SRA Life, Earth, and Physical Science Laboratories
correlation to
South Dakota 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.

Nature of Science

Indicator 1: Understand the nature and origin of scientific knowledge.

- **Recognize scientific knowledge as not merely a set of static facts, but is dynamic and affords the best current explanations.**

Life Science Lab, Level A: Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90
Life Science Lab, Level B: Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90
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, Level A: Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90
Earth Science Lab, Level B: Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90
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, Level A: Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90
Physical Science Lab, Level B: Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90
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

Nature of Science
Indicator 1: Understand the nature and origin of scientific knowledge.
• **Identify important contributions to the advancement of science from people of differing cultures, genders, and ethnicity.**
Life Science Lab, Level A: Cards 2, 5, 46, 59 **Life Science Lab, Level B:** Cards 2, 5, 46, 59 **Earth Science Lab, Level A:** Cards 10, 68, 72, 78 **Earth Science Lab, Level B:** Cards 10, 68, 72, 78 **Physical Science Lab, Level A:** Cards 3, 7, 17, 55 **Physical Science Lab, Level B:** Cards 3, 7, 17, 55

Nature of Science
Indicator 2: Apply the skills necessary to conduct scientific investigations.
6.N.2.1. Students are able to pose questions that can be explored through scientific investigations.
Conduct systematic scientific investigations. • **Use appropriate supportive technologies.**
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

Nature of Science
Indicator 2: Apply the skills necessary to conduct scientific investigations.
6.N.2.1. Students are able to pose questions that can be explored through scientific investigations.
Conduct systematic scientific investigations. • **Describe the limits of accuracy inherent in a particular measuring device or measurement procedure.**
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 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; 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 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

Nature of Science
Indicator 2: Apply the skills necessary to conduct scientific investigations.
6.N.2.1. Students are able to pose questions that can be explored through scientific investigations.
Conduct systematic scientific investigations. • **Manipulate one variable over time with many repeated trials to test a hypothesis.**
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

Nature of Science
Indicator 2: Apply the skills necessary to conduct scientific investigations.
6.N.2.1. Students are able to pose questions that can be explored through scientific investigations.
Conduct systematic scientific investigations. • **Construct and interpret graphs from data to make predictions.**
Life Science Lab Teacher's Handbook: Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83

Nature of Science
Indicator 2: Apply the skills necessary to conduct scientific investigations.
6.N.2.1. Students are able to pose questions that can be explored through scientific investigations.
Conduct systematic scientific investigations. • **Use research methods to investigate practical and/or personal scientific problems and questions.**
Classroom Resource CD-ROM: Writing Strategy 9, 25

Nature of Science
Indicator 2: Apply the skills necessary to conduct scientific investigations.
6.N.2.1. Students are able to pose questions that can be explored through scientific investigations.
Describe and demonstrate various safety factors associated with different types of scientific activity. • **Use appropriate scientific equipment safely in all investigations.** • **Wear appropriate attire.**
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

Physical Science
Indicator 1: Describe structures and properties of, and changes in, matter.
6.P.1.1. Students are able to identify the subatomic particles that make up atoms.
• **Electrons, protons, and neutrons.**
Physical Science Lab, Level A: Cards 21, 22, 23, 24, 25, 26 **Physical Science Lab, Level B:** Cards 21, 22, 23, 24, 25, 26

Physical Science
Indicator 1: Describe structures and properties of, and changes in, matter.
6.P.1.2. Students are able to classify matter based on physical and chemical properties.
• **Compare and contrast compounds and elements.**
Physical Science Lab, Level A: Cards 10, 11 **Physical Science Lab, Level B:** Cards 10, 11

Physical Science
Indicator 1: Describe structures and properties of, and changes in, matter.
6.P.1.2. Students are able to classify matter based on physical and chemical properties.
• **Use the Periodic Table as a tool to describe elements.**
Physical Science Lab, Level A: Cards 17, 18, 19, 20 **Physical Science Lab, Level B:** Cards 17, 18, 19, 20

Physical Science
Indicator 2: Analyze forces, their forms, and their effects on motions.
6.P.1.3. Students are able to describe phase changes in matter differentiating between the particle motion in solids, liquids, and gases.
Physical Science Lab, Level A: Cards 5, 6, 7, 8, 42 **Physical Science Lab, Level B:** Cards 5, 6, 7, 8, 42

Physical Science
Indicator 2: Analyze forces, their forms, and their effects on motions.
6.P.2.1. Students are able to describe how push/pull forces acting on an object produce motion.
• **Demonstrate how all forces have magnitude and direction.**
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

Physical Science
Indicator 2: Analyze forces, their forms, and their effects on motions.
6.P.2.1. Students are able to describe how push/pull forces acting on an object produce motion.
• **Newton's Laws of Motion.**
Physical Science Lab, Level A: Cards 55, 56 **Physical Science Lab, Level B:** Cards 55, 56

Physical Science
Indicator 3: Analyze interactions of energy and matter.
6.P.3.1. Students are able to identify types of energy transformations.
• **Explain basic principles of electricity and magnetism including static, current, circuits, and magnetic fields.**
Physical Science Lab, Level A: Cards 66, 67, 68, 69, 71, 72, 73, 74, 75, 76 **Physical Science Lab, Level B:** Cards 66, 67, 68, 69, 71, 72, 73, 74, 75, 76 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 5, *Making a Potato Battery*, pages 93-95

Physical Science
Indicator 3: Analyze interactions of energy and matter.
6.P.3.1. Students are able to identify types of energy transformations.
• **Investigate the properties of light (electromagnetic spectrum).**
Physical Science Lab, Level A: Cards 82, 83, 84, 85, 86, 87, 88, 89, 90 **Physical Science Lab, Level B:** Cards 82, 83, 84, 85, 86, 87, 88, 89, 90

Physical Science
Indicator 3: Analyze interactions of energy and matter.
6.P.3.1. Students are able to identify types of energy transformations.
• **Illustrate sunlight to chemical (photosynthesis).**
Life Science Lab, Level A: Cards 7, 9, 16, 17 **Life Science Lab, Level B:** Cards 7, 9, 16, 17 **Physical Science Lab, Level A:** Cards 38, 45, 46 **Physical Science Lab, Level B:** Cards 38, 45, 46

Life Science
Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
6.L.1.1. Students are able to illustrate the difference between plant and animal cells.
• **Plant cells have chloroplasts and cell walls.**
Life Science Lab, Level A: Cards 7, 9 **Life Science Lab, Level B:** Cards 7, 9

Life Science
Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
6.L.1.1. Students are able to illustrate the difference between plant and animal cells.
• **Identify basic cell organelles and their functions.**
Life Science Lab, Level A: Card 9 **Life Science Lab, Level B:** Card 9

Life Science
Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
6.L.1.1. Students are able to illustrate the difference between plant and animal cells.
• **Recognize cells as the building blocks of living things.**
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

Life Science
Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
6.L.1.1. Students are able to illustrate the difference between plant and animal cells.
• **Observe cells with a compound microscope.**
Life Science Lab, Level A: Cards 6, 7, 8 **Life Science Lab, Level B:** Cards 6, 7, 8 **Life Science Lab Teacher's Handbook:** Hands-On Activity 1, *Examining Cells,* pages 77-79

Life Science
Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
6.L.1.2. Students are able explain the importance and scientific use of a classification system.
• **Management of diversity for organization and categorization.**
Life Science Lab, Level A: Cards 2, 3, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 25, 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, 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

Life Science
Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
6.L.1.2. Students are able explain the importance and scientific use of a classification system.
• **Uniform scientific communication.**
Life Science Lab, Level A: Cards 2, 3, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 25, 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, 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

Life Science
Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
6.L.1.2. Students are able explain the importance and scientific use of a classification system.
• **Kingdom, phylum, class, order, family, genus, species.**
Life Science Lab, Level A: Cards 2, 3, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 25, 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, 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

Life Science
Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
6.L.1.2. Students are able explain the importance and scientific use of a classification system.
• **Kingdom classification system (monera, protista, plantae, fungi, animalia).**
Life Science Lab, Level A: Cards 2, 3, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 25, 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, 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

Life Science
Indicator 2: Analyze various patterns and products of natural and induced biological change.
Investigate the lineage of organisms to predict traits and features.
Life Science Lab, Level A: Cards 60, 61, 62, 63, 64, 65, 66, 67, 68 **Life Science Lab, Level B:** Cards 60, 61, 62, 63, 64, 65, 66, 67, 68

Life Science
Indicator 2: Analyze various patterns and products of natural and induced biological change.
Describe the difference between a hybrid and a purebred trait.
Life Science Lab, Level A: Cards 1, 62, 63 **Life Science Lab, Level B:** Cards 1, 62, 63

Life Science
Indicator 2: Analyze various patterns and products of natural and induced biological change.
5.L.2.2. Students are able to describe structures and processes involved in plant reproduction.
Life Science Lab, Level A: Cards 18, 19, 20, 21, 22 **Life Science Lab, Level B:** Cards 18, 19, 20, 21, 22

Life Science
Indicator 3: Analyze how organisms are linked to one another and the environment.
Model cycles in ecosystems.
Life Science Lab, Level A: Cards 72, 73, 74, 75, 76, 77, 78, 79, 80 **Life Science Lab, Level B:** Cards 72, 73, 74, 75, 76, 77, 78, 79, 80 **Life Science Lab Teacher's Handbook:** Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99 **Earth Science Lab, Level A:** Cards 47, 48, 49 **Earth Science Lab, Level B:** Cards 47, 48, 49

Life Science
Indicator 3: Analyze how organisms are linked to one another and the environment.
Describe the relationship between characteristics of biomes and the organisms that live there.
Life Science Lab, Level A: Cards 81, 82 **Life Science Lab, Level B:** Cards 81, 82 **Earth Science Lab, Level A:** Cards 83, 89 **Earth Science Lab, Level B:** Cards 83, 89

Life Science
Indicator 3: Analyze how organisms are linked to one another and the environment.
Describe how organisms adapt to biotic and abiotic factors in a biome.
Life Science Lab, Level A: Cards 23, 24, 36, 41, 43, 83 **Life Science Lab, Level B:** Cards 23, 24, 36, 41, 43, 83

Earth/Space Science
Indicator 1: Analyze the various structures and processes of the Earth system.
6.E.1.1. Students are able to describe how the spheres (lithosphere, hydrosphere, atmosphere, and biosphere) of the Earth interact.
• **Impact of humans and natural events.**
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 24, 25, 26, 27, 28, 29, 37, 42, 52, 53, 54, 59, 60, 61, 85, 86 **Earth Science Lab, Level B:** Cards 24, 25, 26, 27, 28, 29, 37, 42, 52, 53, 54, 59, 60, 61, 85, 86 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 5, *What is in the Air?*, pages 89-91

Earth/Space Science
Indicator 1: Analyze the various structures and processes of the Earth system.
6.E.1.1. Students are able to describe how the spheres (lithosphere, hydrosphere, atmosphere, and biosphere) of the Earth interact.
• **Composition of spheres.**
Earth Science Lab, Level A: Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 21, 22, 23, 24, 25, 26, 27, 28, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 82, 83, 84, 87, 88, 89, 90 **Earth Science Lab, Level B:** Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 21, 22, 23, 24, 25, 26, 27, 28, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 82, 83, 84, 87, 88, 89, 90 **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 5, *What is in the Air?*, pages 89-91; Hands-On Activity 6, *Modeling a Tornado*, pages 93-95; Hands-On Activity 8, *Temperature, Salinity, and Water Density*, pages 101-103

Earth/Space Science
Indicator 1: Analyze the various structures and processes of the Earth system.
6.E.1.2. Students are able to examine the role of water on the Earth.
• **Surface.**
Earth Science Lab, Level A: Cards 82, 83, 84, 85, 87, 89, 90 **Earth Science Lab, Level B:** Cards 82, 83, 84, 85, 87, 89, 90 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 8, *Temperature, Salinity, and Water Density*, pages 101-103

Earth/Space Science
Indicator 1: Analyze the various structures and processes of the Earth system.
6.E.1.2. Students are able to examine the role of water on the Earth.
• **Underground.**
Earth Science Lab, Level A: Cards 82, 84 **Earth Science Lab, Level B:** Cards 82, 84

Earth/Space Science
Indicator 1: Analyze the various structures and processes of the Earth system.
6.E.1.2. Students are able to examine the role of water on the Earth.
• **Atmosphere.**
Earth Science Lab, Level A: Cards 43, 44, 45, 46, 47, 48, 49 **Earth Science Lab, Level B:** Cards 43, 44, 45, 46, 47, 48, 49

Earth/Space Science
Indicator 1: Analyze the various structures and processes of the Earth system.
6.E.1.3. Students are able to explain processes involved in the formation of the Earth's structure.
• **Interpret topographic and digital imagery or remotely sensed data to identify surface features.**
Earth Science Lab, Level A: Cards 18, 19, 20, 21 **Earth Science Lab, Level B:** Cards 18, 19, 20, 21 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83

Earth/Space Science
Indicator 1: Analyze the various structures and processes of the Earth system.
6.E.1.3. Students are able to explain processes involved in the formation of the Earth's structure.
• **Explain the formation of different rock types and their characteristics.**
Earth Science Lab, Level A: Cards 6, 7, 8, 9 **Earth Science Lab, Level B:** Cards 6, 7, 8, 9

Earth/Space Science
Indicator 1: Analyze the various structures and processes of the Earth system.
6.E.1.3. Students are able to explain processes involved in the formation of the Earth's structure.
• **Use geospatial technologies to investigate natural phenomena.**
Life Science Lab, Level A: Card 83 **Life Science Lab, Level B:** Card 83 **Earth Science Lab, Level A:** Cards 16, 19, 20, 51, 54, 80, 88 **Earth Science Lab, Level B:** Cards 16, 19, 20, 51, 54, 80, 88 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83

Earth/Space Science
Indicator 2: Analyze essential principles and ideas about the composition and structure of the universe.
6.E.2.1. Students are able to identify the organization and relative scale of the solar system.
• **Sun, Moon, Earth, other planets and their moons, meteors, asteroids, and comets.**
Earth Science Lab, Level A: Cards 63, 64, 65, 67, 68, 69, 70, 71, 72, 73 **Earth Science Lab, Level B:** Cards 63, 64, 65, 67, 68, 69, 70, 71, 72, 73

Earth/Space Science
Indicator 2: Analyze essential principles and ideas about the composition and structure of the universe.
6.E.2.1. Students are able to identify the organization and relative scale of the solar system.
• **Origins and age of the universe.**
Earth Science Lab, Level A: Card 78 **Earth Science Lab, Level B:** Card 78

Earth/Space Science
Indicator 2: Analyze essential principles and ideas about the composition and structure of the universe.
6.E.2.1. Students are able to identify the organization and relative scale of the solar system.
• **Explain the association of time measurement with celestial motions.**
Earth Science Lab, Level A: Card 74 **Earth Science Lab, Level B:** Card 74

Technology, Environment, and Society
Indicator 1: Analyze various implications/effects of scientific advancement within the environment and society.
6.S.1.1. Students are able to describe how science and technology have helped society to solve problems.
Life Science Lab, Level A: Cards 5, 49, 59, 64, 69 **Life Science Lab, Level B:** Cards 5, 49, 59, 64, 69 **Earth Science Lab, Level A:** Cards 16, 20, 31, 37, 51, 54, 70, 79, 80, 81, 88 **Earth Science Lab, Level B:** Cards 16, 20, 31, 37, 51, 54, 70, 79, 80, 81, 88 **Physical Science Lab, Level A:** Cards 33, 35, 68, 69, 70, 72, 73, 76, 81, 84, 90 **Physical Science Lab, Level B:** Cards 33, 35, 68, 69, 70, 72, 73, 76, 81, 84, 90

Technology, Environment, and Society
Indicator 2: Analyze the relationships/interactions among science, technology, environment, and society.
6.S.2.1. Students are able, given a scenario, to identify the problem(s) of human activity on the local, regional, or global environment.
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 29, 37, 42, 59, 60, 61, 85, 86 **Earth Science Lab, Level B:** Cards 29, 37, 42, 59, 60, 61, 85, 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

SRA Life, Earth, and Physical Science Laboratories
correlation to
South Dakota 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.

Nature of Science
Indicator 1: Understand the nature and origin of scientific knowledge.
• **Describe societal response to major scientific findings or theories.**
This concept is not covered at this level.

Nature of Science
Indicator 1: Understand the nature and origin of scientific knowledge.
• **Investigate important contributions to the advancement of science from people of differing cultures, genders, and ethnicity.**
Life Science Lab, Level A: Cards 2, 5, 46, 59 **Life Science Lab, Level B:** Cards 2, 5, 46, 59 **Earth Science Lab, Level A:** Cards 10, 68, 72, 78 **Earth Science Lab, Level B:** Cards 10, 68, 72, 78 **Physical Science Lab, Level A:** Cards 3, 7, 17, 55 **Physical Science Lab, Level B:** Cards 3, 7, 17, 55

Nature of Science
Indicator 2: Apply the skills necessary to conduct scientific investigations.
7.N.2.1. Students are able to conduct scientific investigations using given procedures.
• **Use appropriate supportive technologies.**
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

Nature of Science
Indicator 2: Apply the skills necessary to conduct scientific investigations.
7.N.2.1. Students are able to conduct scientific investigations using given procedures.
• **Determine the limits of accuracy inherent in a particular measuring device or procedure.**
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 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; 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 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

Nature of Science
Indicator 2: Apply the skills necessary to conduct scientific investigations.
7.N.2.1. Students are able to conduct scientific investigations using given procedures.
• **Control variables to test hypotheses by repeated trials.**
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

Nature of Science
Indicator 2: Apply the skills necessary to conduct scientific investigations.
7.N.2.1. Students are able to conduct scientific investigations using given procedures.
• **Identify sources of experimental error.**
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

Nature of Science
Indicator 2: Apply the skills necessary to conduct scientific investigations.
7.N.2.1. Students are able to conduct scientific investigations using given procedures.
• **Interpret to make predictions and/or justify 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

Nature of Science
Indicator 2: Apply the skills necessary to conduct scientific investigations.
7.N.2.1. Students are able to conduct scientific investigations using given procedures.
• **Use research methods to investigate practical and/or personal scientific problems and questions.**
Classroom Resource CD-ROM: Writing Strategy 9, 25

Nature of Science
Indicator 2: Apply the skills necessary to conduct scientific investigations.
7.N.2.1. Students are able to conduct scientific investigations using given procedures.
Describe and demonstrate various safety factors associated with different types of scientific activity. • **Demonstrate appropriate use of apparatus and technologies for investigations.** • **Use proper safety procedures in all investigations.** • **Wear appropriate attire.**
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

Nature of Science
Indicator 2: Apply the skills necessary to conduct scientific investigations.
7.N.2.1. Students are able to conduct scientific investigations using given procedures.
Analyze the benefits and potential of scientific investigations.
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

Life Science
Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
7.L.1.1. Students are able to identify basic cell organelles and their functions.
• **Observe cells with a compound microscope.**
Life Science Lab, Level A: Cards 6, 7, 8 **Life Science Lab, Level B:** Cards 6, 7, 8 **Life Science Lab Teacher's Handbook:** Hands-On Activity 1, *Examining Cells,* pages 77-79

Life Science
Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
7.L.1.1. Students are able to identify basic cell organelles and their functions.
• **Describe the function of the cell membrane to include active transport and passive transport (diffusion, osmosis).**
Life Science Lab, Level A: Card 8 **Life Science Lab, Level B:** Card 8

Life Science
Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
7.L.1.1. Students are able to identify basic cell organelles and their functions.
• **Describe cell walls as providing support and shape.**
Life Science Lab, Level A: Card 7 **Life Science Lab, Level B:** Card 7 **Life Science Lab Teacher's Handbook:** Hands-On Activity 1, *Examining Cells,* pages 77-79

Life Science
Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
7.L.1.1. Students are able to identify basic cell organelles and their functions.
• **Describe cytoplasm.**
Life Science Lab, Level A: Card 6 **Life Science Lab, Level B:** Card 6 **Life Science Lab Teacher's Handbook:** Hands-On Activity 6

Life Science
Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
7.L.1.1. Students are able to identify basic cell organelles and their functions.
• **Describe vacuoles.**
Life Science Lab, Level A: Card 6 **Life Science Lab, Level B:** Card 6 **Life Science Lab Teacher's Handbook:** Hands-On Activity 1, *Examining Cells,* pages 77-79

Life Science
Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
7.L.1.1. Students are able to identify basic cell organelles and their functions.
• **Describe the function of the nucleus.**
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

Life Science
Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
7.L.1.1. Students are able to identify basic cell organelles and their functions.
• **DNA replication.**
Life Science Lab, Level A: Cards 10, 64 **Life Science Lab, Level B:** Cards 10, 64

Life Science
Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
7.L.1.1. Students are able to identify basic cell organelles and their functions.
• **Protein synthesis (ribosomes).**
Life Science Lab, Level A: Card 64 **Life Science Lab, Level B:** Card 64

Life Science
Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
7.L.1.1. Students are able to identify basic cell organelles and their functions.
• **Transcription/translation.**
This concept is not covered at this level.

Life Science
Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
7.L.1.1. Students are able to identify basic cell organelles and their functions.
• **Endoplasmic reticulum.**
Life Science Lab, Level A: Card 6 **Life Science Lab, Level B:** Card 6

Life Science
Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
7.L.1.1. Students are able to identify basic cell organelles and their functions.
• **Lysosomes.**
Life Science Lab, Level A: Card 6 **Life Science Lab, Level B:** Card 6

Life Science
Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
7.L.1.1. Students are able to identify basic cell organelles and their functions.
• **Chloroplasts role in photosynthesis.**
Life Science Lab, Level A: Cards 7, 9, 16, 17 **Life Science Lab, Level B:** Cards 7, 9, 16, 17

Life Science
Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
7.L.1.1. Students are able to identify basic cell organelles and their functions.
• **Mitochondria role in respiration.**
Life Science Lab, Level A: Card 9 **Life Science Lab, Level B:** Card 9

Life Science
Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
7.L.1.2. Students are able identify and explain the function of the human systems and the organs within each system.
• **Skeletal/support**
Life Science Lab, Level A: Card 53 **Life Science Lab, Level B:** Card 53

Life Science
Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
7.L.1.2. Students are able identify and explain the function of the human systems and the organs within each system.
• **Muscular**
Life Science Lab, Level A: Card 55 **Life Science Lab, Level B:** Card 55

Life Science
Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
7.L.1.2. Students are able identify and explain the function of the human systems and the organs within each system.
• **Digestive**
Life Science Lab, Level A: Card 50 **Life Science Lab, Level B:** Card 50

Life Science
Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
7.L.1.2. Students are able identify and explain the function of the human systems and the organs within each system.
• **Respiratory**
Life Science Lab, Level A: Card 51 **Life Science Lab, Level B:** Card 51

Life Science
Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
7.L.1.2. Students are able identify and explain the function of the human systems and the organs within each system.
• **Circulatory**
Life Science Lab, Level A: Cards 47, 48 **Life Science Lab, Level B:** Cards 47, 48 **Life Science Lab Teacher's Handbook:** Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91

Life Science
Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
7.L.1.2. Students are able identify and explain the function of the human systems and the organs within each system.
• **Reproductive**
Life Science Lab, Level A: Cards 58, 60, 61 **Life Science Lab, Level B:** Cards 58, 60, 61

Life Science
Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
7.L.1.2. Students are able identify and explain the function of the human systems and the organs within each system.
• **Endocrine**
Life Science Lab, Level A: Card 57 **Life Science Lab, Level B:** Card 57

Life Science
Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
7.L.1.2. Students are able identify and explain the function of the human systems and the organs within each system.
• **Immune**
Life Science Lab, Level A: Card 49 **Life Science Lab, Level B:** Card 49

Life Science
Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
7.L.1.2. Students are able identify and explain the function of the human systems and the organs within each system.
• **Nervous**
Life Science Lab, Level A: Card 54 **Life Science Lab, Level B:** Card 54

Life Science
Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
7.L.1.2. Students are able identify and explain the function of the human systems and the organs within each system.
• **Excretory**
Life Science Lab, Level A: Card 52 **Life Science Lab, Level B:** Card 52

Life Science
Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
7.L.1.2. Students are able identify and explain the function of the human systems and the organs within each system.
• **Integumentary**
Life Science Lab, Level A: Card 56 **Life Science Lab, Level B:** Card 56

Life Science
Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
7.L.1.3. Students are able to classify organisms by using the currently recognized kingdoms.
• **Identify and compare the basic structure and function of major taxa.**
Life Science Lab, Level A: Cards 2, 3, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 25, 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, 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

Life Science
Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
7.L.1.3. Students are able to classify organisms by using the currently recognized kingdoms.
• **Describe the levels of organization within organisms.**
Life Science Lab, Level A: Cards 2, 3, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 25, 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, 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

Life Science
Indicator 2: Analyze various patterns and products of natural and induced biological change.
7.L.2.1. Students are able to distinguish between processes involved in sexual and asexual reproduction.
• **Model the process of cell division.**
Life Science Lab, Level A: Cards 10, 60, 61 **Life Science Lab, Level B:** Cards 10, 60, 61

Life Science
Indicator 2: Analyze various patterns and products of natural and induced biological change.
7.L.2.1. Students are able to distinguish between processes involved in sexual and asexual reproduction.
• **Identify the role of genetics in the transmission of traits and characteristics in organisms.**
Life Science Lab, Level A: Cards 62, 63, 64 **Life Science Lab, Level B:** Cards 62, 63, 64

Life Science
Indicator 2: Analyze various patterns and products of natural and induced biological change.
7.L.3.1. Students are able to predict the effects of biotic and abiotic factors on a species' survival.
• **Describe processes by which matter and energy flow through an ecosystem.**
Life Science Lab, Level A: Cards 7, 9, 16, 17, 76, 77 **Life Science Lab, Level B:** Cards 7, 9, 16, 17, 76, 77

Life Science
Indicator 2: Analyze various patterns and products of natural and induced biological change.
7.L.3.1. Students are able to predict the effects of biotic and abiotic factors on a species' survival.
• **Use geospatial technologies to investigate natural phenomena.**
Life Science Lab, Level A: Card 83 **Life Science Lab, Level B:** Card 83 **Earth Science Lab, Level A:** Cards 16, 19, 20, 51, 54, 80, 88 **Earth Science Lab, Level B:** Cards 16, 19, 20, 51, 54, 80, 88 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 2, *Culturing Bacteria*, pages 81-83

Technology, Environment, and Society
Indicator 1: Analyze various implications/effects of scientific advancement within the environment and society.
7.S.1.1. Students are able to describe how science and technology are used to solve problems in different professions and businesses.
This concept is not covered at this level.

Technology, Environment, and Society
Indicator 2: Analyze the relationships/interactions among science, technology, environment, and society.
7.S.2.1. Students are able, given a scenario, to predict the consequence(s) of human activity on the local, regional, or global environment.
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 29, 37, 42, 59, 60, 61, 85, 86 **Earth Science Lab, Level B:** Cards 29, 37, 42, 59, 60, 61, 85, 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

SRA Life, Earth, and Physical Science Laboratories
correlation to
South Dakota Science Standards
Grade 8

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Nature of Science
Indicator 1: Understand the nature and origin of scientific knowledge.
8.N.1.1. Students are able to differentiate among facts, predictions, theory, and law/principles in scientific investigations.
• **Define fact, predictions, theory, and law/principle.**
Life Science Lab, Level A: Cards 5, 64, 69 **Life Science Lab, Level B:** Cards 5, 64, 69 **Earth Science Lab, Level A:** Cards 10, 68, 72, 78 **Earth Science Lab, Level B:** Cards 10, 68, 72, 78 **Physical Science Lab, Level A:** Cards 3, 53, 59 **Physical Science Lab, Level B:** Cards 3, 53, 59

Nature of Science
Indicator 1: Understand the nature and origin of scientific knowledge.
8.N.1.1. Students are able to differentiate among facts, predictions, theory, and law/principles in scientific investigations.
• **Discuss how theory can become law.**
Life Science Lab, Level A: Cards 5, 64, 69 **Life Science Lab, Level B:** Cards 5, 64, 69 **Earth Science Lab, Level A:** Cards 10, 68, 72, 78 **Earth Science Lab, Level B:** Cards 10, 68, 72, 78 **Physical Science Lab, Level A:** Cards 3, 53, 59 **Physical Science Lab, Level B:** Cards 3, 53, 59

Nature of Science
Indicator 1: Understand the nature and origin of scientific knowledge.
8.N.1.1. Students are able to differentiate among facts, predictions, theory, and law/principles in scientific investigations.
• **Evaluate important contributions to the advancement of science from people of differing cultures, genders, and ethnicity.**
Life Science Lab, Level A: Cards 2, 5, 46, 59 **Life Science Lab, Level B:** Cards 2, 5, 46, 59 **Earth Science Lab, Level A:** Cards 10, 68, 72, 78 **Earth Science Lab, Level B:** Cards 10, 68, 72, 78 **Physical Science Lab, Level A:** Cards 3, 7, 17, 55 **Physical Science Lab, Level B:** Cards 3, 7, 17, 55

Nature of Science

Indicator 2: Apply the skills necessary to conduct scientific investigations.

8.N.2.1. Students are able to design a replicable scientific investigation.

- **Use appropriate supportive technologies.**

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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Classroom Resource CD-ROM: Writing Strategy

Nature of Science

Indicator 2: Apply the skills necessary to conduct scientific investigations.

8.N.2.1. Students are able to design a replicable scientific investigation.

- **Assess the limits of accuracy inherent in a particular measuring device or procedure.**

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 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99

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

Nature of Science

Indicator 2: Apply the skills necessary to conduct scientific investigations.

8.N.2.1. Students are able to design a replicable scientific investigation.

- **Control variables to test hypotheses by repeated trials and by identifying sources of experimental error.**

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 15, 23

Nature of Science
Indicator 2: Apply the skills necessary to conduct scientific investigations.
8.N.2.1. Students are able to design a replicable scientific investigation.
• **Interpret data to justify predictions or conclusions.**
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 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

Nature of Science
Indicator 2: Apply the skills necessary to conduct scientific investigations.
8.N.2.1. Students are able to design a replicable scientific investigation.
• **Use research methods to investigate practical and/or personal scientific problems and questions.**
Classroom Resource CD-ROM: Writing Strategy 9, 25

Nature of Science
Indicator 2: Apply the skills necessary to conduct scientific investigations.
8.N.2.1. Students are able to design a replicable scientific investigation.
• **Select appropriate scientific equipment and technologies for investigations and experiments.**
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

Nature of Science

Indicator 2: Apply the skills necessary to conduct scientific investigations.

8.N.2.1. Students are able to design a replicable scientific investigation.

- **Use proper safety procedures in all investigations.**
- **Wear appropriate attire.**

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

Nature of Science

Indicator 2: Apply the skills necessary to conduct scientific investigations.

8.N.2.1. Students are able to design a replicable scientific investigation.

Evaluate the benefits and potential of scientific investigations.

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

Physical Science

Indicator 1: Describe structures and properties of, and changes in, matter.

8.P.1.1. Students are able to classify matter as elements, compounds, or mixtures.

- **Observe cells with a compound microscope.**

Physical Science Lab, Level A: Cards 5, 6, 7
Physical Science Lab, Level B: Cards 5, 6, 7
Physical Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79

Physical Science
Indicator 1: Describe structures and properties of, and changes in, matter.
8.P.1.2. Students are able to use the Periodic Table to compare and contrast families of elements and to classify elements as metals, metalloids, or non-metals.
• **Describe the relationship between the organization and the predictive nature of the Periodic Table.**
Physical Science Lab, Level A: Cards 17, 18, 19, 20 **Physical Science Lab, Level B:** Cards 17, 18, 19, 20

Physical Science
Indicator 1: Describe structures and properties of, and changes in, matter.
8.P.1.2. Students are able to use the Periodic Table to compare and contrast families of elements and to classify elements as metals, metalloids, or non-metals.
• **Use the Bohr model to show the arrangement of the subatomic particles of atomic numbers 1 through 18.**
Physical Science Lab, Level A: Card 21 **Physical Science Lab, Level B:** Card 21

Physical Science
Indicator 1: Describe structures and properties of, and changes in, matter.
8.P.1.2. Students are able to use the Periodic Table to compare and contrast families of elements and to classify elements as metals, metalloids, or non-metals.
• **Compare and contrast other atomic models.**
Physical Science Lab, Level A: Card 21 **Physical Science Lab, Level B:** Card 21

Physical Science
Indicator 1: Describe structures and properties of, and changes in, matter.
8.P.1.3. Students are able to compare properties of matter resulting from physical and chemical changes.
• **Ionic/covalent bonding.**
Physical Science Lab, Level A: Cards 23, 24 **Physical Science Lab, Level B:** Cards 23, 24

Earth/Space Science
Indicator 1: Analyze the various structures and processes of the Earth System.
8.E.1.1. Students are able to identify and classify minerals and rocks.
• **Rocks as sedimentary, igneous, or metamorphic.**
Earth Science Lab, Level A: Cards 6, 7, 8, 9 **Earth Science Lab, Level B:** Cards 6, 7, 8, 9

Earth/Space Science
Indicator 1: Analyze the various structures and processes of the Earth System.
8.E.1.1. Students are able to identify and classify minerals and rocks.
• **Rock cycle.**
Earth Science Lab, Level A: Card 9 **Earth Science Lab, Level B:** Card 9

Earth/Space Science
Indicator 1: Analyze the various structures and processes of the Earth System.
8.E.1.1. Students are able to identify and classify minerals and rocks.
• **Law of Conservation of Energy and Matter.**
Physical Science Lab, Level A: Cards 9, 27, 28, 29, 30, 36, 37, 38, 39, 40 **Physical Science Lab, Level B:** Cards 9, 27, 28, 29, 30, 36, 37, 38, 39, 40

Earth/Space Science
Indicator 1: Analyze the various structures and processes of the Earth System.
8.E.1.1. Students are able to identify and classify minerals and rocks.
• **Minerals as carbonates (CO_3) or Silicates (SiO_2).**
Earth Science Lab, Level A: Cards 3, 4, 5 **Earth Science Lab, Level B:** Cards 3, 4, 5 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale*, pages 73-75

Earth/Space Science
Indicator 1: Analyze the various structures and processes of the Earth System.
8.E.1.1. Students are able to identify and classify minerals and rocks.
• **Minerals as oxides, sulfides, halides, sulfates.**
Earth Science Lab, Level A: Cards 3, 4, 5 **Earth Science Lab, Level B:** Cards 3, 4, 5 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale*, pages 73-75

Earth/Space Science
Indicator 1: Analyze the various structures and processes of the Earth System.
8.E.1.2. Students are able to explain the role of plate tectonics in shaping Earth.
• **Plate boundaries.**
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

Earth/Space Science
Indicator 1: Analyze the various structures and processes of the Earth System.
8.E.1.2. Students are able to explain the role of plate tectonics in shaping Earth.
• **Volcanoes.**
Earth Science Lab, Level A: Card 17 **Earth Science Lab, Level B:** Card 17

Earth/Space Science
Indicator 1: Analyze the various structures and processes of the Earth System.
8.E.1.2. Students are able to explain the role of plate tectonics in shaping Earth.
• **Earthquakes.**
Earth Science Lab, Level A: Cards 15, 16 **Earth Science Lab, Level B:** Cards 15, 16

Earth/Space Science
Indicator 1: Analyze the various structures and processes of the Earth System.
8.E.1.2. Students are able to explain the role of plate tectonics in shaping Earth.
• **Seismic waves.**
Earth Science Lab, Level A: Card 16 **Earth Science Lab, Level B:** Card 16

Earth/Space Science
Indicator 1: Analyze the various structures and processes of the Earth System.
8.E.1.2. Students are able to explain the role of plate tectonics in shaping Earth.
• **Mountains.**
Earth Science Lab, Level A: Cards 11, 14, 17, 21, 88 **Earth Science Lab, Level B:** Cards 11, 14, 17, 21, 88

Earth/Space Science
Indicator 1: Analyze the various structures and processes of the Earth System.
8.E.1.2. Students are able to explain the role of plate tectonics in shaping Earth.
• **Convection currents in the mantle.**
Earth Science Lab, Level A: Card 10 **Earth Science Lab, Level B:** Card 10

Earth/Space Science
Indicator 1: Analyze the various structures and processes of the Earth System.
8.E.1.2. Students are able to explain the role of plate tectonics in shaping Earth.
• **Changes over time.**
Earth Science Lab, Level A: Cards 10, 11, 12, 13, 14, 15, 16, 17, 88 **Earth Science Lab, Level B:** Cards 10, 11, 12, 13, 14, 15, 16, 17, 88 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 2, *Plate Boundaries in Action*, pages 77-79

Earth/Space Science
Indicator 1: Analyze the various structures and processes of the Earth System.
8.E.1.3. Students are able to explain the factors that create weather and the instruments and technologies that assess it.
• **Differentiate between climate and climate zones.**
Earth Science Lab, Level A: Cards 55, 58, 60 **Earth Science Lab, Level B:** Cards 55, 58, 60

Earth/Space Science
Indicator 1: Analyze the various structures and processes of the Earth System.
8.E.1.3. Students are able to explain the factors that create weather and the instruments and technologies that assess it.
• **Effects of the ocean on weather.**
Earth Science Lab, Level A: Cards 54, 55, 56, 57, 58, 87 **Earth Science Lab, Level B:** Cards 54, 55, 56, 57, 58, 87

Earth/Space Science
Indicator 1: Analyze the various structures and processes of the Earth System.
8.E.1.3. Students are able to explain the factors that create weather and the instruments and technologies that assess it.
• **Condensation.**
Earth Science Lab, Level A: Cards 47, 48 **Earth Science Lab, Level B:** Cards 47, 48

Earth/Space Science
Indicator 1: Analyze the various structures and processes of the Earth System.
8.E.1.3. Students are able to explain the factors that create weather and the instruments and technologies that assess it.
• **Evaporation.**
Earth Science Lab, Level A: Cards 47, 48 **Earth Science Lab, Level B:** Cards 47, 48

Earth/Space Science
Indicator 1: Analyze the various structures and processes of the Earth System.
8.E.1.3. Students are able to explain the factors that create weather and the instruments and technologies that assess it.
• **Cloud formation.**
Earth Science Lab, Level A: Cards 47, 48 **Earth Science Lab, Level B:** Cards 47, 48

Earth/Space Science
Indicator 1: Analyze the various structures and processes of the Earth System.
8.E.1.4. Students are able to examine the chemical and physical properties of the ocean to determine causes and effects of currents and waves.
• **El Niño.**
Earth Science Lab, Level A: Card 60 **Earth Science Lab, Level B:** Card 60

Earth/Space Science
Indicator 1: Analyze the various structures and processes of the Earth System.
8.E.1.4. Students are able to examine the chemical and physical properties of the ocean to determine causes and effects of currents and waves.
• **Ocean zones.**
Earth Science Lab, Level A: Card 89 **Earth Science Lab, Level B:** Card 89

Earth/Space Science
Indicator 1: Analyze the various structures and processes of the Earth System.
8.E.1.4. Students are able to examine the chemical and physical properties of the ocean to determine causes and effects of currents and waves.
• **Ocean floor features.**
Earth Science Lab, Level A: Card 88 **Earth Science Lab, Level B:** Card 88

Earth/Space Science
Indicator 1: Analyze the various structures and processes of the Earth System.
8.E.1.5. Students are able to explain the impact of weathering and erosion on the Earth.
• **Soil formation.**
Life Science Lab, Level A: Card 13 **Life Science Lab, Level B:** Card 13 **Earth Science Lab, Level A:** Cards 23, 29 **Earth Science Lab, Level B:** Cards 23, 29

Earth/Space Science
Indicator 1: Analyze the various structures and processes of the Earth System.
8.E.1.5. Students are able to explain the impact of weathering and erosion on the Earth.
• **Deposition (deltas).**
Earth Science Lab, Level A: Card 25 **Earth Science Lab, Level B:** Card 25

Earth/Space Science
Indicator 1: Analyze the various structures and processes of the Earth System.
8.E.1.5. Students are able to explain the impact of weathering and erosion on the Earth.
• **Land transformations (Grand Canyon).**
Earth Science Lab, Level A: Cards 21, 24, 25, 26, 27, 28 **Earth Science Lab, Level B:** Cards 21, 24, 25, 26, 27, 28

Earth/Space Science
Indicator 1: Analyze the various structures and processes of the Earth System.
8.E.1.5. Students are able to explain the impact of weathering and erosion on the Earth.
• **Glaciation.**
Earth Science Lab, Level A: Card 28 **Earth Science Lab, Level B:** Card 28

Earth/Space Science
Indicator 1: Analyze the various structures and processes of the Earth System.
8.E.1.5. Students are able to explain the impact of weathering and erosion on the Earth.
• **Use geospatial technologies to investigate natural phenomena.**
Life Science Lab, Level A: Card 83 **Life Science Lab, Level B:** Card 83 **Earth Science Lab, Level A:** Cards 16, 19, 20, 51, 54, 80, 88 **Earth Science Lab, Level B:** Cards 16, 19, 20, 51, 54, 80, 88 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 2, *Culturing Bacteria*, pages 81-83

Earth/Space Science
Indicator 2: Analyze essential principles and ideas about the composition and structure of the universe.
8.E.2.1. Students are able to compare celestial bodies within the solar system using composition, size, and orbital motion.
• **Describe the composition of the Sun, the planets, asteroids, and comets.**
Earth Science Lab, Level A: Cards 67, 68, 69, 70, 71, 72, 73 **Earth Science Lab, Level B:** Cards 67, 68, 69, 70, 71, 72, 73

Earth/Space Science
Indicator 2: Analyze essential principles and ideas about the composition and structure of the universe.
8.E.2.1. Students are able to compare celestial bodies within the solar system using composition, size, and orbital motion.
• **Use of spectroscopic analysis of celestial bodies.**
Earth Science Lab, Level A: Cards 75, 76 **Earth Science Lab, Level B:** Cards 75, 76

Earth/Space Science
Indicator 2: Analyze essential principles and ideas about the composition and structure of the universe.
8.E.2.1. Students are able to compare celestial bodies within the solar system using composition, size, and orbital motion.
• **Measurement in space.**
Earth Science Lab, Level A: Card 74 **Earth Science Lab, Level B:** Card 74

Earth/Space Science
Indicator 2: Analyze essential principles and ideas about the composition and structure of the universe.
8.E.2.1. Students are able to compare celestial bodies within the solar system using composition, size, and orbital motion.
• **Constellations.**
Earth Science Lab, Level A: Card 75 **Earth Science Lab, Level B:** Card 75

Earth/Space Science
Indicator 2: Analyze essential principles and ideas about the composition and structure of the universe.
8.E.2.1. Students are able to compare celestial bodies within the solar system using composition, size, and orbital motion.
• **Galaxies.**
Earth Science Lab, Level A: Card 77 **Earth Science Lab, Level B:** Card 77

Earth/Space Science
Indicator 2: Analyze essential principles and ideas about the composition and structure of the universe.
8.E.2.1. Students are able to compare celestial bodies within the solar system using composition, size, and orbital motion.
• **Life cycle of a star.**
Earth Science Lab, Level A: Card 76 **Earth Science Lab, Level B:** Card 76

Earth/Space Science
Indicator 2: Analyze essential principles and ideas about the composition and structure of the universe.
8.E.2.1. Students are able to compare celestial bodies within the solar system using composition, size, and orbital motion.
• **HR Diagram.**
Earth Science Lab, Level A: Card 76 **Earth Science Lab, Level B:** Card 76

Earth/Space Science
Indicator 2: Analyze essential principles and ideas about the composition and structure of the universe.
8.E.2.1. Students are able to compare celestial bodies within the solar system using composition, size, and orbital motion.
• **Law of Gravitation.**
Physical Science Lab, Level A: Card 59 **Physical Science Lab, Level B:** Card 59

Earth/Space Science
Indicator 2: Analyze essential principles and ideas about the composition and structure of the universe.
8.E.2.1. Students are able to compare celestial bodies within the solar system using composition, size, and orbital motion.
• **Big Bang Theory.**
Earth Science Lab, Level A: Card 78 **Earth Science Lab, Level B:** Card 78

Earth/Space Science
Indicator 2: Analyze essential principles and ideas about the composition and structure of the universe.
8.E.2.1. Students are able to compare celestial bodies within the solar system using composition, size, and orbital motion.
• **Doppler Effect.**
Physical Science Lab, Level A: Card 79 **Physical Science Lab, Level B:** Card 79

Earth/Space Science
Indicator 2: Analyze essential principles and ideas about the composition and structure of the universe.
8.E.2.2. Students are able to differentiate the influence of the relative positions of the Earth, Mon, and Sun.
• **Lunar and solar eclipses, moon phases, tides, seasons.**
Earth Science Lab, Level A: Cards 55, 62, 64, 65, 66 **Earth Science Lab, Level B:** Cards 55, 62, 64, 65, 66

Technology, Environment, and Society
Indicator 1: Analyze various implications/effects of scientific advancement within the environment and society.
8.S.1.1. Students are able to describe how science and technology have been influenced by social needs, attitudes, and values.
Life Science Lab, Level A: Cards 5, 49, 59, 64, 69 **Life Science Lab, Level B:** Cards 5, 49, 59, 64, 69 **Earth Science Lab, Level A:** Cards 16, 20, 31, 37, 51, 54, 70, 79, 80, 81, 88 **Earth Science Lab, Level B:** Cards 16, 20, 31, 37, 51, 54, 70, 79, 80, 81, 88 **Physical Science Lab, Level A:** Cards 33, 35, 68, 69, 70, 72, 73, 76, 81, 84, 90 **Physical Science Lab, Level B:** Cards 33, 35, 68, 69, 70, 72, 73, 76, 81, 84, 90

Technology, Environment, and Society
Indicator 2: Analyze the relationships/interactions among science, technology, environment, and society.
8.S.2.1. Students are able, given a scenario, to offer solutions to problems created by human activity on the local, regional, or global environment.
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 29, 37, 42, 59, 60, 61, 85, 86 **Earth Science Lab, Level B:** Cards 29, 37, 42, 59, 60, 61, 85, 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