheria. | | |
| S 11.3.2A | Identify evidence of change in species using fossils, DNA sequences, anatomical similarities, physiological similarities, and embryology. | | |
| S 11.3.2B | Illustrate the results of natural selection in speciation, diversity, phylogeny, adaptation, behavior, and extinction. | | |
| S 11.3.3A | Analyze the flow of matter and energy through different trophic levels and between organisms and the physical environment. | | |
| S 11.3.4A | Interpret interactions among organisms exhibiting predation, parasitism, commensalism, and mutualism. | | |
| S 11.3.4B | Investigate and explain the interactions in an ecosystem including food chains, food webs, and food pyramids. | | |
| S 11.3.5A | Evaluate the significance of structural and physiological adaptations of plants to their environments. | | |
| | INTEGRATED PHYSICS AND CHEMISTRY | | |
| S 11.4.1A | Investigate and identify properties of fluids including density, viscosity, and buoyancy. | | |
| S 11.4.1B | Relate the chemical behavior of an element, including bonding, to its placement on the periodic table. | | |
| S 11.4.2A | Distinguish between physical and chemical changes in matter such as oxidation, digestion, changes in states, and stages in the rock cycle. | | |
| S 11.4.2B | Investigate and identify the law of conservation of mass. | | |
| S 11.4.3A | Relate the structure of water to its function. | | |
| S 11.4.3B | Relate the concentration of ions in a solution to physical and chemical properties such as pH, electrolytic behavior, and reactivity. | | |
| S 11.4.3C | Demonstrate how various factors influence solubility including temperature, pressure, and nature of the solute and solvent. | | |
| S 11.5.1A | Calculate speed, momentum, acceleration, work, and power in systems such as in the human body, moving toys, and machines. | | |
| S 11.5.1B | Investigate and describe applications of Newton's laws such as in vehicle restraints, sports activities, geological processes, and satellite orbits. | | |
| S 11.5.1C | Investigate and demonstrate efficiency of various machines such as levers, motors, wheels and axles, pulleys, and ramps. | | |
| S 11.5.2A | Demonstrate wave interactions including interference, polarization, reflection, refraction, and resonance within various materials. | | |

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| S 11.5.3A | Describe the law of conservation of energy. | | |
| S 11.5.3B | Investigate and demonstrate the movement of heat through solids, liquids, and gases by convection, conduction, and radiation. | | |
| S 11.5.3C | Investigate and compare economic and environmental impacts of using various energy sources such as rechargeable or disposable batteries and solar cells. | | |

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| 11 S PS | PHYSICAL SCIENCE | | | |
| 11 S PS 1.12.1 | Forces and Motion | Investigate and describe how changes in motion are based on the laws of motion. | | |
| 11 S PS 1.12.2 | Forces and Motion | Explain that the force of attraction that exists between two masses is inversely proportional to the square of the distance between them. | | |
| 11 S PS 1.12.3 | Forces and Motion | Investigate and describe that the usefulness of a simple machine such as a wheel or axle is based on its function, mechanical advantage, and efficiency. | | |
| 11 S PS 1.12.4 | Forces and Motion | Investigate and describe the relationship that exists between force, pressure, and area in general, and between pressure and depth in liquids. | | |
| 11 S PS 1.12.5 | Forces and Motion | Investigate and explain that magnetic forces are related to electric forces and can be thought of as different aspects of a single electromagnetic force (e.g., electric motors, generators, radios). | | |
| 11 S PS 2.12.1 | Structure and Properties of Matter | Investigate and describe intrinsic (color, odor, density) and extrinsic (e.g., size, mass, volume) physical properties of matter. | | |
| 11 S PS 2.12.2 | Structure and Properties of Matter | Explain that substances can be identified on the basis of specific energies given off or taken in by that substance. | | |
| 11 S PS 2.12.3 | Structure and Properties of Matter | Explain how atoms may bond with one another by transferring or sharing electrons that are farthest from the nucleus. | | |
| 11 S PS 2.12.4 | Structure and Properties of Matter | Explain that the electromagnetic force between the nucleus and electrons holds the atom together. | | |
| 11 S PS 2.12.5 | Structure and Properties of Matter | Explain the properties of phases of matter in terms of the kinetic molecular theory and forces of attraction between particles. | | |
| 11 S PS 2.12.6 | Structure and Properties of Matter | Explain that carbon atoms can bond to one another to form a large variety of structures, including the molecules essential to life. | | |
| 11 S PS 3.12.1 | Energy and Matter - Interactions and Forms | Explain that the transformation of energy usually results in some energy in the form of heat, which spreads by radiation, conduction, and sometimes convection into cooler places. | | |
| 11 S PS 3.12.2 | Energy and Matter - Interactions and Forms | Investigate and describe how pressure may affect changes of state. | | |
| 11 S PS 3.12.3 | Energy and Matter - Interactions and Forms | Investigate and describe how waves can superimpose on one another, bend around corners, reflect off surfaces, be absorbed by materials they enter, and change direction when entering a new material. | | |
| 11 S PS 3.12.4 | Energy and Matter - Interactions and Forms | Describe the properties of electrical circuits in terms of moving electrons, conductivity, resistance, and electrical potential energy. | | |
| 11 S PS 3.12.5 | Energy and Matter - Interactions and Forms | Investigate and describe how matter and energy may be changed and energy can be transferred in many ways, but the entire mass-energy budget of the universe remains constant. | | |
| 11 S PS 3.12.6 | Energy and Matter - Interactions and Forms | Investigate and describe how systems tend to become less ordered over time. | | |
| 11 S PS 4.12.1 | Chemical Reaction | Investigate and describe how, in chemical reactions, elements combine in predictable ratios, and the numbers of atoms of each element do not change. | | |
| 11 S PS 4.12.2 | Chemical Reaction | Investigate and describe how chemical reaction rates depend on conditions in the reacting system, the properties of reacting materials, and the presence of certain rate-regulating chemicals. | | |
| 11 S PS 4.12.3 | Chemical Reaction | Investigate and describe how chemical reactions may release or consume energy. | | |
| 11 S PS 4.12.4 | Chemical Reaction | Relate the chemical properties of an element to the outermost electrons of an element. | | |
| 11 S PS 5.12.1 | Nuclear Energy and Electromagnetic Energy | Predict how light interacts with matter (e.g., reflection and refraction). | | |
| 11 S PS 5.12.2 | Nuclear Energy and Electromagnetic Energy | Simulate how the predictable rates of nuclear reactions can be used to estimate the age of some materials. | | |
| 11 S PS 5.12.3 | Nuclear Energy and Electromagnetic Energy | Describe the different disposal techniques used for high and low level nuclear wastes. | | |
| 11 S PS 5.12.4 | Nuclear Energy and Electromagnetic Energy | Describe electromagnetic waves including a wide range of forms and varying wavelengths. | | |
| 11 S PS 5.12.5 | Nuclear Energy and Electromagnetic Energy | Explain how the forces that hold the nucleus of an atom together are usually stronger than other forces that could make the nucleus fly apart. | | |
| 11 S PS 5.12.6 | Nuclear Energy and Electromagnetic Energy | Explain how energy is released when the nuclei of very heavy atoms (e.g., uranium or plutonium) split into middleweight ones, or when very light nuclei (e.g., hydrogen and helium) combine into heavier ones. | | |
| 11 S LS | LIFE SCIENCE | | | |
| 11 S LS 6.12.1 | Structure and Function | Explain how disease disrupts the equilibrium that exists in a healthy organism. | | |
| 11 S LS 6.12.2 | Structure and Function | Explain how the human body has a specialized anatomy and physiology composed of an hierarchical arrangement of differentiated cells. | | |
| 11 S LS 6.12.3 | Structure and Function | Investigate and describe how food molecules are broken down through a series of chemical reactions to provide energy and the material to make new molecules. | | |
| 11 S LS 6.12.4 | Structure and Function | Investigate and describe how every cell is covered by a cell membrane and most cells also have specialized parts for the transport of materials, energy, transfer, protein building, waste disposal, information feedback, and movement. | | |

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| 11 S LS 6.12.5 | Structure and Function | In photosynthesis, plants and many microorganisms use solar energy to combine molecules of carbon dioxide and water to form energy rich compounds and oxygen. | | |
| 11 S LS 7.12.1 | Internal and External Influences on Organisms | Investigate and describe how some broad patterns of behavior exhibited by animals have evolved to ensure survival of the species. | | |
| 11 S LS 7.12.2 | Internal and External Influences on Organisms | Investigate and describe how plant and animals have mechanisms that allow them to respond to changes in their environment. | | |
| 11 S LS 7.12.3 | Internal and External Influences on Organisms | Investigate and describe how multicellular animals have nervous systems that receive input through sensory organs and generate behavioral responses. | | |
| 11 S LS 7.12.4 | Internal and External Influences on Organisms | Explain how certain viral diseases make the body vulnerable to multiple infectious agents and cancerous cells by destroying critical cells of the immune system. | | |
| 11 S LS 8.12.1 | Heredity and Diversity | Explain how all body cells in an organism are developed from a single cell and contain essentially identical genetic instructions. Explain how different parts of the instruction are used in different kinds of cells. | | |
| 11 S LS 8.12.2 | Heredity and Diversity | Explain how relatedness among organisms can be estimated from the similarity of their DNA sequences. | | |
| 11 S LS 8.12.3 | Heredity and Diversity | Investigate and describe how sorting and recombination of genes in sexual reproduction results in a great variety of possible gene combinations. | | |
| 11 S LS 8.12.4 | Heredity and Diversity | Explain how genetic information from parents is encoded in DNA molecules and provides instruction for assembling protein molecules. | | |
| 11 S LS 8.12.5 | Heredity and Diversity | Investigate and describe how patterns of inheritance are described by laws of segregation and independent assortment. | | |
| 11 S LS 8.12.6 | Heredity and Diversity | Explain how diversity of species and variation among organisms within a species increase the chances for survival of life when large changes occur in the environment. | | |
| 11 S LS 8.12.7 | Heredity and Diversity | Explain how gene mutations may be caused by a variety of influences, when mutations occur in sex cells, they can be passed on to offspring. | | |
| 11 S LS 9.12.1 | Evolution - Process of Biological Change | Investigate and describe the basic idea of the theory of biological evolution is that through genetic and/or environmental influences Earth's present-day species developed from earlier, distinctly different, but common ancestors. | | |
| 11 S LS 9.12.2 | Evolution - Process of Biological Change | Explain the fossil record of ancient life forms by applying the idea of natural selection and its evolutionary consequences. | | |
| 11 S LS 9.12.3 | Evolution - Process of Biological Change | Simulate and explain how the adaptation of a species can occur over many generations because of the unique characteristics that favor those individuals in an environment. | | |
| 11 S LS 9.12.4 | Evolution - Process of Biological Change | Explain how the classification of species is based on similarities (e.g., structural, genetic, molecular) which indicate evolutionary relationships. | | |
| 11 S LS 9.12.5 | Evolution - Process of Biological Change | Explain how the extinction of species is a common occurrence and fossil records indicate that most species that have lived on Earth no longer exist. | | |
| 11 S LS 9.12.6 | Evolution - Process of Biological Change | Investigate and describe how the process of evolution is driven by genetic and environmental influences. | | |
| 11 S LS 9.12.7 | Evolution - Process of Biological Change | Explain how there is evidence that at least a billion years ago, cells with nuclei existed allowing the evolution of increasingly complex multicellular organisms. | | |
| 11 S ESS | EARTH AND SPACE SCIENCES | | | |
| 11 S ESS 10.12.1 | Earth Structures and Composition | Investigate and describe how rocks and minerals have different characteristics that reflect their origins and use. | | |
| 11 S ESS 10.12.2 | Earth Structures and Composition | Investigate and describe how landforms are the result of a combination of constructive and destructive forces resulting from weathering, erosion, and the movement of lithosphere plates. | | |
| 11 S ESS 10.12.3 | Earth Structures and Composition | Explain how there is a relationship between the relative densities and states (phases) of Earth materials and the layering on, in, and above Earth. | | |
| 11 S ESS 10.12.4 | Earth Structures and Composition | Investigate and describe how soil is derived from weathered rocks and decomposed organic material, and is found in layers. | | |
| 11 S ESS 10.12.5 | Earth Structures and Composition | Explain how the composition of Earth's atmosphere has changed in the past and continues to change. | | |
| 11 S ESS 10.12.6 | Earth Structures and Composition | Compare and contrast the geologic features of Nevada and local geological features. | | |
| 11 S ESS 11.12.3 | Earth Models | Investigate, design, and use contour maps. | | |
| 11 S ESS 11.12.4 | Earth Models | Define location on Earth in terms of latitude, longitude, and time zones. | | |
| 11 S ESS 12.12.1 | Earth History | Explain how catastrophic events have occurred and greatly influenced Earth's history. | | |
| 11 S ESS 12.12.2 | Earth History | Simulate and explain how relative geologic time can be estimated by observing rock sequences and using fossils to correlate the sequences at various locations. | | |
| 11 S ESS 12.12.3 | Earth History | Compare and contrast the variety of methods by which geologic time is determined, including radioactive dating. | | |
| 11 S ESS 13.12.1 | Cycles of Matter and Energy | Explain how Earth systems have two major internal sources of energy (decay of radioactive isotopes and the gravitational energy from Earth's original formation) and one major external sources (the sun), all of which create heat. | | |
| 11 S ESS 13.12.2 | Cycles of Matter and Energy | Explain how uneven heating of Earth's surface by the sun forms convection currents within the atmosphere and ocean, producing wind and ocean currents that are modified by Earth's rotation. | | |

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| 11 S ESS 13.12.3 | Cycles of Matter and Energy | Investigate and describe how water is a solvent (e.g., how it dissolves minerals and gases as it passes through the water cycle and carries them to oceans and lakes). | | |
| 11 S ESS 13.12.4 | Cycles of Matter and Energy | Simulate and describe how global climate is determined primarily by energy transfer from the sun at and near Earth's surface, and fluctuations in solar output may have contributed to large changes in Earth's climate in the past. | | |
| 11 S ESS 13.12.5 | Cycles of Matter and Energy | Explain how large-scale, long-term equilibrium can accommodate small-scale changes. | | |
| 11 S ESS 13.12.6 | Cycles of Matter and Energy | Investigate and describe how elements necessary for life on Earth pass through both living and nonliving cycles in a series of changes that form a global system. | | |
| 11 S ESS 13.12.7 | Cycles of Matter and Energy | Compare and contrast the relationships between the greenhouse effect and the idea of global warming. | | |
| 11 S ESS 13.12.8 | Cycles of Matter and Energy | Model and explain how the energy that propels Earth's lithosphere plates is dominantly a result of nuclear processes deep in Earth. | | |
| 11 S ESS 14.12.1 | Solar System and Universe | Investigate and describe how Earth's atmosphere, water, temperature, and composition compare with conditions on other planets. | | |
| 11 S ESS 14.12.2 | Solar System and Universe | Explain how most objects in the solar system are in regular and predictable motion which explains such phenomena as the day, the year, phases of the moon, and eclipses. | | |
| 11 S ESS 14.12.3 | Solar System and Universe | Explain how stars produce energy and elements heavier than hydrogen from nuclear reactions. | | |
| 11 S ESS 14.12.4 | Solar System and Universe | Explain that on the basis of scientific evidence, the universe is estimated to be about ten billion years old. | | |
| 11 S ESS 14.12.5 | Solar System and Universe | Describe how increasingly sophisticated technology (e.g., mathematical models and computer simulations) is used to learn about the universe. | | |
| 11 S ESS 14.12.6 | Solar System and Universe | Explain that the physical laws, such as laws of Newton, Kepler, thermodynamics, relativity, and quantum physics, appear to apply to all bodies in the universe. | | |
| 11 S ES | ENVIRONMENTAL SCIENCES | | | |
| 11 S ES 15.12.1 | Ecosystems | Investigate and describe how changes in an ecosystem can affect biodiversity and biodiversity contributes to an ecosystem's stability. | | |
| 11 S ES 15.12.2 | Ecosystems | Investigate and describe how ecosystems change or remain the same in response to different kinds of influences. | | |
| 11 S ES 15.12.3 | Ecosystems | Investigate and describe how materials and energy are cycled and recycled through ecosystems via pathways known as food webs. | | |
| 11 S ES 15.12.4 | Ecosystems | Describe the unique geologic, hydrologic, climatic, and biological characteristics of Nevada's bioregions. (e.g., Northern NV cold desert, Southern low warm desert, Mountain). | | |
| 11 S ES 16.12.1 | Natural Resources | Evaluate the consequences of changing patterns of resources use. | | |
| 11 S ES 16.12.2 | Natural Resources | Investigate and describe the various processes involved in obtaining, using, and recycling materials such as wood products, minerals, food, and manufactured objects. | | |
| 11 S ES 16.12.3 | Natural Resources | Investigate and describe the career opportunities associated with the study, exploration, extraction, utilization, protection, and restoration of natural resources. | | |
| 11 S ES 16.12.4 | Natural Resources | Analyze and describe the limitations of the Earth's ability to respond to stresses produced by human or natural activities. | | |
| 11 S ES 16.12.5 | Natural Resources | Analyze and evaluate the effects that increases in human populations can cause (e.g., resource depletion and environmental degradation). | | |
| 11 S ES 17.12.1 | Conservation | Analyze and evaluate how consumption patterns, conservation efforts, and cultural or social practices in countries have varying environmental impacts. | | |
| 11 S ES 17.12.2 | Conservation | Investigate and describe how human actions may impact the dynamic equilibrium of global systems (e.g., global warming, ozone depletion). | | |
| 11 S ES 17.12.3 | Conservation | Explain that there is scientific uncertainty regarding many environmental issues. | | |
| 11 S ES 17.12.4 | Conservation | Evaluate and describe actions which affect the global environment in terms of trade-offs that may have effects on local environments or economics. | | |
| 11 S NHS | THE NATURE AND HISTORY OF SCIENCE | | | |
| 11 S NHS 18.12.1 | Scientific, Historical, and Technological Perspectives | Explain that the scientific way of knowing uses a critique and consensus process (e.g., peer review, openness to criticism, logical argument, skepticism). | | |
| 11 S NHS 18.12.2 | Scientific, Historical, and Technological Perspectives | Investigate and explain how research emphasis is influenced by economic and public policy. | | |
| 11 S NHS 18.12.3 | Scientific, Historical, and Technological Perspectives | Investigate and explain how scientific innovations that were originally challenged are now widely accepted. | | |
| 11 S NHS 18.12.4 | Scientific, Historical, and Technological Perspectives | Explain that scientists work with others to resolve differences in interpretation of observations. | | |
| 11 S NHS 18.12.5 | Scientific, Historical, and Technological Perspectives | Explain that technological problems create a demand for new scientific knowledge and new technologies which make it possible for scientists to extend their research in new ways or to undertake entirely new lines of research. | | |

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| 11 S NHS 18.12.6 | Scientific, Historical, and Technological Perspectives | Explain that scientific knowledge builds on previous information, and rarely are entire theories completely discarded in favor of new ones. | | |
| 11 S NHS 18.12.7 | Scientific, Historical, and Technological Perspectives | Explain that scientists have ethical procedures, violations of which have consequences. | | |
| 11 S NHS 19.12.1 | Reasoning and Critical Response Skills | Identify and determine the credibility of sources of information based on the techniques used to gather that information. | | |
| 11 S NHS 19.12.2 | Reasoning and Critical Response Skills | Apply cost benefit and risk analyses in decision-making processes. | | |
| 11 S NHS 19.12.3 | Reasoning and Critical Response Skills | Recognize and describe situations in which a system is qualitatively different from the parts which comprise it (e.g., how a population differs from an individual). | | |
| 11 S NHS 19.12.4 | Reasoning and Critical Response Skills | Distinguish among hypotheses, laws, theories, and rules, and explain the level of their limitations. | | |
| 11 S NHS 19.12.5 | Reasoning and Critical Response Skills | Determine the limits of generalizations, assumptions, analogies, and models. | | |
| 11 S SI | SCIENTIFIC INQUIRY: PROCESSES AND SKILLS | | | |
| 11 S SI 20.12.1 | Systems, Models, Risk, and Predictions | Use mathematical symbols and formulas to express relationships that behave in the same ways as the objects or processes under investigation. | | |
| 11 S SI 20.12.2 | Systems, Models, Risk, and Predictions | Use models to identify and predict cause-effect relationships (e.g., effect of temperature on gas volume, effect of carbon dioxide level on the greenhouse effect). | | |
| 11 S SI 20.12.3 | Systems, Models, Risk, and Predictions | Identify and describe how systems are often different from their components (e.g., aquaria or automobiles). | | |
| 11 S SI 20.12.4 | Systems, Models, Risk, and Predictions | Compare groups of data, taking into account both percentages and actual numbers. | | |
| 11 S SI 20.12.5 | Systems, Models, Risk, and Predictions | Identify the type of hazard, estimate the extent and consequences of exposure, and determine the options for reducing or eliminating risks. | | |
| 11 S SI 21.12.1 | Scientific Values and Attitudes | Demonstrate curiosity, honesty, and skepticism in doing science. | | |
| 11 S SI 21.12.2 | Scientific Values and Attitudes | Repeat experimentation for statistical analysis and to produce conclusions that are without bias. | | |
| 11 S SI 21.12.3 | Scientific Values and Attitudes | Evaluate multiple explanations for the same evidence. | | |
| 11 S SI 22.12.1 | Communication Skills | Analyze experimental procedures and suggest appropriate revisions for improvement. | | |
| 11 S SI 22.12.2 | Communication Skills | Use tables, charts, and graphs in making arguments and claims in oral and written presentations. | | |
| 11 S SI 22.12.3 | Communication Skills | Discuss scientific topics by restating or summarizing accurately what others have said; ask for clarifications or elaborations, and express alternative positions using available multimedia resources. | | |
| 11 S SI 23.12.1 | Scientific Applications of Mathematics | Determine if the correlation between variables is high or low. | | |
| 11 S SI 23.12.2 | Scientific Applications of Mathematics | Use algebraic equations when appropriate. | | |
| 11 S SI 23.12.3 | Scientific Applications of Mathematics | Estimate answers to the correct order of magnitude. | | |
| 11 S SI 23.12.4 | Scientific Applications of Mathematics | Use derived quantities, ratios, proportions, and constants. | | |
| 11 S SI 23.12.5 | Scientific Applications of Mathematics | Trace the source of differences between an estimate and the calculated answer that exceeds agreed-upon standards for precision. | | |
| 11 S SI 23.12.6 | Scientific Applications of Mathematics | Select samples by some random system to avoid bias. | | |
| 11 S SI 24.12.1 | Laboratory Skills and Safety | Demonstrate personal responsibility for using safety equipment and observing all safety standards. | | |
| 11 S SI 24.12.2 | Laboratory Skills and Safety | Use the information found in materials safety data sheets to handle, store, and dispose of chemicals properly. | | |
| 11 S SI 24.12.3 | Laboratory Skills and Safety | Inspect, manipulate, and describe the functions of various parts of technical and scientific equipment. | | |
| 11 S SI 24.12.4 | Laboratory Skills and Safety | Maintain a permanent record of procedures, data, analyses, decisions, and understandings of scientific investigations. | | |
| 11 S SI 24.12.5 | Laboratory Skills and Safety | Write procedures for the investigation of delegated or original scientific problems. | | |
| 11 S SI 24.12.6 | Laboratory Skills and Safety | Carry out an independent scientific investigation. | | |

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| 11Sc1 | THE NATURE OF SCIENCE - Scientific Inquiry | | |
| 11Sc1.1 | Define, sort and list various types of information recognizing their various forms | | |
| 11Sc1.2 | Classify and distinguish between various types of data reports and the conclusions generated by that data | | |
| 11Sc1.3 | Show and illustrate the use of various types of data to draw conclusions | | |
| 11Sc1.4 | Examine, illustrate and demonstrate cause and effect relationships | | |
| 11Sc2 | THE NATURE OF SCIENCE - Science, Technology, and Society | | |
| 11Sc2.1 | Observe how changes can affect a system | | |
| 11Sc2.2 | Frame various situations from different viewpoints, belief systems and event interpretation | | |
| 11Sc2.3 | Select from differing systems of knowledge an appropriate avenue of pursuit of knowledge | | |
| 11Sc3 | PHYSICAL SCIENCE - Matter | | |
| 11Sc3.1 | Define and identify various molecular configurations | | |
| 11Sc3.2 | Group various elements by examining similar characteristics | | |
| 11Sc3.3 | Define the properties that can be contained in mixtures | | |
| 11Sc3.4 | Define how atomic bonding is envisioned | | |
| 11Sc3.5 | Observe and list characteristics of various chemical reactions | | |
| 11Sc3.6 | Define and sort differing possibilities of chemical reactions with different chemicals and elements | | |
| 11Sc3.7 | Observe, list and define the relationship of elements with isotopes | | |
| 11Sc3.8 | Explain how atoms can have electrical charge | | |
| 11Sc4 | PHYSICAL SCIENCE - Forces and Motion | | |
| 11Sc4.1 | Define the nature of various forces and their sub-definitions | | |
| 11Sc4.2 | Define the different levels and strength of force | | |
| 11Sc4.3 | Define the characteristics of gravitational force and observe it's variations | | |
| 11Sc4.4 | List and define the laws of motion | | |
| 11Sc4.5 | Compare various objects' motion through similar and contrasting conditions | | |
| 11Sc5 | PHYSICAL SCIENCE - Energy | | |
| 11Sc5.1 | Observe and define aspects of the sun's energy influence on the Earth | | |
| 11Sc5.2 | Define and observe different forms of wave and vibration energy | | |
| 11Sc5.3 | Define and observe the conversion of material into energy | | |
| 11Sc5.4 | Define and observe the applications of nuclear reactions | | |
| 11Sc5.5 | Define and observe various energy forms and their conversion | | |
| 11Sc5.6 | Define the concepts of temperature as related to forms of energy and its particles | | |
| 11Sc5.7 | Explain and describe various conductors of electricity | | |
| 11Sc6 | LIFE SCIENCE - Heredity | | |
| 11Sc6.1 | Define and observe the properties of DNA genetic coding | | |
| 11Sc6.2 | Define and label the different aspects of genes and DNA. Observe their role in organic structures. | | |
| 11Sc6.3 | Observe cell growth and changes in various organisms | | |
| 11Sc6.4 | Identify and recognize cell mutations | | |
| 11Sc6.5 | Explain characteristics and patterns that can be passed forward to different generations of plants and animals | | |
| 11Sc7 | LIFE SCIENCE - Structure of Life | | |
| 11Sc7.1 | Explain and observe characteristics of disease; observe and differentiate between healthy and unhealthy behaviors | | |
| 11Sc7.2 | Identify and explain the parts of a cell | | |
| 11Sc7.3 | Identify different cells and their varying structure in the human body | | |
| 11Sc8 | LIFE SCIENCE - Organisms and Their Environment | | |
| 11Sc8.1 | Identify and label the life cycles of Earth | | |
| 11Sc8.2 | Sort, classify and select various organisms based on their physical environment | | |
| 11Sc8.3 | Illustrate changes to organisms that occur when an ecosystem is altered | | |
| 11Sc8.4 | Examine and speculate on the environmental impact of certain societal actions; examine positive and negative situations | | |
| 11Sc8.5 | Identify the requirements necessary for sustaining a viable ecosystem | | |

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| 11Sc8.6 | Imagine and speculate on development in various areas of the Nevada environment | | |
| 11Sc9 | LIFE SCIENCE - Diversity of Life | | |
| 11Sc9.1 | List and define those characteristics that can be passed between parents and offspring | | |
| 11Sc9.2 | Define the elements that delineate DNA molecules and their process of assemblage | | |
| 11Sc9.3 | Show the relationships between various organisms based on their evolution | | |
| 11Sc9.4 | Show the similarities or differences between organisms that have had the same DNA alterations | | |
| 11Sc9.5 | Organize and illustrate the evidence of fossil records; show the connection between these records and evolutionary development | | |
| 11Sc9.6 | Explain the causes of species extinction | | |
| 11Sc9.7 | Identify and sort various levels of biological diversity | | |
| 11Sc9.8 | Identify the elements of natural and artificial selection | | |
| 11Sc10 | EARTH AND SPACE SCIENCES - Atmospheric Processes and the Water Cycle | | |
| 11Sc10.1 | Explain the relationship between the sun and the Earth | | |
| 11Sc10.2 | Observe and define changes that have occurred in the Earth's atmosphere over time | | |
| 11Sc10.3 | Illustrate the characteristics of the greenhouse effect | | |
| 11Sc10.4 | Explain the properties and actions of heat energy; explain its various manifestations | | |
| 11Sc10.5 | Observe the conditions of wind and ocean currents | | |
| 11Sc11 | EARTH AND SPACE SCIENCES - Solar System and Universe | | |
| 11Sc11.1 | Observe, label and sort common and differing characteristics of stars | | |
| 11Sc11.2 | Explain the concept and conditions that result in nuclear fusion | | |
| 11Sc11.3 | Define and list various technologies in use to explore the universe | | |
| 11Sc11.4 | Identify the process of gathering evidence relative to the universe | | |
| 11Sc11.5 | Describe the elements that are in contrast and alike between different phenomena in the universe focusing on their interaction and motion | | |
| 11Sc12 | EARTH AND SPACE SCIENCES - Earth's Composition and Structure | | |
| 11Sc12.1 | Explain, document and review the connection between fossil evidence and time | | |
| 11Sc12.2 | Define and observe various landforms; observe various forms of weathering and erosion | | |
| 11Sc12.3 | Define and sort the various cycles of living and non-living forms; observe the characteristics of a global system | | |
| 11Sc12.4 | Illustrate and show the composition of various soil layers | | |
| 11Sc12.5 | Explain recycling and renew-ability in and of various resources; review the efficiency and viability of various processes for renewing resources | | |
| 11Sc12.6 | Compare the life cycles of various forms of life within one ecosystem; contrast life cycles between various ecosystems | | |
| 11Sc12.7 | Match organisms to their physical environment identifying the positive and negative aspects of their interaction | | |
| 11Sc12.8 | Select and show different cultural characteristics and progression delineating between the industrialized, technological and third world countries | | |
| 11Sc12.9 | Select and organize Earth's energy sources by culture, society and ecosystems | | |

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| 12 S PS | PHYSICAL SCIENCE | | | |
| 12 S PS 1.12.1 | Forces and Motion | Investigate and describe how changes in motion are based on the laws of motion. | | |
| 12 S PS 1.12.2 | Forces and Motion | Explain that the force of attraction that exists between two masses is inversely proportional to the square of the distance between them. | | |
| 12 S PS 1.12.3 | Forces and Motion | Investigate and describe that the usefulness of a simple machine such as a wheel or axle is based on its function, mechanical advantage, and efficiency. | | |
| 12 S PS 1.12.4 | Forces and Motion | Investigate and describe the relationship that exists between force, pressure, and area in general, and between pressure and depth in liquids. | | |
| 12 S PS 1.12.5 | Forces and Motion | Investigate and explain that magnetic forces are related to electric forces and can be thought of as different aspects of a single electromagnetic force (e.g., electric motors, generators, radios). | | |
| 12 S PS 2.12.1 | Structure and Properties of Matter | Investigate and describe intrinsic (color, odor, density) and extrinsic (e.g., size, mass, volume) physical properties of matter. | | |
| 12 S PS 2.12.2 | Structure and Properties of Matter | Explain that substances can be identified on the basis of specific energies given off or taken in by that substance. | | |
| 12 S PS 2.12.3 | Structure and Properties of Matter | Explain how atoms may bond with one another by transferring or sharing electrons that are farthest from the nucleus. | | |
| 12 S PS 2.12.4 | Structure and Properties of Matter | Explain that the electromagnetic force between the nucleus and electrons holds the atom together. | | |
| 12 S PS 2.12.5 | Structure and Properties of Matter | Explain the properties of phases of matter in terms of the kinetic molecular theory and forces of attraction between particles. | | |
| 12 S PS 2.12.6 | Structure and Properties of Matter | Explain that carbon atoms can bond to one another to form a large variety of structures, including the molecules essential to life. | | |
| 12 S PS 3.12.1 | Energy and Matter - Interactions and Forms | Explain that the transformation of energy usually results in some energy in the form of heat, which spreads by radiation, conduction, and sometimes convection into cooler places. | | |
| 12 S PS 3.12.2 | Energy and Matter - Interactions and Forms | Investigate and describe how pressure may affect changes of state. | | |
| 12 S PS 3.12.3 | Energy and Matter - Interactions and Forms | Investigate and describe how waves can superimpose on one another, bend around corners, reflect off surfaces, be absorbed by materials they enter, and change direction when entering a new material. | | |
| 12 S PS 3.12.4 | Energy and Matter - Interactions and Forms | Describe the properties of electrical circuits in terms of moving electrons, conductivity, resistance, and electrical potential energy. | | |
| 12 S PS 3.12.5 | Energy and Matter - Interactions and Forms | Investigate and describe how matter and energy may be changed and energy can be transferred in many ways, but the entire mass-energy budget of the universe remains constant. | | |
| 12 S PS 3.12.6 | Energy and Matter - Interactions and Forms | Investigate and describe how systems tend to become less ordered over time. | | |
| 12 S PS 4.12.1 | Chemical Reaction | Investigate and describe how, in chemical reactions, elements combine in predictable ratios, and the numbers of atoms of each element do not change. | | |
| 12 S PS 4.12.2 | Chemical Reaction | Investigate and describe how chemical reaction rates depend on conditions in the reacting system, the properties of reacting materials, and the presence of certain rate-regulating chemicals. | | |
| 12 S PS 4.12.3 | Chemical Reaction | Investigate and describe how chemical reactions may release or consume energy. | | |
| 12 S PS 4.12.4 | Chemical Reaction | Relate the chemical properties of an element to the outermost electrons of an element. | | |
| 12 S PS 5.12.1 | Nuclear Energy and Electromagnetic Energy | Predict how light interacts with matter (e.g., reflection and refraction). | | |
| 12 S PS 5.12.2 | Nuclear Energy and Electromagnetic Energy | Simulate how the predictable rates of nuclear reactions can be used to estimate the age of some materials. | | |
| 12 S PS 5.12.3 | Nuclear Energy and Electromagnetic Energy | Describe the different disposal techniques used for high and low level nuclear wastes. | | |
| 12 S PS 5.12.4 | Nuclear Energy and Electromagnetic Energy | Describe electromagnetic waves including a wide range of forms and varying wavelengths. | | |
| 12 S PS 5.12.5 | Nuclear Energy and Electromagnetic Energy | Explain how the forces that hold the nucleus of an atom together are usually stronger than other forces that could make the nucleus fly apart. | | |
| 12 S PS 5.12.6 | Nuclear Energy and Electromagnetic Energy | Explain how energy is released when the nuclei of very heavy atoms (e.g., uranium or plutonium) split into middleweight ones, or when very light nuclei (e.g., hydrogen and helium) combine into heavier ones. | | |
| 12 S LS | LIFE SCIENCE | | | |
| 12 S LS 6.12.1 | Structure and Function | Explain how disease disrupts the equilibrium that exists in a healthy organism. | | |

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| 12 S LS 6.12.2 | Structure and Function | Explain how the human body has a specialized anatomy and physiology composed of an hierarchical arrangement of differentiated cells. | | |
| 12 S LS 6.12.3 | Structure and Function | Investigate and describe how food molecules are broken down through a series of chemical reactions to provide energy and the material to make new molecules. | | |
| 12 S LS 6.12.4 | Structure and Function | Investigate and describe how every cell is covered by a cell membrane and most cells also have specialized parts for the transport of materials, energy, transfer, protein building, waste disposal, information feedback, and movement. | | |
| 12 S LS 6.12.5 | Structure and Function | In photosynthesis, plants and many microorganisms use solar energy to combine molecules of carbon dioxide and water to form energy rich compounds and oxygen. | | |
| 12 S LS 7.12.1 | Internal and External Influences on Organisms | Investigate and describe how some broad patterns of behavior exhibited by animals have evolved to ensure survival of the species. | | |
| 12 S LS 7.12.2 | Internal and External Influences on Organisms | Investigate and describe how plant and animals have mechanisms that allow them to respond to changes in their environment. | | |
| 12 S LS 7.12.3 | Internal and External Influences on Organisms | Investigate and describe how multicellular animals have nervous systems that receive input through sensory organs and generate behavioral responses. | | |
| 12 S LS 7.12.4 | Internal and External Influences on Organisms | Explain how certain viral diseases make the body vulnerable to multiple infectious agents and cancerous cells by destroying critical cells of the immune system. | | |
| 12 S LS 8.12.1 | Heredity and Diversity | Explain how all body cells in an organism are developed from a single cell and contain essentially identical genetic instructions. Explain how different parts of the instruction are used in different kinds of cells. | | |
| 12 S LS 8.12.2 | Heredity and Diversity | Explain how relatedness among organisms can be estimated from the similarity of their DNA sequences. | | |
| 12 S LS 8.12.3 | Heredity and Diversity | Investigate and describe how sorting and recombination of genes in sexual reproduction results in a great variety of possible gene combinations. | | |
| 12 S LS 8.12.4 | Heredity and Diversity | Explain how genetic information from parents is encoded in DNA molecules and provides instruction for assembling protein molecules. | | |
| 12 S LS 8.12.5 | Heredity and Diversity | Investigate and describe how patterns of inheritance are described by laws of segregation and independent assortment. | | |
| 12 S LS 8.12.6 | Heredity and Diversity | Explain how diversity of species and variation among organisms within a species increase the chances for survival of life when large changes occur in the environment. | | |
| 12 S LS 8.12.7 | Heredity and Diversity | Explain how gene mutations may be caused by a variety of influences, when mutations occur in sex cells, they can be passed on to offspring. | | |
| 12 S LS 9.12.1 | Evolution - Process of Biological Change | Investigate and describe the basic idea of the theory of biological evolution is that through genetic and/or environmental influences Earth's present-day species developed from earlier, distinctly different, but common ancestors. | | |
| 12 S LS 9.12.2 | Evolution - Process of Biological Change | Explain the fossil record of ancient life forms by applying the idea of natural selection and its evolutionary consequences. | | |
| 12 S LS 9.12.3 | Evolution - Process of Biological Change | Simulate and explain how the adaptation of a species can occur over many generations because of the unique characteristics that favor those individuals in an environment. | | |
| 12 S LS 9.12.4 | Evolution - Process of Biological Change | Explain how the classification of species is based on similarities (e.g., structural, genetic, molecular) which indicate evolutionary relationships. | | |
| 12 S LS 9.12.5 | Evolution - Process of Biological Change | Explain how the extinction of species is a common occurrence and fossil records indicate that most species that have lived on Earth no longer exist. | | |
| 12 S LS 9.12.6 | Evolution - Process of Biological Change | Investigate and describe how the process of evolution is driven by genetic and environmental influences. | | |
| 12 S LS 9.12.7 | Evolution - Process of Biological Change | Explain how there is evidence that at least a billion years ago, cells with nuclei existed allowing the evolution of increasingly complex multicellular organisms. | | |
| 12 S ESS | EARTH AND SPACE SCIENCES | | | |
| 12 S ESS 10.12.1 | Earth Structures and Composition | Investigate and describe how rocks and minerals have different characteristics that reflect their origins and use. | | |
| 12 S ESS 10.12.2 | Earth Structures and Composition | Investigate and describe how landforms are the result of a combination of constructive and destructive forces resulting from weathering, erosion, and the movement of lithosphere plates. | | |
| 12 S ESS 10.12.3 | Earth Structures and Composition | Explain how there is a relationship between the relative densities and states (phases) of Earth materials and the layering on, in, and above Earth. | | |
| 12 S ESS 10.12.4 | Earth Structures and Composition | Investigate and describe how soil is derived from weathered rocks and decomposed organic material, and is found in layers. | | |

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| 12 S ESS 10.12.5 | Earth Structures and Composition | Explain how the composition of Earth's atmosphere has changed in the past and continues to change. | | |
| 12 S ESS 10.12.6 | Earth Structures and Composition | Compare and contrast the geologic features of Nevada and local geological features. | | |
| 12 S ESS 11.12.3 | Earth Models | Investigate, design, and use contour maps. | | |
| 12 S ESS 11.12.4 | Earth Models | Define location on Earth in terms of latitude, longitude, and time zones. | | |
| 12 S ESS 12.12.1 | Earth History | Explain how catastrophic events have occurred and greatly influenced Earth's history. | | |
| 12 S ESS 12.12.2 | Earth History | Simulate and explain how relative geologic time can be estimated by observing rock sequences and using fossils to correlate the sequences at various locations. | | |
| 12 S ESS 12.12.3 | Earth History | Compare and contrast the variety of methods by which geologic time is determined, including radioactive dating. | | |
| 12 S ESS 13.12.1 | Cycles of Matter and Energy | Explain how Earth systems have two major internal sources of energy (decay of radioactive isotopes and the gravitational energy from Earth's original formation) and one major external sources (the sun), all of which create heat. | | |
| 12 S ESS 13.12.2 | Cycles of Matter and Energy | Explain how uneven heating of Earth's surface by the sun forms convection currents within the atmosphere and ocean, producing wind and ocean currents that are modified by Earth's rotation. | | |
| 12 S ESS 13.12.3 | Cycles of Matter and Energy | Investigate and describe how water is a solvent (e.g., how it dissolves minerals and gases as it passes through the water cycle and carries them to oceans and lakes). | | |
| 12 S ESS 13.12.4 | Cycles of Matter and Energy | Simulate and describe how global climate is determined primarily by energy transfer from the sun at and near Earth's surface, and fluctuations in solar output may have contributed to large changes in Earth's climate in the past. | | |
| 12 S ESS 13.12.5 | Cycles of Matter and Energy | Explain how large-scale, long-term equilibrium can accommodate small-scale changes. | | |
| 12 S ESS 13.12.6 | Cycles of Matter and Energy | Investigate and describe how elements necessary for life on Earth pass through both living and nonliving cycles in a series of changes that form a global system. | | |
| 12 S ESS 13.12.7 | Cycles of Matter and Energy | Compare and contrast the relationships between the greenhouse effect and the idea of global warming. | | |
| 12 S ESS 13.12.8 | Cycles of Matter and Energy | Model and explain how the energy that propels Earth's lithosphere plates is dominantly a result of nuclear processes deep in Earth. | | |
| 12 S ESS 14.12.1 | Solar System and Universe | Investigate and describe how Earth's atmosphere, water, temperature, and composition compare with conditions on other planets. | | |
| 12 S ESS 14.12.2 | Solar System and Universe | Explain how most objects in the solar system are in regular and predictable motion which explains such phenomena as the day, the year, phases of the moon, and eclipses. | | |
| 12 S ESS 14.12.3 | Solar System and Universe | Explain how stars produce energy and elements heavier than hydrogen from nuclear reactions. | | |
| 12 S ESS 14.12.4 | Solar System and Universe | Explain that on the basis of scientific evidence, the universe is estimated to be about ten billion years old. | | |
| 12 S ESS 14.12.5 | Solar System and Universe | Describe how increasingly sophisticated technology (e.g., mathematical models and computer simulations) is used to learn about the universe. | | |
| 12 S ESS 14.12.6 | Solar System and Universe | Explain that the physical laws, such as laws of Newton, Kepler, thermodynamics, relativity, and quantum physics, appear to apply to all bodies in the universe. | | |
| 12 S ES | ENVIRONMENTAL SCIENCES | | | |
| 12 S ES 15.12.1 | Ecosystems | Investigate and describe how changes in an ecosystem can affect biodiversity and biodiversity contributes to an ecosystem's stability. | | |
| 12 S ES 15.12.2 | Ecosystems | Investigate and describe how ecosystems change or remain the same in response to different kinds of influences. | | |
| 12 S ES 15.12.3 | Ecosystems | Investigate and describe how materials and energy are cycled and recycled through ecosystems via pathways known as food webs. | | |
| 12 S ES 15.12.4 | Ecosystems | Describe the unique geologic, hydrologic, climatic, and biological characteristics of Nevada's bioregions. (e.g., Northern NV cold desert, Southern low warm desert, Mountain). | | |
| 12 S ES 16.12.1 | Natural Resources | Evaluate the consequences of changing patterns of resources use. | | |
| 12 S ES 16.12.2 | Natural Resources | Investigate and describe the various processes involved in obtaining, using, and recycling materials such as wood products, minerals, food, and manufactured objects. | | |
| 12 S ES 16.12.3 | Natural Resources | Investigate and describe the career opportunities associated with the study, exploration, extraction, utilization, protection, and restoration of natural resources. | | |

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| 12 S ES 16.12.4 | Natural Resources | Analyze and describe the limitations of the Earth's ability to respond to stresses produced by human or natural activities. | | |
| 12 S ES 16.12.5 | Natural Resources | Analyze and evaluate the effects that increases in human populations can cause (e.g., resource depletion and environmental degradation). | | |
| 12 S ES 17.12.1 | Conservation | Analyze and evaluate how consumption patterns, conservation efforts, and cultural or social practices in countries have varying environmental impacts. | | |
| 12 S ES 17.12.2 | Conservation | Investigate and describe how human actions may impact the dynamic equilibrium of global systems (e.g., global warming, ozone depletion). | | |
| 12 S ES 17.12.3 | Conservation | Explain that there is scientific uncertainty regarding many environmental issues. | | |
| 12 S ES 17.12.4 | Conservation | Evaluate and describe actions which affect the global environment in terms of trade-offs that may have effects on local environments or economics. | | |
| 12 S NHS | NATURE AND HISTORY OF SCIENCE | | | |
| 12 S NHS 18.12.1 | Scientific, Historical, and Technological Perspectives | Explain that the scientific way of knowing uses a critique and consensus process (e.g., peer review, openness to criticism, logical argument, skepticism). | | |
| 12 S NHS 18.12.2 | Scientific, Historical, and Technological Perspectives | Investigate and explain how research emphasis is influenced by economic and public policy. | | |
| 12 S NHS 18.12.3 | Scientific, Historical, and Technological Perspectives | Investigate and explain how scientific innovations that were originally challenged are now widely accepted. | | |
| 12 S NHS 18.12.4 | Scientific, Historical, and Technological Perspectives | Explain that scientists work with others to resolve differences in interpretation of observations. | | |
| 12 S NHS 18.12.5 | Scientific, Historical, and Technological Perspectives | Explain that technological problems create a demand for new scientific knowledge and new technologies which make it possible for scientists to extend their research in new ways or to undertake entirely new lines of research. | | |
| 12 S NHS 18.12.6 | Scientific, Historical, and Technological Perspectives | Explain that scientific knowledge builds on previous information, and rarely are entire theories completely discarded in favor of new ones. | | |
| 12 S NHS 18.12.7 | Scientific, Historical, and Technological Perspectives | Explain that scientists have ethical procedures, violations of which have consequences. | | |
| 12 S NHS 19.12.1 | Reasoning and Critical Response Skills | Identify and determine the credibility of sources of information based on the techniques used to gather that information. | | |
| 12 S NHS 19.12.2 | Reasoning and Critical Response Skills | Apply cost benefit and risk analyses in decision-making processes. | | |
| 12 S NHS 19.12.3 | Reasoning and Critical Response Skills | Recognize and describe situations in which a system is qualitatively different from the parts which comprise it (e.g., how a population differs from an individual). | | |
| 12 S NHS 19.12.4 | Reasoning and Critical Response Skills | Distinguish among hypotheses, laws, theories, and rules, and explain the level of their limitations. | | |
| 12 S NHS 19.12.5 | Reasoning and Critical Response Skills | Determine the limits of generalizations, assumptions, analogies, and models. | | |
| 12 S SI | SCIENTIFIC INQUIRY: PROCESSES AND SKILLS | | | |
| 12 S SI 20.12.1 | Systems, Models, Risk, and Prediction | Use mathematical symbols and formulas to express relationships that behave in the same ways as the objects or processes under investigation. | | |
| 12 S SI 20.12.2 | Systems, Models, Risk, and Prediction | Use models to identify and predict cause-effect relationships (e.g., effect of temperature on gas volume, effect of carbon dioxide level on the greenhouse effect). | | |
| 12 S SI 20.12.3 | Systems, Models, Risk, and Prediction | Identify and describe how systems are often different from their components (e.g., aquaria or automobiles). | | |
| 12 S SI 20.12.4 | Systems, Models, Risk, and Prediction | Compare groups of data, taking into account both percentages and actual numbers. | | |
| 12 S SI 20.12.5 | Systems, Models, Risk, and Prediction | Identify the type of hazard, estimate the extent and consequences of exposure, and determine the options for reducing or eliminating risks. | | |
| 12 S SI 21.12.1 | Scientific Values and Attitudes | Demonstrate curiosity, honesty, and skepticism in doing science. | | |
| 12 S SI 21.12.2 | Scientific Values and Attitudes | Repeat experimentation for statistical analysis and to produce conclusions that are without bias. | | |
| 12 S SI 21.12.3 | Scientific Values and Attitudes | Evaluate multiple explanations for the same evidence. | | |
| 12 S SI 22.12.1 | Communication Skills | Analyze experimental procedures and suggest appropriate revisions for improvement. | | |
| 12 S SI 22.12.2 | Communication Skills | Use tables, charts, and graphs in making arguments and claims in oral and written presentations. | | |
| 12 S SI 22.12.3 | Communication Skills | Discuss scientific topics by restating or summarizing accurately what others have said; ask for clarifications or elaborations, and express alternative positions using available multimedia resources. | | |
| 12 S SI 23.12.1 | Scientific Applications of Mathematics | Determine if the correlation between variables is high or low. | | |

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| 12 S SI 23.12.2 | Scientific Applications of Mathematics | Use algebraic equations when appropriate. | | |
| 12 S SI 23.12.3 | Scientific Applications of Mathematics | Estimate answers to the correct order of magnitude. | | |
| 12 S SI 23.12.4 | Scientific Applications of Mathematics | Use derived quantities, ratios, proportions, and constants. | | |
| 12 S SI 23.12.5 | Scientific Applications of Mathematics | Trace the source of differences between an estimate and the calculated answer that exceeds agreed-upon standards for precision. | | |
| 12 S SI 23.12.6 | Scientific Applications of Mathematics | Select samples by some random system to avoid bias. | | |
| 12 S SI 24.12.1 | Laboratory Skills and Safety | Demonstrate personal responsibility for using safety equipment and observing all safety standards. | | |
| 12 S SI 24.12.2 | Laboratory Skills and Safety | Use the information found in materials safety data sheets to handle, store, and dispose of chemicals properly. | | |
| 12 S SI 24.12.3 | Laboratory Skills and Safety | Inspect, manipulate, and describe the functions of various parts of technical and scientific equipment. | | |
| 12 S SI 24.12.4 | Laboratory Skills and Safety | Maintain a permanent record of procedures, data, analyses, decisions, and understandings of scientific investigations. | | |
| 12 S SI 24.12.5 | Laboratory Skills and Safety | Write procedures for the investigation of delegated or original scientific problems. | | |
| 12 S SI 24.12.6 | Laboratory Skills and Safety | Carry out an independent scientific investigation. | | |

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| 12Sc1 | THE NATURE OF SCIENCE - Scientific Inquiry | | |
| 12Sc1.1 | Identify and determine the credibility of sources of information based on the techniques used to gather that information making arguments and claims in oral and written presentation using tables, charts, illustrations and graphs | | |
| 12Sc1.2 | Record and sort records of procedures, data, analyses, decisions, and understandings of scientific investigations | | |
| 12Sc1.3 | Compare groups of data, taking into account both percentages and actual numbers through repeated experimentation for statistical analysis and unbiased conclusions | | |
| 12Sc1.4 | Use models to identify and predict cause-effect relationships (e.g., effect of temperature on gas volume, effect of carbon dioxide level on the greenhouse effect) | | |
| 12Sc2 | THE NATURE OF SCIENCE - Science, Technology, and Society | | |
| 12Sc2.1 | Investigate and describe how changes in an ecosystem (science, technology and society) can affect each other | | |
| 12Sc2.2 | Examine, distinguish and differentiate the influences of ethics on scientific enterprise | | |
| 12Sc2.3 | Research, question, and analyze scientific knowledge built on previous information | | |
| 12Sc3 | PHYSICAL SCIENCE - Matter | | |
| 12Sc3.1 | Investigate and describe different molecular arrangements and motions accounting for the different physical properties of solids, liquids, and gases | | |
| 12Sc3.2 | Investigate and describe elements in the periodic table by groups and periods noting their repeating patterns and relationships | | |
| 12Sc3.3 | Identify properties used to separate mixtures | | |
| 12Sc3.4 | Explain how atoms bond with one another by transferring or sharing electrons | | |
| 12Sc3.5 | Investigate and describe how chemical reactions can take place at different rates, depending on a variety of factors (i.e., temperature, concentration, surface area, and agitation) | | |
| 12Sc3.6 | Investigate and describe how chemical reactions either release or absorb energy | | |
| 12Sc3.7 | Explain and describe how in chemical reactions, elements combine in predictable ratios, and the numbers of atoms of each element do not change | | |
| 12Sc3.8 | Report and explain that most elements have two or more isotopes, some of which have practical application | | |
| 12Sc3.9 | Illustrate and show that the number of electrons in an atom determines whether the atom is electrically neutral or an ion | | |
| 12Sc4 | PHYSICAL SCIENCE - Forces and Motion | | |
| 12Sc4.1 | Explain, describe and demonstrate how magnetic forces and electric forces are thought of as different aspects of a single electromagnetic force | | |
| 12Sc4.2 | Explain, describe and demonstrate the strength of the electric force between two objects increases with charge, and decreases with distance | | |
| 12Sc4.3 | Explain, describe and demonstrate how the strength of gravitational force between two objects increases with mass, and decreases rapidly with distance | | |
| 12Sc4.4 | Investigate, describe and explain that laws of motion can be used to determine the effects of forces on the motion of objects | | |
| 12Sc4.5 | Construct, draw, and interpret graphical representations of an object's motion | | |
| 12Sc5 | PHYSICAL SCIENCE - Energy | | |
| 12Sc5.1 | Investigate and describe how the sun is the major source of Earth's energy, and provides the energy driving Earth's weather and climate | | |
| 12Sc5.2 | Investigate, describe and examine how waves (i.e., sound, seismic, electromagnetic) have energy that can be transferred when the waves interact with matter | | |
| 12Sc5.3 | Explain and describe how nuclear reactions convert a relatively small amount of material into a large amount of energy | | |
| 12Sc5.4 | Explain and describe the characteristics, applications and impact of radioactivity | | |
| 12Sc5.5 | Explain and describe conversion of energy forms | | |
| 12Sc5.6 | Explain that temperature of a substance is directly related to the average kinetic energy of its constituent | | |
| 12Sc5.7 | Explain and describe that electricity is transferred from generating sources for consumption and practical uses | | |
| 12Sc6 | LIFE SCIENCE - Heredity | | |
| 12Sc6.1 | Explain the passing of DNA Coding from parents to offspring | | |
| 12Sc6.2 | Explain how DNA molecules provide instructions for assembling protein molecules | | |

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| 12Sc6.3 | Explain and describe how all body cells in an organism develop from a single cell, and contain essentially identical genetic instructions | | |
| 12Sc6.4 | Explain several causes and effects of somatic versus sex cell mutations | | |
| 12Sc6.5 | Show and illustrate how to predict patterns of inheritance | | |
| 12Sc7 | LIFE SCIENCE - Structure of Life | | |
| 12Sc7.1 | Explain and illustrate how disease disrupts the equilibrium that exists in a healthy organism | | |
| 12Sc7.2 | Illustrate and show cell structures and explain their functions | | |
| 12Sc7.3 | Explain how the human body has a specialized anatomy and physiology composed of an hierarchical arrangement of differentiated cells | | |
| 12Sc8 | LIFE SCIENCE - Organisms and Their Environment | | |
| 12Sc8.1 | Describe and explain how elements necessary for life on Earth pass through cycles in a series of changes that form a global system | | |
| 12Sc8.2 | Examine and interpret relationships of organisms and their physical environment | | |
| 12Sc8.3 | Distinguish and differentiate how changes in an ecosystem can affect biodiversity and biodiversity's contribution to an ecosystem's stability | | |
| 12Sc8.4 | Analyze and evaluate how consumption patterns, conservation efforts, and cultural or social practices in countries have varying environmental impacts | | |
| 12Sc8.5 | Describe and explain that the amount of living matter an environment can support is limited by the availability of matter, energy, and the ability of the ecosystem to recycle materials | | |
| 12Sc8.6 | Analyze and characterize the unique geologic, hydrologic, climatic, and biological characteristics of Nevada's bioregions | | |
| 12Sc9 | LIFE SCIENCE - Diversity of Life | | |
| 12Sc9.1 | Explain the passing of DNA Coding from parents to offspring; show the relationship between the structure of DNA and its function in heredity | | |
| 12Sc9.2 | Explain how DNA molecules provide instructions for assembling protein molecules | | |
| 12Sc9.3 | Classify and differentiate organisms based on evolutionary relationships | | |
| 12Sc9.4 | Differentiate and distinguish relationships between organisms by the similarity of evidence from DNA sequences | | |
| 12Sc9.5 | Research and interpret fossil records for evidence of natural selection and its evolutionary consequences | | |
| 12Sc9.6 | Illustrate and show that the extinction of species can be a natural process | | |
| 12Sc9.7 | Explain and describe how biological evolution explains diversity of life | | |
| 12Sc9.8 | Explain and describe the concepts of natural and artificial selection | | |
| 12Sc10 | EARTH AND SPACE SCIENCES - Atmospheric Processes and the Water Cycle | | |
| 12Sc10.1 | Investigate and describe how the sun is the major source of Earth's energy, and provides the energy driving Earth's weather and climate | | |
| 12Sc10.2 | Explain the changes occurring in the Earth's atmosphere citing present and past examples | | |
| 12Sc10.3 | Interpret the role of the atmosphere in the greenhouse effect | | |
| 12Sc10.4 | Illustrate the role of convection and radiation regarding heat energy | | |
| 12Sc10.5 | Explain how uneven heating of the Earth's surface by the sun forms convection currents within the atmosphere and ocean, producing wind and ocean currents that are modified by the Earth's rotation | | |
| 12Sc11 | EARTH AND SPACE SCIENCES - Solar System and Universe | | |
| 12Sc11.1 | Identify common characteristics of stars | | |
| 12Sc11.2 | Describe the process of nuclear fusion | | |
| 12Sc11.3 | Identify technology use in exploring the universe | | |
| 12Sc11.4 | Explain scientific evidence suggesting that the universe is expanding | | |
| 12Sc11.5 | Explain how most objects in the solar system are in regular and predictable motion which explains such phenomena as the day, the year, phases of the moon, and eclipses | | |
| 12Sc12 | EARTH AND SPACE SCIENCES - Earth's Composition and Structure | | |
| 12Sc12.1 | Illustrate how successive layers of sedimentary rock and the fossils with them can be used to confirm the age, history, and changing life forms of the Earth including how this evidence is affected by the folding, breaking, and uplifting of layers | | |
| 12Sc12.2 | Investigate and describe how landforms are the result of a combination of constructive and destructive forces resulting from weathering, erosion, and the movement of lithosphere plates | | |
| 12Sc12.3 | Investigate and describe how elements necessary for life on Earth pass through both living and non-living cycles in a series of changes that form a global system | | |

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| 12Sc12.4 | Distinguish the composition of soil separating it into organic and inorganic materials configured in layers | | |
| 12Sc12.5 | Demonstrate the processes of obtaining, using and recycling of renewable and non-renewable resources | | |
| 12Sc12.6 | Distinguish and differentiate the various processes involved in obtaining, using and recycling materials, organic and inorganic | | |
| 12Sc12.7 | Classify the elements necessary for life on Earth mapping their transition through living and non-living cycles | | |
| 12Sc12.8 | Explain the relationships of organisms and their physical environment | | |
| 12Sc12.9 | Research, analyze and interpret the consumption patterns, conservation efforts, cultural and social practices in various countries and cultures | | |
| 12Sc12.10 | Examine and research external and internal sources of energy | | |