SRA Life, Earth, and Physical Science Laboratories
correlation to
New Mexico Science Standards
Grade 6

SRA Life, Earth, and Physical Science Laboratories provide core science content in an alternate reading format. Each *SRA Science Lab* contains 180 Science Cards covering key science concepts and vocabulary. Each lab covers 90 different science topics presented at two different reading levels to meet varied student abilities. The *Teacher's Handbook* includes hands-on inquiry activities as well as vocabulary building exercises. The *Classroom Resource CD-ROM* includes Writing Strategies in Science along with tests and vocabulary games.

Strand 1: Scientific Thinking and Practice: Standard 1: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.
A. Use scientific methods to develop questions, design and conduct experiments using appropriate technologies, analyze and evaluate results, make predictions, and communicate findings.
1. Construct appropriate graphs from data and develop qualitative and quantitative statements about the relationships between variables being investigated.
Life Science Lab Teacher's Handbook: Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83 **Classroom Resource CD-ROM:** Writing Strategy 8, 23

Strand 1: Standard 1: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.
A. Use scientific methods to develop questions, design and conduct experiments using appropriate technologies, analyze and evaluate results, make predictions, and communicate findings.
2. Examine the reasonableness of data supporting a proposed scientific explanation.
Life Science Lab Teacher's Handbook: Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 6, *Making Sound,* pages 97-99 **Classroom Resource CD-ROM:** Writing Strategy 15, 16, 22, 24

Strand 1: Standard 1: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.

A. Use scientific methods to develop questions, design and conduct experiments using appropriate technologies, analyze and evaluate results, make predictions, and communicate findings.

3. Justify predictions and conclusions based on data.

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Classroom Resource CD-ROM: Writing Strategy 15, 16, 22, 24

Strand 1: Standard 1: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.

B. Understand the processes of scientific investigation and how scientific inquiry results in scientific knowledge.

1. Understand that scientific knowledge is continually reviewed, critiques, and revised as new data become available.

Life Science Lab, Level A: Cards 5, 49, 64, 69
Life Science Lab, Level B: Cards 5, 49, 64, 69

Earth Science Lab, Level A: Cards 10, 31, 51, 54, 68, 72, 78, 79, 80
Earth Science Lab, Level B: Cards 10, 31, 51, 54, 68, 72, 78, 79, 80

Physical Science Lab, Level A: Cards 3, 7, 17, 35, 53, 59, 81, 84, 90

Strand 1: Standard 1: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.

B. Understand the processes of scientific investigation and how scientific inquiry results in scientific knowledge.

2. Understand that scientific investigations use common processes that include the collection of relevant data and observations, accurate measurements, the identification and control of variables, and logical reasoning to formulate hypotheses and explanations.

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Classroom Resource CD-ROM: Writing Strategy 8, 15, 23

Strand 1: Standard 1: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.

B. Understand the processes of scientific investigation and how scientific inquiry results in scientific knowledge.

3. Understand that not all investigations result in defensible scientific explanations.

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Strand 1: Standard 1: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.

C. Use mathematical ideas, tools, and techniques to understand scientific knowledge.

1. Evaluate the usefulness and relevance of data to an investigation.

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Strand 1: Standard 1: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.
C. Use mathematical ideas, tools, and techniques to understand scientific knowledge.
2. Use probabilities, patterns, and relationships to explain data and observations.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
A. Know the forms and properties of matter and how matter interacts.
1. Understand that substances have characteristic properties and identify the properties of various substances (e.g., density, boiling point, solubility, chemical reactivity).
Physical Science Lab, Level A: Cards 1, 2, 16, 27, 33, 42, 74 **Physical Science Lab, Level B:** Cards 1, 2, 16, 27, 33, 42, 74

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
A. Know the forms and properties of matter and how matter interacts.
2. Use properties to identify substances (e.g., for minerals: the hardness, streak, color, reactivity to acid, cleavage, fracture).
Earth Science Lab, Level A: Cards 4, 5 **Earth Science Lab, Level B:** Cards 4, 5 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75 **Physical Science Lab, Level A:** Cards 1, 2, 5, 14, 15, 16, 18, 19, 20, 74 **Physical Science Lab, Level B:** Cards 1, 2, 5, 14, 15, 16, 18, 19, 20, 74 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
A. Know the forms and properties of matter and how matter interacts.
3. Know that there are about 100 known elements that combine to produce compounds in living organisms and nonliving substances.
Physical Science Lab, Level A: Cards 10, 11, 17 **Physical Science Lab, Level B:** Cards 10, 11, 17

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
A. Know the forms and properties of matter and how matter interacts.
4. Know the differences between chemical and physical properties and how these properties can influence the interactions of matter.
Physical Science Lab, Level A: Cards 1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 13 **Physical Science Lab, Level B:** Cards 1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 13

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
B. Explain the physical processes involved in the transfer, change, and conservation of energy.
1. Identify various types of energy (e.g., heat, light, mechanical, electrical, chemical, nuclear).
Physical Science Lab, Level A: Cards 34, 41, 42, 45, 46, 47, 48, 49, 66, 67, 74, 79, 82 **Physical Science Lab, Level B:** Cards 34, 41, 42, 45, 46, 47, 48, 49, 66, 67, 74, 79, 82 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 5, *Making a Potato Battery*, pages 93-95; Hands-On Activity 6, *Making Sound*, pages 97-99

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
B. Explain the physical processes involved in the transfer, change, and conservation of energy.
2. Understand that heat energy can be transferred through conduction, radiation, and convection.
Physical Science Lab, Level A: Cards 42, 43 **Physical Science Lab, Level B:** Cards 42, 43

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
B. Explain the physical processes involved in the transfer, change, and conservation of energy.
3. Know that there are many forms of energy transfer but that the total amount of energy is conserved (i.e., that energy is neither created nor destroyed).
Physical Science Lab, Level A: Card 37 **Physical Science Lab, Level B:** Card 37

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
B. Explain the physical processes involved in the transfer, change, and conservation of energy.
4. Understand that some energy travels as waves (e.g., seismic, light, sound), including: the sun as source of energy for many processes on Earth, different wavelengths of sunlight (e.g., visible, ultraviolet, infrared), vibrations of matter (e.g., sound, earthquakes), different speeds through different materials.
Earth Science Lab, Level A: Card 16 **Earth Science Lab, Level B:** Card 16 **Physical Science Lab, Level A:** Cards 77, 78, 79, 80, 82, 83 **Physical Science Lab, Level B:** Cards 77, 78, 79, 80, 82, 83 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 6, *Making Sound*, pages 97-99

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
C. Describe and explain forces that produce motion in objects.
1. Know that every object exerts gravitational force on every other object dependent on the masses and distance of separation (e.g., motions of celestial objects, tides).
Earth Science Lab, Level A: Card 66 **Earth Science Lab, Level B:** Card 66 **Physical Science Lab, Level A:** Cards 57, 59 **Physical Science Lab, Level B:** Cards 57, 59

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
C. Describe and explain forces that produce motion in objects.
2. Know that gravitational force is hard to detect unless one of the objects (e.g., Earth) has a lot of mass.
Physical Science Lab, Level A: Cards 57, 59 **Physical Science Lab, Level B:** Cards 57, 59

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
A. Explain the diverse structures and functions of living things and the complex relationships between living things and their environments.
1. Understand how organisms interact with their physical environment to meet their needs (i.e., food, water, air) and how the water cycle is essential to most living systems.
Life Science Lab, Level A: Cards 1, 70, 71, 72, 73, 74, 75, 76, 77 **Life Science Lab, Level B:** Cards 1, 70, 71, 72, 73, 74, 75, 76, 77 **Life Science Lab Teacher's Handbook:** Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
A. Explain the diverse structures and functions of living things and the complex relationships between living things and their environments.
2. Describe how weather and geologic events (e.g., volcanoes, earthquakes) affect the function of living systems.
Life Science Lab, Level A: Cards 80, 87, 88, 89, 90 **Life Science Lab, Level B:** Cards 80, 87, 88, 89, 90 **Life Science Lab Teacher's Handbook:** Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab, Level A:** Cards 15, 17, 42, 52, 53, 54, 59, 60, 61 **Earth Science Lab, Level B:** Cards 15, 17, 42, 52, 53, 54, 59, 60, 61 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 5, *What is in the Air?,* pages 89-91

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
A. Explain the diverse structures and functions of living things and the complex relationships between living things and their environments.
3. Describe how organisms have adapted to various environmental conditions.
Life Science Lab, Level A: Cards 23, 41, 65, 81, 82, 83 **Life Science Lab, Level B:** Cards 23, 41, 65, 81, 82, 83

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
B. Understand how traits are passed from one generation to the next and how species evolve.
1. Understand that the fossil record provides data for how living organisms have evolved.
Life Science Lab, Level A: Card 67 **Life Science Lab, Level B:** Card 67 **Earth Science Lab, Level A:** Cards 32, 33, 34 **Earth Science Lab, Level B:** Cards 32, 33, 34

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
B. Understand how traits are passed from one generation to the next and how species evolve.
2. Describe how species have responded to changing environmental conditions over time (e.g., extinction, adaptation).
Life Science Lab, Level A: Cards 65, 66, 67, 86 **Life Science Lab, Level B:** Cards 65, 66, 67, 86

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
C. Understand the structure of organisms and the function of cells in living systems.
1. Explain how fossil fuels were formed from animal and plant cells.
Earth Science Lab, Level A: Card 35 **Earth Science Lab, Level B:** Card 35 **Physical Science Lab, Level A:** Card 38 **Physical Science Lab, Level B:** Card 38

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
C. Understand the structure of organisms and the function of cells in living systems.
2. Describe the differences between substances that were produced by living organisms (e.g., fossil fuels) and substances that result from nonliving processes (e.g., igneous rocks).
Life Science Lab, Level A: Cards 17, 78, 79 **Life Science Lab, Level B:** Cards 17, 78, 79 **Earth Science Lab, Level A:** Cards 4, 5, 6, 7, 8, 9, 33, 34, 35 **Earth Science Lab, Level B:** Cards 4, 5, 6, 7, 8, 9, 33, 34, 35 **Physical Science Lab, Level A:** Cards 9, 35, 38 **Physical Science Lab, Level B:** Cards 9, 35, 38

Content of Science: Standard 3: EARTH and SPACE SCIENCE: Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.
A. Describe how the concepts of energy, matter, and force can be used to explain the observed behavior of the solar system, the universe, and their structures.
Universe: 1. Describe the objects in the universe, including: billions of galaxies, each containing billions of stars, and different sizes, temperatures, and colors of stars in the Milky Way galaxy.
Earth Science Lab, Level A: Cards 15, 76, 77, 78 **Earth Science Lab, Level B:** Cards 15, 76, 77, 78

Content of Science: Standard 3: EARTH and SPACE SCIENCE: Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.
A. Describe how the concepts of energy, matter, and force can be used to explain the observed behavior of the solar system, the universe, and their structures.
Solar System: 1. Locate the solar system in the Milky Way galaxy.
Earth Science Lab, Level A: Cards 68, 74, 77 **Earth Science Lab, Level B:** Cards 68, 74, 77

Content of Science: Standard 3: EARTH and SPACE SCIENCE: Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.
A. Describe how the concepts of energy, matter, and force can be used to explain the observed behavior of the solar system, the universe, and their structures.
Solar System: 2. Identify the components of the solar system, and describe their defining characteristics and motions in space, including: sun as a medium sized star, the sun's composition (i.e., hydrogen, helium) and energy production, and nine planets, their moons, asteroids.
Earth Science Lab, Level A: Cards 62, 63, 64, 65, 67, 68, 69, 70, 71, 72, 73 **Earth Science Lab, Level B:** Cards 62, 63, 64, 65, 67, 68, 69, 70, 71, 72, 73 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 7, *Sizes in the Solar System*, pages 97-99

Content of Science: Standard 3: EARTH and SPACE SCIENCE: Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.
A. Describe how the concepts of energy, matter, and force can be used to explain the observed behavior of the solar system, the universe, and their structures.
Solar System: 3. Know that the regular and predictable motions of the Earth-moon-sun system explain phenomena on Earth, including: Earth's motion in relation to a year, a day, the seasons, the phases of the moon, eclipses, tides, and shadows, and moon's orbit around the Earth once in 28 days in relation to the phases of the moon.
Earth Science Lab, Level A: Cards 62, 64, 65, 66 **Earth Science Lab, Level B:** Cards 62, 64, 65, 66

Content of Science: Standard 3: EARTH and SPACE SCIENCE: Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.
B. Describe the structure of Earth and its atmosphere and explain how energy, matter, and forces shape Earth's systems.
Structures of Earth: 1. Know that Earth is composed of layers that include a crust, mantle, and core.
Earth Science Lab, Level A: Cards 1, 2 **Earth Science Lab, Level B:** Cards 1, 2

Content of Science: Standard 3: EARTH and SPACE SCIENCE: Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.
B. Describe the structure of Earth and its atmosphere and explain how energy, matter, and forces shape Earth's systems.
Structures of Earth: 2. know that Earth's crust is divided into plates that move very slowly, in response to movements in the mantle.
Earth Science Lab, Level A: Cards 2, 10, 11, 12, 13, 14, 15, 16, 17 **Earth Science Lab, Level B:** Cards 2, 10, 11, 12, 13, 14, 15, 16, 17 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 2, *Plate Boundaries in Action*, pages 77-79

Content of Science: Standard 3: EARTH and SPACE SCIENCE: Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.
B. Describe the structure of Earth and its atmosphere and explain how energy, matter, and forces shape Earth's systems.
Structures of Earth: 3. Know that sedimentary, igneous, and metamorphic rocks contain evidence of the materials, temperatures, and forces that created them.
Earth Science Lab, Level A: Cards 6, 7, 8, 9 **Earth Science Lab, Level B:** Cards 6, 7, 8, 9

Content of Science: Standard 3: EARTH and SPACE SCIENCE: Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.
B. Describe the structure of Earth and its atmosphere and explain how energy, matter, and forces shape Earth's systems.
Weather and Climate: 1. Describe the composition (i.e., nitrogen, oxygen, water vapor) and strata of Earth's atmosphere, and differences between the atmosphere of Earth and those of other planets.
Earth Science Lab, Level A: Cards 36, 37, 69, 70, 71 **Earth Science Lab, Level B:** Cards 36, 37, 69, 70, 71

Content of Science: Standard 3: EARTH and SPACE SCIENCE: Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.
B. Describe the structure of Earth and its atmosphere and explain how energy, matter, and forces shape Earth's systems.
Weather and Climate: 2. Understand factors that create and influence weather and climate, including: heat, air movement, pressure, humidity, oceans, how clouds form by condensation of water vapor, how weather patterns are related to atmospheric pressure, global patterns of atmospheric movement (e.g., El Niño), and factors that can impact Earth's climate (e.g., volcanic eruptions, impacts of asteroids, glaciers).
Earth Science Lab, Level A: Cards 17, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61 **Earth Science Lab, Level B:** Cards 17, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 5, *What is in the Air?*, pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95

Content of Science: Standard 3: EARTH and SPACE SCIENCE: Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.
B. Describe the structure of Earth and its atmosphere and explain how energy, matter, and forces shape Earth's systems.
Weather and Climate: 3. Understand how to use weather maps and data (e.g., barometric pressure, wind speeds, humidity) to predict weather.
Earth Science Lab, Level A: Cards 50, 51 **Earth Science Lab, Level B:** Cards 50, 51

Content of Science: Standard 3: EARTH and SPACE SCIENCE: Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.
B. Describe the structure of Earth and its atmosphere and explain how energy, matter, and forces shape Earth's systems.
Changes to Earth: 1. Know that landforms are created and change through a combination of constructive and destructive forces, including: weathering of rock and soil, transportation, deposition of sediment, and tectonic activity, similarities and difference between current and past processes on Earth's surface (e.g., erosion, plate tectonics, changes in atmospheric composition), and impact of volcanoes and faults in New Mexico geology.
Earth Science Lab, Level A: Cards 11, 12, 13, 14, 15, 16, 17, 21, 22, 24, 25, 26, 27, 28 **Earth Science Lab, Level B:** Cards 11, 12, 13, 14, 15, 16, 17, 21, 22, 24, 25, 26, 27, 28 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79

Content of Science: Standard 3: EARTH and SPACE SCIENCE: Understand the structure of Earth the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.
B. Describe the structure of Earth and its atmosphere and explain how energy, matter, and forces shape Earth's systems.
Changes to Earth: 2. Understand the history of Earth and how information about it comes from layers of sedimentary rock, including: sediments and fossils as a record of a very slowly changing world, and evidence of asteroid impact, volcanic and glacial activity.
Life Science Lab, Level A: Card 67 **Life Science Lab, Level B:** Card 67 **Earth Science Lab, Level A:** Cards 7, 17, 30, 32, 33, 34 **Earth Science Lab, Level B:** Cards 7, 17, 30, 32, 33, 34

Science and Society: Understand how scientific discoveries, inventions, practices, and knowledge influence, and are influenced by individuals and societies.
A. Explain how scientific discoveries and inventions have changed individuals and societies.
1. Examine the role of scientific knowledge in decisions (e.g., space exploration, what to eat, preventive medicine and medical treatment).
Life Science Lab, Level A: Cards 45, 46, 49, 64, 69, 87, 88, 89, 90 **Life Science Lab, Level B:** Cards 45, 46, 49, 64, 69, 87, 88, 89, 90 **Earth Science Lab, Level A:** Cards 16, 20, 31, 37, 51, 79, 80, 81, 88 **Earth Science Lab, Level B:** Cards 16, 20, 31, 37, 51, 79, 80, 81, 88 **Physical Science Lab, Level A:** Cards 33, 35, 73, 76, 81, 84, 90 **Physical Science Lab, Level B:** Cards 33, 35, 73, 76, 81, 84, 90

Science and Society: Understand how scientific discoveries, inventions, practices, and knowledge influence, and are influenced by individuals and societies.
A. Explain how scientific discoveries and inventions have changed individuals and societies.
2. Describe the technologies responsible for revolutionizing information processing and communications (e.g., computers, cellular phones, Internet).
Life Science Lab, Level A: Card 83 **Life Science Lab, Level B:** Card 83 **Earth Science Lab, Level A:** Cards 20, 79, 80, 81 **Earth Science Lab, Level B:** Cards 20, 79, 80, 81 **Physical Science Lab, Level A:** Cards 81, 84, 90 **Physical Science Lab, Level B:** Cards 81, 84, 90

SRA Life, Earth, and Physical Science Laboratories
correlation to
New Mexico Science Standards
Grade 7

SRA Life, Earth, and Physical Science Laboratories provide core science content in an alternate reading format. Each *SRA Science Lab* contains 180 Science Cards covering key science concepts and vocabulary. Each lab covers 90 different science topics presented at two different reading levels to meet varied student abilities. The *Teacher's Handbook* includes hands-on inquiry activities as well as vocabulary building exercises. The *Classroom Resource CD-ROM* includes Writing Strategies in Science along with tests and vocabulary games.

Strand 1: Scientific Thinking and Practice: Standard 1: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.
A. Use scientific methods to develop questions, design and conduct experiments using appropriate technologies, analyze and evaluate results, make predictions, and communicate findings.
1. Use a variety of print and web resources to collect information, inform investigations, and answer a scientific question or hypothesis.
Life Science Lab Teacher's Handbook: Hands-On Activity 2, *Culturing Bacteria*, pages 81-83 **Classroom Resource CD-ROM:** Writing Strategy 9, 12, 25

Strand 1: Standard 1: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.
A. Use scientific methods to develop questions, design and conduct experiments using appropriate technologies, analyze and evaluate results, make predictions, and communicate findings.
2. Use models to explain the relationships between variables being investigated.
Life Science Lab Teacher's Handbook: Hands-On Activity 7, *The Effects of Acid Rain*, pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 8, *Temperature, Salinity, and Water Density*, pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 2, *Chemical Reaction Rates*, pages 81-83 **Classroom Resource CD-ROM:** Writing Strategy 23

Strand 1: Standard 1: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.
B. Understand the processes of scientific investigation and how scientific inquiry results in scientific knowledge.
1. Describe how bias can affect scientific investigation and conclusions.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells*, pages 77-79; Hands-On Activity 2, *Culturing Bacteria*, pages 81-83; Hands-On Activity 3, *Investigating Arthropods*, pages 85-87; Hands-On Activity 4, *Your Cardiovascular System*, pages 89-91; Hands-On Activity 5, *Making Fossils*, pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?*, pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain*, pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale*, pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action*, pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map*, pages 81-83; Hands-On Activity 4, *Using Sound Waves*, pages 85-87; Hands-On Activity 5, *What is in the Air?*, pages 89-91; Hands-On Activity 6, *Modeling a Tornado*, pages 93-95; Hands-On Activity 7, *Sizes in the Solar System*, pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density*, pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases*, pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates*, pages 81-83; Hands-On Activity 3, *Energy Conversion*, pages 85-87; Hands-On Activity 4, *Reducing Friction*, pages 89-91; Hands-On Activity 5, *Making a Potato Battery*, pages 93-95; Hands-On Activity 6, *Making Sound*, pages 97-99

Strand 1: Standard 1: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.

B. Understand the processes of scientific investigation and how scientific inquiry results in scientific knowledge.

2. Critique procedures used to investigate a hypothesis.

Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103

Earth Science Lab Teacher's Handbook: Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103

Physical Science Lab Teacher's Handbook: Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Classroom Resource CD-ROM: Writing Strategy 8, 15

Strand 1: Standard 1: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.

B. Understand the processes of scientific investigation and how scientific inquiry results in scientific knowledge.

3. Analyze and evaluate scientific explanations.

Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103

Earth Science Lab Teacher's Handbook: Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103

Physical Science Lab Teacher's Handbook: Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Strand 1: Standard 1: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.

C. Use mathematical ideas, tools, and techniques to understand scientific knowledge.

1. Understand that the number of data (sample size) influences the reliability of a prediction.

Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83

Earth Science Lab Teacher's Handbook: Hands-On Activity 5, *What is in the Air?,* pages 89-91

Strand 1: Standard 1: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.
C. Use mathematical ideas, tools, and techniques to understand scientific knowledge.
2. Use mathematical expressions to represent data and observations collected in scientific investigations.
Life Science Lab Teacher's Handbook: Hands-On Activity 2, *Culturing Bacteria*, pages 81-83; Hands-On Activity 4, *Your Cardiovascular System*, pages 89-91; Hands-On Activity 6, *How Much Does Energy Cost?*, pages 97-99 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 3, *Interpreting a Topographic Map*, pages 81-83; Hands-On Activity 7, *Sizes in the Solar System*, pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density*, pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 3, *Energy Conversion*, pages 85-87

Strand 1: Standard 1: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.
C. Use mathematical ideas, tools, and techniques to understand scientific knowledge.
3. Select and use an appropriate method to examine a phenomena.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells*, pages 77-79; Hands-On Activity 2, *Culturing Bacteria*, pages 81-83; Hands-On Activity 3, *Investigating Arthropods*, pages 85-87; Hands-On Activity 4, *Your Cardiovascular System*, pages 89-91; Hands-On Activity 5, *Making Fossils*, pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?*, pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain*, pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale*, pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action*, pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map*, pages 81-83; Hands-On Activity 4, *Using Sound Waves*, pages 85-87; Hands-On Activity 5, *What is in the Air?*, pages 89-91; Hands-On Activity 6, *Modeling a Tornado*, pages 93-95; Hands-On Activity 7, *Sizes in the Solar System*, pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density*, pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases*, pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates*, pages 81-83; Hands-On Activity 3, *Energy Conversion*, pages 85-87; Hands-On Activity 4, *Reducing Friction*, pages 89-91; Hands-On Activity 5, *Making a Potato Battery*, pages 93-95; Hands-On Activity 6, *Making Sound*, pages 97-99 **Classroom Resource CD-ROM:** Writing Strategy 15

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
A. Know the forms and properties of matter and how matter interacts.
1. Explain how matter is transferred from one organism to another and between organisms and their environment (e.g., consumption, the water cycle, the carbon cycle, the nitrogen cycle).
Life Science Lab, Level A: Cards 13, 46, 74, 76, 77, 78, 79 **Life Science Lab, Level B:** Cards 13, 46, 74, 76, 77, 78, 79 **Life Science Lab Teacher's Handbook:** Hands-On Activity 6, *How Much Does Energy Cost?*, pages 97-99 **Earth Science Lab, Level A:** Cards 23, 47 **Earth Science Lab, Level B:** Cards 23, 47

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
A. Know the forms and properties of matter and how matter interacts.
2. Know that properties may change (e.g., matter in the food web).
Life Science Lab, Level A: Cards 76, 77 **Life Science Lab, Level B:** Cards 76, 77 **Earth Science Lab, Level A:** Cards 6, 7, 8, 9, 31, 86, 87 **Earth Science Lab, Level B:** Cards 6, 7, 8, 9, 31, 86, 87 **Physical Science Lab, Level A:** Cards 6, 7, 8, 9, 11, 27, 28, 29, 30 **Physical Science Lab, Level B:** Cards 6, 7, 8, 9, 11, 27, 28, 29, 30

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
A. Know the forms and properties of matter and how matter interacts.
3. Identify characteristics of radioactivity, including: decay in time of some elements to others, release of energy, damage to cells.
Earth Science Lab, Level A: Cards 31, 33, 34 **Earth Science Lab, Level B:** Cards 31, 33, 34

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
A. Know the forms and properties of matter and how matter interacts.
4. Describe how substances react chemically in characteristic ways to form new substances (compounds) with different properties (e.g., carbon and oxygen to form carbon dioxide in respiration).
Physical Science Lab, Level A: Cards 9, 11, 27, 28, 29, 30 **Physical Science Lab, Level B:** Cards 9, 11, 27, 28, 29, 30 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
A. Know the forms and properties of matter and how matter interacts.
5. Know that chemical reactions are essential to life processes.
Life Science Lab, Level A: Cards 1, 9, 17, 46, 50, 54, 76, 77, 78, 79 **Life Science Lab, Level B:** Cards 1, 9, 17, 46, 50, 54, 76, 77, 78, 79

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
B. Explain the physical processes involved in the transfer, change, and conservation of energy.
1. Know how various forms of energy are transformed through organisms and ecosystems, including: sunlight and photosynthesis, energy transformations in living systems (e.g., cellular processes changing chemical energy to heat and motion), effect of mankind's use of energy and other activities on living systems (e.g., global warming, water quality).
Life Science Lab, Level A: Cards 1, 9, 16, 17, 34, 46, 50, 74, 76, 77, 87, 88, 89, 90 **Life Science Lab, Level B:** Cards 1, 9, 16, 17, 34, 46, 50, 74, 76, 77, 87, 88, 89, 90 **Life Science Lab Teacher's Handbook:** Hands-On Activity 6, *How Much Does Energy Cost?*, pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain*, pages 101-103 **Earth Science Lab, Level A:** Cards 37, 42, 59, 60, 61, 86 **Earth Science Lab, Level B:** Cards 37, 42, 59, 60, 61, 86 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 5, *What is in the Air?*, pages 89-91

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
C. Describe and explain forces that produce motion in objects.
1. Know that forces can cause motion in living systems, including: the principle of the lever and how it gives mechanical advantage to a muscular/skeletal system to life objects, forces in specific systems in the human body (e.g., how the heart generates blood pressure, how muscles contract and expand to produce motion).
Life Science Lab, Level A: Cards 47, 50, 51, 53, 54, 55 **Life Science Lab, Level B:** Cards 47, 50, 51, 53, 54, 55 **Life Science Lab Teacher's Handbook:** Hands-On Activity 4, *Your Cardiovascular System*, pages 89-91

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
A. Explain the diverse structures and functions of living things and the complex relationships between living things and their environments.
Populations and Ecosystems: 1. Identify the living and nonliving parts of an ecosystem and describe the relationships among these components.
Life Science Lab, Level A: Cards 70, 71, 72, 73, 74, 75, 76, 77 **Life Science Lab, Level B:** Cards 70, 71, 72, 73, 74, 75, 76, 77

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
A. Explain the diverse structures and functions of living things and the complex relationships between living things and their environments.
Populations and Ecosystems: 2. Explain biomes (i.e., aquatic, desert, rainforest, grasslands, tundra) and describe the New Mexico biome.
Life Science Lab, Level A: Cards 81, 82 **Life Science Lab, Level B:** Cards 81, 82 **Earth Science Lab, Level A:** Card 89 **Earth Science Lab, Level B:** Card 89

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
A. Explain the diverse structures and functions of living things and the complex relationships between living things and their environments.
Populations and Ecosystems: 3. Explain how individuals of species that exist together interact with their environment to create an ecosystem (e.g., populations, communities, niches, habitats, food webs).
Life Science Lab, Level A: Cards 71, 72, 73, 74, 75, 76, 77 **Life Science Lab, Level B:** Cards 71, 72, 73, 74, 75, 76, 77 **Life Science Lab Teacher's Handbook:** Hands-On Activity 6, *How Much Does Energy Cost?*, pages 97-99

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
A. Explain the diverse structures and functions of living things and the complex relationships between living things and their environments.
Populations and Ecosystems: 4. Explain the conditions and resources needed to sustain life in specific ecosystems.
Life Science Lab, Level A: Cards 70, 71, 81, 82 **Life Science Lab, Level B:** Cards 70, 71, 81, 82 **Earth Science Lab, Level A:** Card 89 **Earth Science Lab, Level B:** Card 89

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
A. Explain the diverse structures and functions of living things and the complex relationships between living things and their environments.
Populations and Ecosystems: 5. Describe how the availability of resources and physical factors limit growth (e.g., quality of light and water, range of temperature, composition of soil) and how the water, carbon, and nitrogen cycles contribute to the availability of those resources to support living systems.
Life Science Lab, Level A: Cards 72, 78, 79 **Life Science Lab, Level B:** Cards 72, 78, 79 **Earth Science Lab, Level A:** Card 47 **Earth Science Lab, Level B:** Card 47

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
A. Explain the diverse structures and functions of living things and the complex relationships between living things and their environments.
Biodiversity: 1. Understand how diverse species fill all niches in an ecosystem.
Life Science Lab, Level A: Cards 71, 73, 74, 75 **Life Science Lab, Level B:** Cards 71, 73, 74, 75

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
A. Explain the diverse structures and functions of living things and the complex relationships between living things and their environments.
Biodiversity: 2. Know how to classify organisms: domain, kingdom, phylum, class, order, family, genus, species.
Life Science Lab, Level A: Cards 2, 3 **Life Science Lab, Level B:** Cards 2, 3

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
B. Understand how traits are passed from one generation to the next and how species evolve.
Reproduction: 1. Know that reproduction is a characteristic of all living things and is essential to the continuation of a species.
Life Science Lab, Level A: Cards 1, 60, 61 **Life Science Lab, Level B:** Cards 1, 60, 61

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
B. Understand how traits are passed from one generation to the next and how species evolve.
Reproduction: 2. Identify the differences between sexual and asexual reproduction.
Life Science Lab, Level A: Cards 60, 61 **Life Science Lab, Level B:** Cards 60, 61

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
B. Understand how traits are passed from one generation to the next and how species evolve.
Reproduction: 3. Know that, in sexual reproduction, an egg and sperm unit to begin the development of a new individual.
Life Science Lab, Level A: Cards 58, 61 **Life Science Lab, Level B:** Cards 58, 61

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
B. Understand how traits are passed from one generation to the next and how species evolve.
Reproduction: 4. Know that organisms that sexually reproduce fertile offspring are member of the same species.
Life Science Lab, Level A: Card 61 **Life Science Lab, Level B:** Card 61

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
B. Understand how traits are passed from one generation to the next and how species evolve.
Heredity: 1. Understand that some characteristics are passed from parent to offspring as inherited traits and others are acquired from interaction with the environment.
Life Science Lab, Level A: Cards 23, 24, 41, 43, 65 **Life Science Lab, Level B:** Cards 23, 24, 41, 43, 65

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
B. Understand how traits are passed from one generation to the next and how species evolve.
Heredity: 2. Know that hereditary information is contained in genes that are located in chromosomes, including: determination of traits by genes, traits determined by one or more genes, more than one traits sometimes influenced by a single gene.
Life Science Lab, Level A: Cards 10, 61, 62, 63, 64 **Life Science Lab, Level B:** Cards 10, 61, 62, 63, 64

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
B. Understand how traits are passed from one generation to the next and how species evolve.
Biological Evolution: 1. Describe how typical traits may change from generation to generation due to environmental influences (e.g., color of skin, shape of eyes, camouflage, shape of beak),
Life Science Lab, Level A: Cards 64, 65, 66 **Life Science Lab, Level B:** Cards 64, 65, 66

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
B. Understand how traits are passed from one generation to the next and how species evolve.
Biological Evolution: 2. Explain that diversity within a species is developed by gradual changes over many generations.
Life Science Lab, Level A: Cards 65, 66 **Life Science Lab, Level B:** Cards 65, 66

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
B. Understand how traits are passed from one generation to the next and how species evolve.
Biological Evolution: 3. Know that organisms can acquire unique characteristics through naturally occurring genetic variations.
Life Science Lab, Level A: Cards 64, 65, 66 **Life Science Lab, Level B:** Cards 64, 65, 66

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
B. Understand how traits are passed from one generation to the next and how species evolve.
Biological Evolution: 4. Identify adaptations that favor the survival of organisms in their environments (e.g., camouflage, shape of beak).
Life Science Lab, Level A: Cards 23, 41, 65 **Life Science Lab, Level B:** Cards 23, 41, 65

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
B. Understand how traits are passed from one generation to the next and how species evolve.
Biological Evolution: 5. Understand the process of natural selection.
Life Science Lab, Level A: Card 65 **Life Science Lab, Level B:** Card 65

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
B. Understand how traits are passed from one generation to the next and how species evolve.
Biological Evolution: 6. Explain how species adapt to changes in the environment or become extinct and that extinction of species is common in the history of living things.
Life Science Lab, Level A: Card 67 **Life Science Lab, Level B:** Card 67 **Earth Science Lab, Level A:** Cards 34, 61 **Earth Science Lab, Level B:** Cards 34, 61

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
B. Understand how traits are passed from one generation to the next and how species evolve.
Biological Evolution: 7. Know that the fossil record documents the appearance, diversification, and extinction of many life forms.
Life Science Lab, Level A: Card 67 **Life Science Lab, Level B:** Card 67 **Life Science Lab Teacher's Handbook:** Hands-On Activity 5, *Making Fossils*, pages 93-95 **Earth Science Lab, Level A:** Cards 32, 33, 34 **Earth Science Lab, Level B:** Cards 32, 33, 34

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
C. Understand the structure of organisms and the function of cells in living systems.
Structure of Organisms: 1. Understand that organisms are composed of cells and identify unicellular and multicellular organisms.
Life Science Lab, Level A: Cards 1, 5, 6, 7, 8, 9, 10 **Life Science Lab, Level B:** Cards 1, 5, 6, 7, 8, 9, 10 **Life Science Lab Teacher's Handbook:** Hands-On Activity 1, *Examining Cells*, pages 77-79

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
C. Understand the structure of organisms and the function of cells in living systems.
Structure of Organisms: 2. Explain how organs are composed of tissues of different types of cells (e.g., skin, bone, muscle, heart, intestines).
Life Science Lab, Level A: Card 44 **Life Science Lab, Level B:** Card 44

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
C. Understand the structure of organisms and the function of cells in living systems.
Function of Cells: 1. Understand that many basic functions of organisms are carried out in cells, including growth and division to produce more cells (mitosis), and specialized functions of cells (e.g., reproduction, nerve-signal transmission, digestion, excretion, movement, transport of oxygen).
Life Science Lab, Level A: Cards 5, 6, 7, 8, 9, 10 **Life Science Lab, Level B:** Cards 5, 6, 7, 8, 9, 10 **Life Science Lab Teacher's Handbook:** Hands-On Activity 1, *Examining Cells*, pages 77-79

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
C. Understand the structure of organisms and the function of cells in living systems.
Function of Cells: 2. Compare the structure and processes of plant cells and animal cells.
Life Science Lab, Level A: Cards 6, 7 **Life Science Lab, Level B:** Cards 6, 7 **Life Science Lab Teacher's Handbook:** Hands-On Activity 1, *Examining Cells*, pages 77-79

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
C. Understand the structure of organisms and the function of cells in living systems.
Function of Cells: 3. Describe how some cells respond to stimuli (e.g., light, heat, pressure, gravity).
Life Science Lab, Level A: Cards 8, 9, 10 **Life Science Lab, Level B:** Cards 8, 9, 10

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
C. Understand the structure of organisms and the function of cells in living systems.
Function of Cells: 4. Describe how factors (radiation, UV light, drugs) can damage cellular structure or function.
Life Science Lab, Level A: Card 45 **Life Science Lab, Level B:** Card 45

Content of Science: Standard 3: EARTH and SPACE SCIENCE: Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.
A. Describe how the concepts of energy, matter, and force can be used to explain the observed behavior of the solar system, the universe, and their structures.
1. Explain why Earth is unique in our solar system in its ability to support life.
Earth Science Lab, Level A: Cards 68, 69, 70, 71 **Earth Science Lab, Level B:** Cards 68, 69, 70, 71

Content of Science: Standard 3: EARTH and SPACE SCIENCE: Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.
A. Describe how the concepts of energy, matter, and force can be used to explain the observed behavior of the solar system, the universe, and their structures.
2. Explain how energy from the sun supports life on Earth.
Life Science Lab, Level A: Cards 16, 17, 76 **Life Science Lab, Level B:** Cards 16, 17, 76 **Earth Science Lab, Level A:** Cards 38, 47, 58 **Earth Science Lab, Level B:** Cards 38, 47, 58

Content of Science: Standard 3: EARTH and SPACE SCIENCE: Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.
B. Describe the structure of Earth and its atmosphere and explain how energy, matter, and forces shape Earth's systems.
1. Understand how the remains of living things give us information about the history of Earth, including: layers of sedimentary rock, the fossil record, and radioactive dating showing that life has been present on Earth from ore than 3.5 billion years.
Life Science Lab, Level A: Card 67 **Life Science Lab, Level B:** Card 67 **Earth Science Lab, Level A:** Cards 7, 30, 31, 32, 33, 34 **Earth Science Lab, Level B:** Cards 7, 30, 31, 32, 33, 34

Content of Science: Standard 3: EARTH and SPACE SCIENCE: Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.
B. Describe the structure of Earth and its atmosphere and explain how energy, matter, and forces shape Earth's systems.
2. Understand how living organisms have played many roles in changes of Earth's systems through time (e.g., atmospheric composition, creation of soil, impact on Earth's surface).
Life Science Lab, Level A: Cards 13, 76, 78 **Life Science Lab, Level B:** Cards 13, 76, 78 **Earth Science Lab, Level A:** Cards 23, 29 **Earth Science Lab, Level B:** Cards 23, 29

Content of Science: Standard 3: EARTH and SPACE SCIENCE: Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.
B. Describe the structure of Earth and its atmosphere and explain how energy, matter, and forces shape Earth's systems.
3. Know that changes to ecosystems sometimes decrease the capacity of the environment to support some life forms and are difficult and/or costly to remediate.
Life Science Lab, Level A: Cards 84, 86, 87, 88, 89, 90 **Life Science Lab, Level B:** Cards 84, 86, 87, 88, 89, 90 **Life Science Lab Teacher's Handbook:** Hands-On Activity 7, *The Effects of Acid Rain*, pages 101-103 **Earth Science Lab, Level A:** Cards 37, 42, 59, 60, 61, 86 **Earth Science Lab, Level B:** Cards 37, 42, 59, 60, 61, 86 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 5, *What is in the Air?*, pages 89-91

Science and Society: Understand how scientific discoveries, inventions, practices, and knowledge influence, and are influenced by individuals and societies.
A. Explain how scientific discoveries and inventions have changed individuals and societies.
1. Analyze the contributions of science to health as they relate to personal decisions about smoking, drugs, alcohol, and sexual activity.
Life Science Lab, Level A: Cards 45, 49 **Life Science Lab, Level B:** Cards 45, 49

Science and Society: Understand how scientific discoveries, inventions, practices, and knowledge influence, and are influenced by individuals and societies.
A. Explain how scientific discoveries and inventions have changed individuals and societies.
2. Analyze how technologies have been responsible for advances in medicines (e.g., vaccines, antibodies, microscopes, DNA technologies).
Life Science Lab, Level A: Cards 5, 48, 49, 57, 59, 64, 69 **Life Science Lab, Level B:** Cards 5, 48, 49, 57, 59, 64, 69

Science and Society: Understand how scientific discoveries, inventions, practices, and knowledge influence, and are influenced by individuals and societies.
A. Explain how scientific discoveries and inventions have changed individuals and societies.
3. Describe how scientific information can help individuals and communities respond to health emergencies (e.g., CPR, epidemics, HIV, bio-terrorism).
Life Science Lab, Level A: Cards 46, 47, 48, 49, 55, 57 **Life Science Lab, Level B:** Cards 46, 47, 48, 49, 55, 57

SRA Life, Earth, and Physical Science Laboratories
correlation to
New Mexico Science Standards
Grade 8

SRA Life, Earth, and Physical Science Laboratories provide core science content in an alternate reading format. Each *SRA Science Lab* contains 180 Science Cards covering key science concepts and vocabulary. Each lab covers 90 different science topics presented at two different reading levels to meet varied student abilities. The *Teacher's Handbook* includes hands-on inquiry activities as well as vocabulary building exercises. The *Classroom Resource CD-ROM* includes Writing Strategies in Science along with tests and vocabulary games.

Strand 1: Scientific Thinking and Practice: Standard 1: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.
A. Use scientific methods to develop questions, design and conduct experiments using appropriate technologies, analyze and evaluate results, make predictions, and communicate findings.
1. Evaluate the accuracy and reproducibility of data and observations.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99 **Classroom Resource CD-ROM:** Writing Strategy 11, 15, 16, 22, 24

Strand 1: Standard 1: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.
A. Use scientific methods to develop questions, design and conduct experiments using appropriate technologies, analyze and evaluate results, make predictions, and communicate findings.
2. Use a variety of technologies to gather, analyze and interpret scientific data.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Strand 1: Standard 1: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.

A. Use scientific methods to develop questions, design and conduct experiments using appropriate technologies, analyze and evaluate results, make predictions, and communicate findings.

3. Know how to recognize and explain anomalous data.

Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103

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Physical Science Lab Teacher's Handbook: Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Strand 1: Standard 1: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.

B. Understand the processes of scientific investigation and how scientific inquiry results in scientific knowledge.

1. Examine alternative explanations for observations.

Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103

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Physical Science Lab Teacher's Handbook: Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Strand 1: Standard 1: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.
B. Understand the processes of scientific investigation and how scientific inquiry results in scientific knowledge.
2. Describe ways in which science differs from other ways of knowing and from other bodies of knowledge (e.g., experimentation, logical arguments, skepticism).
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99 **Classroom Resource CD-ROM:** Writing Strategy 1-30

Strand 1: Standard 1: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.
B. Understand the processes of scientific investigation and how scientific inquiry results in scientific knowledge.
3. Know that scientific knowledge is built on questions posed as testable hypotheses, which are tested until the results are accepted by peers.
Life Science Lab Teacher's Handbook: Hands-On Activity 3, *Investigating Arthropods,* pages 85-87 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87 **Classroom Resource CD-ROM:** Writing Strategy 8, 15

Strand 1: Standard 1: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.
C. Use mathematical expressions and techniques to explain data and observations and to communicate findings (e.g., formulas and equations, significant figures, graphing, sampling, estimation, mean).
1. Understand that the number of data (sample size) influences the reliability of a prediction.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 5, *What is in the Air?,* pages 89-91 **Classroom Resource CD-ROM:** Writing Strategy 22, 24

Strand 1: Standard 1: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.
C. Use mathematical ideas, tools, and techniques to understand scientific knowledge.
2. Create models to describe phenomena.
Life Science Lab Teacher's Handbook: Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 6, *Modeling a Tornado*, pages 93-95; Hands-On Activity 7, *Sizes in the Solar System*, pages 97-99 **Physical Science Lab Teacher's Handbook:** Hands-On Activity5, *Making a Potato Battery*, pages 93-95; Hands-On Activity 6, *Making Sound*, pages 97-99 **Classroom Resource CD-ROM:** Writing Strategy 20

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
A. Know the forms and properties of matter and how matter interacts.
Properties of Matter: 1. Know how to use density, boiling point, freezing point, conductivity, and color to identify various substances.
Physical Science Lab, Level A: Cards 1, 2, 6, 7, 66, 74 **Physical Science Lab, Level B:** Cards 1, 2, 6, 7, 66, 74

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
A. Know the forms and properties of matter and how matter interacts.
Properties of Matter: 2. Distinguish between metals and non-metals.
Physical Science Lab, Level A: Cards 17, 18, 19, 20 **Physical Science Lab, Level B:** Cards 17, 18, 19, 20

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
A. Know the forms and properties of matter and how matter interacts.
Properties of Matter: 3. Understand the differences among elements, compounds, and mixtures by: classification of materials as elements, compounds, or mixtures, interpretation of chemical formulas, separation of mixtures into compounds by methods including evaporation, filtration, screening, magnetism.
Physical Science Lab, Level A: Cards 9, 10, 11, 12, 13, 27, 28, 29 **Physical Science Lab, Level B:** Cards 9, 10, 11, 12, 13, 27, 28, 29 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
A. Know the forms and properties of matter and how matter interacts.
Structure of Matter: 1. Identify the protons, neutrons, and electrons within an atom and describe their locations.
Physical Science Lab, Level A: Cards 3, 21, 22 **Physical Science Lab, Level B:** Cards 3, 21, 22

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
A. Know the forms and properties of matter and how matter interacts.
Structure of Matter: 2. Explain that elements are organized in the periodic table according to their properties.
Physical Science Lab, Level A: Cards 17, 18, 19, 20 **Physical Science Lab, Level B:** Cards 17, 18, 19, 20

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
A. Know the forms and properties of matter and how matter interacts.
Structure of Matter: 3. Know that compounds are made of two or more elements, but not sets of elements can combine to form compounds.
Physical Science Lab, Level A: Cards 22, 31, 32 **Physical Science Lab, Level B:** Cards 11, 31, 32

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
A. Know the forms and properties of matter and how matter interacts.
Changes in Matter: 1. Know that phase changes are physical changes that can be reversed (e.g., evaporation, condensation, melting).
Physical Science Lab, Level A: Cards 5, 6, 7 **Physical Science Lab, Level B:** Cards 5, 6, 7

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
A. Know the forms and properties of matter and how matter interacts.
Changes in Matter: 2. Describe various familiar physical and chemical changes that occur naturally (e.g., snow melting, photosynthesis, rusting, burning).
Physical Science Lab, Level A: Cards 5, 6, 7, 8, 9, 27 **Physical Science Lab, Level B:** Cards 5, 6, 7, 8, 9, 27

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
A. Know the forms and properties of matter and how matter interacts.
Changes in Matter: 3. Identify factors that influence the rate at which chemical reactions occur (e.g., temperature, concentration).
Physical Science Lab, Level A: Cards 9, 27, 28, 29, 30 **Physical Science Lab, Level B:** Cards 9, 27, 28, 29, 30 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 2, *Chemical Reaction Rates*, pages 81-83

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
A. Know the forms and properties of matter and how matter interacts.
Changes in Matter: 4. Know that chemical reactions can absorb energy (endothermic reactions) or release energy (exothermic reactions).
Physical Science Lab, Level A: Cards 27, 28, 29, 30 **Physical Science Lab, Level B:** Cards 27, 28, 29, 30

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
B. Explain the physical processes involved in the transfer, change, and conservation of energy.
Energy Transformations: 1. Know that energy exists in many forms and that when energy is transformed some energy is usually converted to heat.
Physical Science Lab, Level A: Cards 34, 36, 37, 39, 40, 41, 42, 45, 46, 47, 48, 49, 66, 67, 74, 79, 80, 82, 83 **Physical Science Lab, Level B:** Cards 34, 36, 37, 39, 40, 41, 42, 45, 46, 47, 48, 49, 66, 67, 74, 79, 80, 82, 83 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound*, pages 97-99

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
B. Explain the physical processes involved in the transfer, change, and conservation of energy.
Energy Transformations: 2. Know that kinetic energy is a measure of the energy of an object in motion and potential energy is a measure of an object's position or composition, including: transformation of gravitational potential energy of position into kinetic energy of motion by a falling object.
Physical Science Lab, Level A: Cards 36, 37, 39, 40, 41, 42 **Physical Science Lab, Level B:** Cards 36, 37, 39, 40, 41, 42 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 3, *Energy Conversion,* pages 85-87

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
B. Explain the physical processes involved in the transfer, change, and conservation of energy.
Energy Transformations: 3. Distinguish between renewable and nonrenewable sources of energy.
Life Science Lab, Level A: Card 84 **Life Science Lab, Level B:** Card 84 **Earth Science Lab, Level A:** Card 35 **Earth Science Lab, Level B:** Card 35 **Physical Science Lab, Level A:** Cards 34, 38, 46, 47, 48, 49 **Physical Science Lab, Level B:** Cards 34, 38, 46, 47, 48, 49

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
B. Explain the physical processes involved in the transfer, change, and conservation of energy.
Energy Transformations: 4. Know that electrical energy is the flow of electrons through electrical conductors that connect sources of electrical energy to points of use, including: electrical current paths through parallel and series circuits, production of electricity by fossil-fueled and nuclear power plants, wind generators, geothermal plants, and solar cells, use of electricity by appliances and equipment (e.g., calculators, hair dryers, light bulbs, motors).
Physical Science Lab, Level A: Cards 66, 67, 68, 69, 70, 71, 72, 73 **Physical Science Lab, Level B:** Cards 66, 67, 68, 69, 70, 71, 72, 73 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 5, *Making a Potato Battery,* pages 93-95

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
B. Explain the physical processes involved in the transfer, change, and conservation of energy.
Waves: 1. Understand how light and radio waves carry energy through a vacuum or matter by: straight-line travel unless an object is encountered, reflection by a mirror, refraction by a lens, absorption by a dark objects, separation of while light into different wavelengths by prisms, visibility of objects due to light emission or scattering.
Physical Science Lab, Level A: Cards 78, 79, 82, 83, 84, 85, 86, 87, 88 **Physical Science Lab, Level B:** Cards 77, 78, 82, 83, 84, 85, 86, 87, 88

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
B. Explain the physical processes involved in the transfer, change, and conservation of energy.
Waves: 2. Understand that vibrations of matter (e.g., sound, earthquakes, water waves) carry energy including: sound transmission through solids, liquids, and gases, relationship of pitch and loudness of sound to rate and distance (amplitude) of vibration, ripples made by objects dropped in water.
Earth Science Lab, Level A: Card 16 **Earth Science Lab, Level B:** Card 16 **Physical Science Lab, Level A:** Cards 77, 78, 79, 80 **Physical Science Lab, Level B:** Cards 77, 78, 79, 80 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 6, *Making Sound*, pages 97-99

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
C. Describe and explain forces that produce motion in objects.
Forces: 1. Know that there are fundamental forces in nature (e.g., gravity, electromagnetic forces, nuclear forces).
Physical Science Lab, Level A: Cards 34, 54, 57, 58, 59, 66, 67, 74, 75 **Physical Science Lab, Level B:** Cards 34, 54, 57, 58, 59, 66, 67, 74, 75

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
C. Describe and explain forces that produce motion in objects.
Forces: 2. Know that a force has both magnitude and direction.
Physical Science Lab, Level A: Cards 54, 55, 56, 57, 58, 59, 66, 74, 75 **Physical Science Lab, Level B:** Cards 54, 55, 56, 57, 58, 59, 66, 74, 75

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
C. Describe and explain forces that produce motion in objects.
Forces: 3. Analyze the separate forces acting on an object at rest or in motion (e.g., gravity, elastic force, friction), including how multiple forces reinforce or cancel one another to result in a net force that acts on an object.
Physical Science Lab, Level A: Cards 54, 55, 56, 57, 58, 59 **Physical Science Lab, Level B:** Cards 54, 55, 56, 57, 58, 59 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 4, *Reducing Friction*, pages 89-91

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
C. Describe and explain forces that produce motion in objects.
Forces: 4. Know that electric charge produces electrical fields and magnets produce magnetic fields.
Physical Science Lab, Level A: Cards 66, 74 **Physical Science Lab, Level B:** Cards 66, 74

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
C. Describe and explain forces that produce motion in objects.
Forces: 5. Know that a moving magnetic field can produce an electric current (generator) and how an electric current can produce a magnetic field (electromagnet).
Physical Science Lab, Level A: Card 76 **Physical Science Lab, Level B:** Card 76

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
C. Describe and explain forces that produce motion in objects.
Forces: 6. Know that Earth has a magnetic field.
Physical Science Lab, Level A: Card 75 **Physical Science Lab, Level B:** Card 75

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
C. Describe and explain forces that produce motion in objects.
Motion: 1. Know that an object's motion is always described relative to some other object or point (i.e., frame of reference).
Physical Science Lab, Level A: Card 50 **Physical Science Lab, Level B:** Card 50

Content of Science: Standard 1: PHYSICAL SCIENCE: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
C. Describe and explain forces that produce motion in objects.
Motion: 2. Understand and apply Newton's Laws of Motion: Objects in motion will continue in motion and objects at rest will remain at rest unless acted upon by an unbalanced force (inertia); If a greater force is applied to an object a proportionally greater acceleration will occur; If an object has more mass than the effect of an applied force is proportionally less.
Physical Science Lab, Level A: Card 55 **Physical Science Lab, Level B:** Card 55

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
A. Explain the diverse structures and functions of living things and the complex relationships between living things and their environments.
1. Describe how matter moves through ecosystems (e.g., water cycle, carbon cycle).
Life Science Lab, Level A: Cards 78, 79 **Life Science Lab, Level B:** Cards 78, 79 **Earth Science Lab, Level A:** Card 47 **Earth Science Lab, Level B:** Card 47

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
A. Explain the diverse structures and functions of living things and the complex relationships between living things and their environments.
2. Describe how energy flows through ecosystems (e.g., sunlight, green plants, food for animals).
Life Science Lab, Level A: Cards 12, 13, 16, 17, 73, 74, 75, 76 **Life Science Lab, Level B:** Cards 12, 13, 16, 17, 73, 74, 75, 76 **Life Science Lab Teacher's Handbook:** Hands-On Activity 2, *Culturing Bacteria*, pages 81-83; Hands-On Activity 6, *How Much Does Energy Cost?*, pages 97-99

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
A. Explain the diverse structures and functions of living things and the complex relationships between living things and their environments.
3. Explain how a change in the flow of energy can impact an ecosystem (e.g., the amount of sunlight available for plant growth, global climate change).
Life Science Lab, Level A: Cards 72, 77, 80, 84, 86, 87, 88, 89, 90 **Life Science Lab, Level B:** Cards 72, 77, 80, 84, 86, 87, 88, 89, 90 **Life Science Lab Teacher's Handbook:** Hands-On Activity 7, *The Effects of Acid Rain*, pages 101-103 **Earth Science Lab, Level A:** Cards 59, 60, 61 **Earth Science Lab, Level B:** Cards 59, 60, 61

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
B. Understand how traits are passed from one generation to the next and how species evolve.
1. Understand that living organisms are made mostly of molecules consisting of a limited number of elements (e.g., carbon, hydrogen, oxygen).
Life Science Lab, Level A: Card 4 **Life Science Lab, Level B:** Card 4

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
B. Understand how traits are passed from one generation to the next and how species evolve.
2. Identify DNA as the chemical compound involved in heredity in living organisms.
Life Science Lab, Level A: Card 64 **Life Science Lab, Level B:** Card 64

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
B. Understand how traits are passed from one generation to the next and how species evolve.
3. Describe the widespread role of carbon in the chemistry of living systems.
Life Science Lab, Level A: Cards 64, 78 **Life Science Lab, Level B:** Cards 64, 78 **Physical Science Lab, Level A:** Cards 31, 32 **Physical Science Lab, Level B:** Cards 31, 32

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
C. Understand the structure of organisms and the function of cells in living systems.
1. Describe how cells use chemical energy obtained from food to conduct cellular functions (i.e., respiration).
Life Science Lab, Level A: Card 9 **Life Science Lab, Level B:** Card 9

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
C. Understand the structure of organisms and the function of cells in living systems.
2. Explain that photosynthesis in green plants captures the energy from the sun and stores it chemically.
Life Science Lab, Level A: Cards 16, 17, 76 **Life Science Lab, Level B:** Cards 16, 17, 76

Content of Science: Standard 2: LIFE SCIENCE: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
C. Understand the structure of organisms and the function of cells in living systems.
3. Describe how chemical substances can influence cellular activity (e.g., pH).
Life Science Lab, Level A: Card 4 **Life Science Lab, Level B:** Card 4

Content of Science: Standard 3: EARTH and SPACE SCIENCE: Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.
A. Describe how the concepts of energy, matter, and force can be used to explain the observed behavior of the solar system, the universe, and their structures.
1. Understand how energy from the sun and other stars, in the form of light, travels long distances to reach Earth.
Earth Science Lab, Level A: Cards 62, 67, 68, 69 **Earth Science Lab, Level B:** Cards 62, 67, 68, 69

Content of Science: Standard 3: EARTH and SPACE SCIENCE: Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.
A. Describe how the concepts of energy, matter, and force can be used to explain the observed behavior of the solar system, the universe, and their structures.
2. Explain how the properties of light (e.g., emission, reflection, refraction) emitted from the sun and stars are used to learn about the universe, including: distances in the solar system and the universe, temperatures of different stars.
Earth Science Lab, Level A: Cards 67, 74, 75, 76, 81 **Earth Science Lab, Level B:** Cards 67, 74, 75, 76, 81

Content of Science: Standard 3: EARTH and SPACE SCIENCE: Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.
A. Describe how the concepts of energy, matter, and force can be used to explain the observed behavior of the solar system, the universe, and their structures.
3. Understand how gravitational force acts on objects in the solar system and the universe, including: similar actions on masses on Earth and on other objects in the solar system, and explanation of the orbits of the planets around the sun.
Earth Science Lab, Level A: Cards 62, 68 **Earth Science Lab, Level B:** Cards 62, 68 **Physical Science Lab, Level A:** Cards 57, 59 **Physical Science Lab, Level B:** Cards 57, 59

Content of Science: Standard 3: EARTH and SPACE SCIENCE: Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.
B. Describe the structure of Earth and its atmosphere and explain how energy, matter, and forces shape Earth's systems.
1. Describe how the role of pressure (and heat) in the rock cycle.
Earth Science Lab, Level A: Cards 6, 7, 8, 9 **Earth Science Lab, Level B:** Cards 6, 7, 8, 9

Content of Science: Standard 3: EARTH and SPACE SCIENCE: Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.
B. Describe the structure of Earth and its atmosphere and explain how energy, matter, and forces shape Earth's systems.
2. Understand the unique role water plays on Earth, including: ability to remain liquid at most Earth temperatures, properties of water related to processes in the water cycle: evaporation, condensation, precipitation, surface run-off, percolation, dissolving of minerals and gases and transport to the oceans, fresh and salt water in oceans, rivers, lakes, and glaciers, and reactant in photosynthesis.
Earth Science Lab, Level A: Cards 9, 22, 25, 26, 28, 47, 48, 49, 82, 83, 84, 87, 90 **Earth Science Lab, Level B:** Cards 9, 22, 25, 26, 28, 47, 48, 49, 82, 83, 84, 87, 90 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 8, *Temperature, Salinity, and Water Density*, pages 101-103

Content of Science: Standard 3: EARTH and SPACE SCIENCE: Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.
B. Describe the structure of Earth and its atmosphere and explain how energy, matter, and forces shape Earth's systems.
3. Understand that geologic conditions that have resulted in energy resources (e.g., oil, coal, natural gas) available in New Mexico.
Earth Science Lab, Level A: Card 35 **Earth Science Lab, Level B:** Card 35 **Physical Science Lab, Level A:** Card 38 **Physical Science Lab, Level B:** Card 38

Science and Society: Understand how scientific discoveries, inventions, practices, and knowledge influence, and are influenced by individuals and societies.
A. Explain how scientific discoveries and inventions have changed individuals and societies.
1. Analyze the interrelationships between science and technology (e.g., germ theory, vaccines).
Life Science Lab, Level A: Cards 5, 49, 59, 64, 69, 83, 87, 88, 89, 90 **Life Science Lab, Level B:** Cards 5, 49, 59, 64, 69, 83, 87, 88, 89, 90 **Earth Science Lab, Level A:** Cards 16, 20, 31, 37, 51, 54, 79, 80, 81, 88 **Earth Science Lab, Level B:** Cards 16, 20, 31, 37, 51, 54, 79, 80, 81, 88 **Physical Science Lab, Level A:** Cards 33, 35, 76, 81, 84, 90 **Physical Science Lab, Level B:** Cards 33, 35, 76, 81, 84, 90

Science and Society: Understand how scientific discoveries, inventions, practices, and knowledge influence, and are influenced by individuals and societies.
A. Explain how scientific discoveries and inventions have changed individuals and societies.
2. Describe how scientific information can help to explain environmental phenomena (e.g., floods, earthquakes, volcanoes, fire, extreme weather).
Earth Science Lab, Level A: Cards 10, 15, 16, 17, 37, 45, 46, 51, 52, 53, 54, 59, 60, 61, 62, 64, 65, 66, 88 **Earth Science Lab, Level B:** Cards 10, 15, 16, 17, 37, 45, 46, 51, 52, 53, 54, 59, 60, 61, 62, 64, 65, 66, 88

Science and Society: Understand how scientific discoveries, inventions, practices, and knowledge influence, and are influenced by individuals and societies.
A. Explain how scientific discoveries and inventions have changed individuals and societies.
3. Describe how technological revolutions have significantly influenced societies (e.g., energy production, warfare, space exploration).
Life Science Lab, Level A: Cards 49, 64, 69, 87, 88, 89, 90 **Life Science Lab, Level B:** Cards 49, 64, 69, 87, 88, 89, 80 **Life Science Lab Teacher's Handbook:** Hands-On Activity 7, *The Effects of Acid Rain*, pages 101-103 **Earth Science Lab, Level A:** Cards 37, 54, 79, 80, 81 **Earth Science Lab, Level B:** Cards 37, 54, 79, 80, 81 **Physical Science Lab, Level A:** Cards 33, 35, 38, 41, 42, 45, 46, 47, 48, 49, 63, 64, 70, 73, 81, 84, 90 **Physical Science Lab, Level B:** Cards 33, 35, 38, 41, 42, 45, 46, 47, 48, 49, 63, 64, 70, 73, 81, 84, 90

Science and Society: Understand how scientific discoveries, inventions, practices, and knowledge influence, and are influenced by individuals and societies.
A. Explain how scientific discoveries and inventions have changed individuals and societies.
4. Critically analyze risks and benefits associated with technologies related to energy production.
Life Science Lab, Level A: Cards 84, 89, 90 **Life Science Lab, Level B:** Cards 84, 89, 90 **Life Science Lab Teacher's Handbook:** Hands-On Activity 7, *The Effects of Acid Rain*, pages 101-103 **Earth Science Lab, Level A:** Cards 35, 42, 59, 60, 61, 86 **Earth Science Lab, Level B:** Cards 35, 42, 59, 60, 61, 86 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 5, *What is in the Air?*, pages 89-91 **Physical Science Lab, Level A:** Cards 34, 46, 47, 48, 49 **Physical Science Lab, Level B:** Cards 34, 46, 47, 48, 49