SRA Life, Earth, and Physical Science Laboratories correlation to Wyoming Science Content and Performance Standards Grades 6-8

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.

Content Standard 1: CONCEPTS AND PROCESSES: In the context of unifying concepts and processes, students develop an understanding of scientific content through inquiry. Science is a dynamic process; concepts and content are best learned through inquiry and investigation.

LIFE SYSTEMS

1. Levels of Organization in Living Systems: Students model the cell as the basic unit of a living system. They realize that all functions that sustain life act within a single cell and cells differentiate into specialized cells, tissues, organs, and organ systems.

Life Science Lab, Level A: Cards 5, 6, 7, 8, 9, 10, 44, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58

Life Science Lab, Level B: Cards 5, 6, 7, 8, 9, 10, 44, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58

Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells*, pages 77-79; Hands-On Activity 4, *Your Cardiovascular System*, pages 89-91

Content Standard 1: CONCEPTS AND PROCESSES: In the context of unifying concepts and processes, students develop an understanding of scientific content through inquiry. Science is a dynamic process; concepts and content are best learned through inquiry and investigation.

LIFE SYSTEMS

2. Reproduction and Heredity: Students describe reproduction as a characteristic of all living systems, which is essential to the continuation of species, and identify and interpret traits, patterns of inheritance, and the interaction between genetics and environment.

Life Science Lab, Level A: Cards 1, 58, 60, 61, 62, 63, 64 **Life Science Lab, Level B:** Cards 1, 58, 60, 61, 62, 63, 64

Content Standard 1: CONCEPTS AND PROCESSES: In the context of unifying concepts and processes, students develop an understanding of scientific content through inquiry. Science is a dynamic process; concepts and content are best learned through inquiry and investigation.

LIFE SYSTEMS

3. Evolution as a Theory: Students explain evolution as a theory and apply the theory to the diversity of species, which results from natural selection and the acquisition of unique characteristics through biological adaptation.

Life Science Lab, Level A: Cards 65, 66, 67, 68 **Life Science Lab, Level B:** Cards 65, 66, 67, 68

Content Standard 1: CONCEPTS AND PROCESSES: In the context of unifying concepts and processes, students develop an understanding of scientific content through inquiry. Science is a dynamic process; concepts and content are best learned through inquiry and investigation.

LIFE SYSTEMS

4. Diversity of Organisms: Students investigate the interconnectedness of organisms, identifying similarity and diversity of organisms through a classification system of hierarchical relationships and structural homologies.

Life Science Lab, Level A: Cards 2, 3, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40

Life Science Lab, Level B: Cards 2, 3, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40

Life Science Lab Teacher's Handbook: Hands-On Activity 2, *Culturing Bacteria*, pages 81-83; Hands-On Activity 3, *Investigating Arthropods*, pages 85-87

Content Standard 1: CONCEPTS AND PROCESSES: In the context of unifying concepts and processes, students develop an understanding of scientific content through inquiry. Science is a dynamic process; concepts and content are best learned through inquiry and investigation.

LIFE SYSTEMS

5. Behavior and Adaptation: Students recognize behavior as a response of an organism to an internal or environmental stimulus and connect the characteristics and behaviors of an organism to biological adaptation.

Life Science Lab, Level A: Cards 23, 24, 36, 41, 43, 83 **Life Science Lab, Level B:** Cards 23, 24, 36, 41, 43, 83

Content Standard 1: CONCEPTS AND PROCESSES: In the context of unifying concepts and processes, students develop an understanding of scientific content through inquiry. Science is a dynamic process; concepts and content are best learned through inquiry and investigation.

LIFE SYSTEMS

6. Interrelationships of Populations and Ecosystems: Students illustrate populations of organisms and their interconnection within an ecosystem, identifying relationships among producers, consumers, and decomposers.

Life Science Lab, Level A: Cards 13, 73, 74, 75, 76, 77

Life Science Lab, Level B: Cards 13, 73, 74, 75, 76, 77

Life Science Lab Teacher's Handbook: Hands-On Activity 6, How Much Does Energy Cost?, pages 97-99

Content Standard 1: CONCEPTS AND PROCESSES: In the context of unifying concepts and processes, students develop an understanding of scientific content through inquiry. Science is a dynamic process; concepts and content are best learned through inquiry and investigation.

EARTH, SPACE, AND PHYSICAL SCIENCE

7. The Earth in the Solar System: Students describe Earth as the third planet in the Solar System and understand the effects of the sun as a major source of energy, gravitational forces, and motions of objects in the Solar System.

Earth Science Lab, Level A: Cards 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73

Earth Science Lab, Level B: Cards 62, 63, 64, 65, 66, 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

Physical Science Lab, Level A: Card 59 Physical Science Lab, Level B: Card 59 Content Standard 1: CONCEPTS AND PROCESSES: In the context of unifying concepts and processes, students develop an understanding of scientific content through inquiry. Science is a dynamic process; concepts and content are best learned through inquiry and investigation.

EARTH, SPACE, AND PHYSICAL SYSTEMS

8. The Structure of the Earth System: Students examine the structure of the Earth, identifying layers of the Earth, considering plate movements and its effect, and recognizing landforms resulting from constructive and destructive forces.

Earth Science Lab, Level A: Cards 1, 2, 10, 11, 12, 13, 14, 15, 16, 17, 21, 22, 24, 25, 26, 27, 28

Earth Science Lab, Level B: Cards 1, 2, 10, 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 Standard 1: CONCEPTS AND PROCESSES: In the context of unifying concepts and processes, students develop an understanding of scientific content through inquiry. Science is a dynamic process; concepts and content are best learned through inquiry and investigation.

EARTH, SPACE, AND PHYSICAL SYSTEMS

9. The Earth's History: Students systematize the Earth's history in terms of geological evidence, comparing past and present Earth processes and identifying catastrophic events and fossil evidence.

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 10, 11, 12, 13, 14, 15, 17, 30, 31, 32, 33, 34, 52, 53, 54

Earth Science Lab, Level B: Cards 10, 11, 12, 13, 14, 15, 17, 30, 31, 32, 33, 34, 52, 53, 54

Earth Science Lab Teacher's Handbook: Hands-On Activity 2, Plate Boundaries in Action, pages 77-79; Hands-On Activity

6, Modeling a Tornado, pages 93-95

Content Standard 1: CONCEPTS AND PROCESSES: In the context of unifying concepts and processes, students develop an understanding of scientific content through inquiry. Science is a dynamic process; concepts and content are best learned through inquiry and investigation.

EARTH, SPACE, AND PHYSICAL SYSTEMS

10. The Structure and Properties of Matter: Students identify characteristic properties of matter such as density, solubility, and boiling point and understand that elements are the basic components of matter.

Physical Science Lab, Level A: Cards 1, 2, 3, 4, 5, 6, 7, 10, 42

Physical Science Lab, Level B: Cards 1, 2, 3, 4, 5, 6, 7, 10, 42

Content Standard 1: CONCEPTS AND PROCESSES: In the context of unifying concepts and processes, students develop an understanding of scientific content through inquiry. Science is a dynamic process; concepts and content are best learned through inquiry and investigation.

EARTH, SPACE, AND PHYSICAL SYSTEMS

11. Physical and Chemical Changes in Matter: Students evaluate chemical and physical changes, recognizing that chemical change forms compounds with different properties and that physical change alters the appearance but not the composition of a substance.

Physical Science Lab, Level A: Cards 5, 6, 7, 8, 9, 11, 12, 13, 27, 28, 29, 30, 42

Physical Science Lab, Level B: Cards 5, 6, 7, 8, 9, 11, 12, 13, 27, 28, 29, 30, 42

Physical Science Lab Teacher's Handbook: Hands-On Activity 2, Chemical Reaction Rates, pages 81-83

Content Standard 1: CONCEPTS AND PROCESSES: In the context of unifying concepts and processes, students develop an understanding of scientific content through inquiry. Science is a dynamic process; concepts and content are best learned through inquiry and investigation.

EARTH, SPACE, AND PHYSICAL SYSTEMS

12. Forms and Uses of Energy: Students investigate energy as a property of substances in a variety of forms with a range of uses.

Physical Science Lab, Level A: Cards 34, 36, 37, 38, 39, 40, 41, 42, 45, 46, 47, 48, 49, 66, 67, 68, 69, 70, 72, 73, 74, 76, 77, 78, 79, 81, 82, 83, 84, 90

Physical Science Lab, Level B: Cards 34, 36, 37, 38, 39, 40, 41, 42, 45, 46, 47, 48, 49, 66, 67, 68, 69, 70, 72, 73, 74, 76, 77, 78, 79, 81, 82, 83, 84, 90

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 Standard 1: CONCEPTS AND PROCESSES: In the context of unifying concepts and processes, students develop an understanding of scientific content through inquiry. Science is a dynamic process; concepts and content are best learned through inquiry and investigation.

EARTH, SPACE, AND PHYSICAL SYSTEMS

13. The Conservation of Matter and Energy: Students identify supporting evidence to explain conservation of matter and energy, indicating that matter or energy cannot be created or destroyed but is transferred from one object to another.

Physical Science Lab, Level A: Cards 9, 27, 28, 29, 30, 36, 37, 39, 40, 41, 42, 45, 46, 47, 48, 49, 66, 67, 76, 77, 78, 79, 80, 82, 83

Physical Science Lab, Level B: Cards 9, 27, 28, 29, 30, 36, 37, 39, 40, 41, 42, 45, 46, 47, 48, 49, 66, 67, 76, 77, 78, 79, 80, 82, 83

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; Hands-On Activity 5, *Making a Potato Battery*, pages 93-95; Hands-On Activity 6, *Making Sound*, pages 97-99

Content Standard 1: CONCEPTS AND PROCESSES: In the context of unifying concepts and processes, students develop an understanding of scientific content through inquiry. Science is a dynamic process; concepts and content are best learned through inquiry and investigation.

EARTH, SPACE, AND PHYSICAL SYSTEMS

14. Effects of Motions and Forces: Students describe motion of an object by position, direction, and speed, and identify the effects of force and inertia on an object.

Physical Science Lab, Level A: Cards 50, 51, 52, 53, 54, 55, 56, 57, 58, 59

Physical Science Lab, Level B: Cards 50, 51, 52, 53, 54, 55, 56, 57, 58, 59

Physical Science Lab Teacher's Handbook: Hands-On Activity 4, Reducing Friction, pages 89-91

1. Students research scientific information and present findings through appropriate means.

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

Content Standard 2: SCIENCE AS INQUIRY: Students demonstrate knowledge, skills, and habits of mind necessary to safely perform scientific inquiry. Inquiry is the foundation for the development of content, teaching students the use of processes of science that enable them to construct and develop their own knowledge. Inquiry requires appropriate field, classroom, and laboratory experiences with suitable facilities and equipment.

- 2. Students use inquiry to conduct scientific investigations.
 - Ask questions that lead to conducting an investigation.

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

- 2. Students use inquiry to conduct scientific investigations.
 - Collect, organize, and analyze and appropriately represent data.

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 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 6, *Making Sound*, pages 97-99

Classroom Resource CD-ROM: Writing Strategy 22, 24

Content Standard 2: SCIENCE AS INQUIRY: Students demonstrate knowledge, skills, and habits of mind necessary to safely perform scientific inquiry. Inquiry is the foundation for the development of content, teaching students the use of processes of science that enable them to construct and develop their own knowledge. Inquiry requires appropriate field, classroom, and laboratory experiences with suitable facilities and equipment.

- 2. Students use inquiry to conduct scientific investigations.
 - Draw conclusions based on evidence and make connections to applied scientific concepts.

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 18

2. Students use inquiry to conduct scientific investigations.

• Clearly and accurately communicate the result of the investigation.

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

Content Standard 2: SCIENCE AS INQUIRY: Students demonstrate knowledge, skills, and habits of mind necessary to safely perform scientific inquiry. Inquiry is the foundation for the development of content, teaching students the use of processes of science that enable them to construct and develop their own knowledge. Inquiry requires appropriate field, classroom, and laboratory experiences with suitable facilities and equipment.

3. Students clearly and accurately communicate the result of their own work, as well as information obtained from other sources.

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

4. Students recognize the relationship between science and technology in meeting human needs.

Life Science Lab, Level A: Cards 5, 49, 59, 64, 69, 83, 84, 87, 88, 89, 90 **Life Science Lab, Level B:** Cards 5, 49, 59, 64, 69, 83, 84, 87, 88, 89, 90

Earth Science Lab, Level A: Cards 16, 20, 31, 51, 54, 70, 79, 80, 81, 88 **Earth Science Lab, Level B:** Cards 16, 20, 31, 51, 54, 70, 79, 80, 81, 88

Physical Science Lab, Level A: Cards 33, 35, 46, 47, 48, 49, 70, 71, 72, 73, 76, 81, 84, 90 **Physical Science Lab, Level B:** Cards 33, 35, 46, 47, 48, 49, 70, 71, 72, 73, 76, 81, 84, 90

Content Standard 2: SCIENCE AS INQUIRY: Students demonstrate knowledge, skills, and habits of mind necessary to safely perform scientific inquiry. Inquiry is the foundation for the development of content, teaching students the use of processes of science that enable them to construct and develop their own knowledge. Inquiry requires appropriate field, classroom, and laboratory experiences with suitable facilities and equipment.

5. Students properly use appropriate scientific and safety equipment, recognize hazards and safety symbols, and observe standard safety procedures.

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 Standard 3: HISTORY AND NATURE OF SCIENCE IN PERSONAL AND SOCIAL DECISIONS: Students recognize the nature of science, its history, and its connections to personal, social, economic, and political decisions. Historically, scientific events have had significant impacts on out cultural heritage.

1. Students explore the nature and history of science.

A. Students explore how scientific knowledge changes and grows over time, and impacts personal and social decisions.

Life Science Lab, Level A: Cards 2, 5, 45, 46, 49, 59, 64, 69, 87, 88, 89, 90 **Life Science Lab, Level B:** Cards 2, 5, 45, 46, 49, 59, 64, 69, 87, 88, 89, 90

Earth Science Lab, Level A: Cards 10, 20, 31, 37, 42, 51, 54, 59, 60, 61, 70, 79, 80, 81, 88 **Earth Science Lab, Level B:** Cards 10, 20, 31, 37, 42, 51, 54, 59, 60, 61, 70, 79, 80, 81, 88

Physical Science Lab, Level A: Cards 3, 17, 35, 81, 84, 90 **Physical Science Lab, Level B:** Cards 3, 17, 35, 81, 84, 90

Content Standard 3: HISTORY AND NATURE OF SCIENCE IN PERSONAL AND SOCIAL DECISIONS: Students recognize the nature of science, its history, and its connections to personal, social, economic, and political decisions. Historically, scientific events have had significant impacts on out cultural heritage.

1. Students explore the nature and history of science.

B. Students explore the historical use of scientific information to make personal and social decisions.

Life Science Lab, Level A: Cards 45, 46, 47, 49, 69, 84, 87, 88, 89, 90 **Life Science Lab, Level B:** Cards 45, 46, 47, 49, 69, 84, 87, 88, 89, 90

Earth Science Lab, Level A: Cards 10, 29, 30, 37, 42, 52, 53, 54, 59, 60, 61, 85, 86, 90 **Earth Science Lab, Level B:** Cards 10, 29, 30, 37, 42, 52, 53, 54, 59, 60, 61, 85, 86, 90

Physical Science Lab, Level A: Cards 33, 34, 35, 46, 47, 48, 49, 71, 72, 73, 81, 84 **Physical Science Lab, Level B:** Cards 33, 34, 35, 46, 47, 48, 49, 71, 72, 73, 81, 84

Content Standard 3: HISTORY AND NATURE OF SCIENCE IN PERSONAL AND SOCIAL DECISIONS: Students recognize the nature of science, its history, and its connections to personal, social, economic, and political decisions. Historically, scientific events have had significant impacts on out cultural heritage.

2. Students explore how scientific information is used to make decisions.

A. The role of science in solving personal, local, and national problems.

Life Science Lab, Level A: Cards 84, 85, 86, 87, 88, 89, 90 **Life Science Lab, Level B:** Cards 84, 85, 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

Physical Science Lab, Level A: Cards 34, 46, 47, 48, 49 **Physical Science Lab, Level B:** Cards 34, 46, 47, 48, 49

Content Standard 3: HISTORY AND NATURE OF SCIENCE IN PERSONAL AND SOCIAL DECISIONS: Students recognize the nature of science, its history, and its connections to personal, social, economic, and political decisions. Historically, scientific events have had significant impacts on out cultural heritage.

2. Students explore how scientific information is used to make decisions.

B. Interdisciplinary connections of the sciences and connections to other subject areas and careers in science or technical fields.

Life Science Lab, Level A: Cards 2, 4, 11, 12, 17, 26, 45, 46, 64, 67, 69, 83, 84, 86, 87, 88, 89, 90 **Life Science Lab, Level B:** Cards 2, 4, 11, 12, 17, 26, 45, 46, 64, 67, 69, 83, 84, 86, 87, 88, 89, 90

Earth Science Lab, Level A: Cards 16, 31, 37, 38, 42, 59, 60, 61, 79, 80, 81 **Earth Science Lab, Level B:** Cards 16, 31, 37, 38, 42, 59, 60, 61, 79, 80, 81

Physical Science Lab, Level A: Cards 6, 7, 31, 32, 46, 47, 48, 49, 71, 72, 73, 81, 84, 90 **Physical Science Lab, Level B:** Cards 6, 7, 31, 32, 46, 47, 48, 49, 71, 72, 73, 81, 84, 90

Content Standard 3: HISTORY AND NATURE OF SCIENCE IN PERSONAL AND SOCIAL DECISIONS: Students recognize the nature of science, its history, and its connections to personal, social, economic, and political decisions. Historically, scientific events have had significant impacts on out cultural heritage.

2. Students explore how scientific information is used to make decisions.

C. Origins and conservation of natural resources, including Wyoming examples.

Life Science Lab, Level A: Cards 84, 86, 87, 88, 89, 90 **Life Science Lab, Level B:** Cards 84, 86, 87, 88, 89, 90

Earth Science Lab, Level A: Cards 3, 29, 35, 36, 37, 42, 59, 60, 61, 85, 86, 90 **Earth Science Lab, Level B:** Cards 3, 29, 35, 36, 37, 42, 59, 60, 61, 85, 86, 90

Physical Science Lab, Level A: Cards 38, 46, 47, 48, 49 **Physical Science Lab, Level B:** Cards 38, 46, 47, 48, 49