SRA Life, Earth, and Physical Science Laboratories
correlation to
Alabama Course of Study: Science
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.

Earth and Space Science
1. Identify global patterns of atmospheric movement, including El Niño, the Gulf Stream, the jet stream, the Coriolis effect, and global winds that influence local weather.
Objective 6.1.1: Define El Niño and the Coriolis effect.
Earth Science Lab, Level A: Cards 40, 60 **Earth Science Lab, Level B:** Cards 40, 60

Earth and Space Science
1. Identify global patterns of atmospheric movement, including El Niño, the Gulf Stream, the jet stream, the Coriolis effect, and global winds that influence local weather.
Objective 6.1.2: Identify daily changes in weather based on the jet stream and global winds.
Earth Science Lab, Level A: Cards 40, 41, 56, 57, 58 **Earth Science Lab, Level B:** Cards 40, 41, 56, 57, 58

Earth and Space Science
1. Identify global patterns of atmospheric movement, including El Niño, the Gulf Stream, the jet stream, the Coriolis effect, and global winds that influence local weather.
Additional content to be taught: • **Predicting local weather and weather patterns.**
Earth Science Lab, Level A: Cards 43, 45, 46, 48, 49, 50, 51, 52, 53, 54, 56, 57, 58 **Earth Science Lab, Level B:** Cards 43, 45, 46, 48, 49, 50, 51, 52, 53, 54, 56, 57, 58 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 6, *Modeling a Tornado,* pages 93-95

Earth and Space Science
1. Identify global patterns of atmospheric movement, including El Niño, the Gulf Stream, the jet stream, the Coriolis effect, and global winds that influence local weather.
Additional content to be taught: • **Describing the function of instruments and technology used to investigate Earth's weather, including barometers, thermometers, wind socks, weather vanes, satellites, radar, weather balloons, and rain gauges.**
Earth Science Lab, Level A: Cards 43, 44, 45, 46, 49, 50, 51, 54 **Earth Science Lab, Level B:** Cards 43, 44, 45, 46, 49, 50, 51, 54 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 6, *Modeling a Tornado,* pages 93-95

Earth and Space Science
1. Identify global patterns of atmospheric movement, including El Niño, the Gulf Stream, the jet stream, the Coriolis effect, and global winds that influence local weather.
Additional content to be taught: • **Using lines of latitude and longitude to locate areas of specific weather events.**
Earth Science Lab, Level A: Cards 18, 19, 20 **Earth Science Lab, Level B:** Cards 18, 19, 20

Earth and Space Science
1. Identify global patterns of atmospheric movement, including El Niño, the Gulf Stream, the jet stream, the Coriolis effect, and global winds that influence local weather.
Additional content to be taught: • **Interpreting weather data through observations collected over time.**
Earth Science Lab, Level A: Cards 43, 44, 45, 46, 47, 48, 49, 50, 51, 56, 57, 58 **Earth Science Lab, Level B:** Cards 43, 44, 45, 46, 47, 48, 49, 50, 51, 56, 57, 58

Earth and Space Science
2. Describe factors that cause changes to Earth's surface over time.
Objective 6.2.1: Identify how natural disasters, including earthquakes and hurricanes, can affect the surface of Earth.
Earth Science Lab, Level A: Cards 15, 16, 17, 52, 53, 54 **Earth Science Lab, Level B:** Cards 15, 16, 17, 52, 53, 54 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 6, *Modeling a Tornado,* pages 93-95

Earth and Space Science
2. Describe factors that cause changes to Earth's surface over time.
Objective: 6.2.2: Describe how living organisms, including man, animals, and plants, can change the surface of Earth.
Life Science Lab, Level A: Cards 13, 76, 84, 85, 87, 88, 89, 90 **Life Science Lab, Level B:** Cards 13, 76, 84, 85, 87, 88, 89, 90 **Earth Science Lab, Level A:** Cards 29, 42, 59, 61, 85, 86 **Earth Science Lab, Level B:** Cards 29, 42, 59, 61, 85, 86

Earth and Space Science
2. Describe factors that cause changes to Earth's surface over time.
Additional content to be taught: • **Comparing constructive and destructive natural processes and their effects on land formations.**
Earth Science Lab, Level A: Cards 10, 11, 12, 13, 14, 15, 16, 17, 22, 24, 25, 26, 27, 28 **Earth Science Lab, Level B:** Cards 10, 11, 12, 13, 14, 15, 16, 17, 22, 24, 25, 26, 27, 28 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79

Earth and Space Science
2. Describe factors that cause changes to Earth's surface over time.
Additional content to be taught: • **Distinguishing rock strata by geologic composition.**
Earth Science Lab, Level A: Cards 6, 7, 8, 9, 14 **Earth Science Lab, Level B:** Cards 6, 7, 8, 9, 14

Earth and Space Science
3. Describe water and carbon biogeochemical cycles and their effects on Earth.
Objective 6.3.1: Define biogeochemical cycles.
Life Science Lab, Level A: Cards 78, 79 **Life Science Lab, Level B:** Cards 78, 79 **Earth Science Lab, Level A:** Card 47 **Earth Science Lab, Level B:** Card 47

Earth and Space Science
3. Describe water and carbon biogeochemical cycles and their effects on Earth.
Objective 6.3.2: List the steps of the water cycle.
Earth Science Lab, Level A: Card 47 **Earth Science Lab, Level B:** Card 47

Earth and Space Science
3. Describe water and carbon biogeochemical cycles and their effects on Earth.
Objective 6.3.3: List the steps of the carbon cycle.
Life Science Lab, Level A: Card 78 **Life Science Lab, Level B:** Card 78

Earth and Space Science
4. Explain the plate tectonic theory.
Objective 6.4.1: Define plate tectonics.
Earth Science Lab, Level A: Cards 10, 11, 12, 13, 14, 15, 16, 17 **Earth Science Lab, Level B:** Cards 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 and Space Science
4. Explain the plate tectonic theory.
Objective 6.4.2: Identify land and water features on Earth created by tectonic activity.
Earth Science Lab, Level A: Cards 12, 13, 14, 17, 21, 88 **Earth Science Lab, Level B:** Cards 12, 13, 14, 17, 21, 88 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79

Earth and Space Science
4. Explain the plate tectonic theory.
Additional content to be taught: • **Describing types of volcanoes and faults.**
Earth Science Lab, Level A: Cards 13, 14, 17, 88 **Earth Science Lab, Level B:** Cards 13, 14, 17, 88 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79

Earth and Space Science
4. Explain the plate tectonic theory.
Additional content to be taught: • **Determining energy release through seismographic data.**
Earth Science Lab, Level A: Cards 15, 16, 17 **Earth Science Lab, Level B:** Cards 15, 16, 17

Earth and Space Science
5. Describe layers of oceanic hydrosphere, including the pelagic zone, benthic zone, abyssal zone, and intertidal zone.
Objective 6.5.1: Define hydrosphere, pelagic zone, benthic zone, abyssal zone, and intertidal zone.
Earth Science Lab, Level A: Cards 82, 87, 89, 90 **Earth Science Lab, Level B:** Cards 82, 87, 89, 90

Earth and Space Science
5. Describe layers of oceanic hydrosphere, including the pelagic zone, benthic zone, abyssal zone, and intertidal zone.
Objective 6.5.2: List characteristics of various bodies of saltwater and freshwater.
Earth Science Lab, Level A: Cards 82, 83, 84, 87, 90 **Earth Science Lab, Level B:** Cards 82, 83, 84, 87, 90 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 8, *Temperature, Salinity, and Water Density*, pages 101-103

Earth and Space Science
5. Describe layers of oceanic hydrosphere, including the pelagic zone, benthic zone, abyssal zone, and intertidal zone.
Objective 6.5.3: Identify the layers of the oceanic hydrosphere.
Earth Science Lab, Level A: Card 89 **Earth Science Lab, Level B:** Card 89

Earth and Space Science
6. Describe regions of the oceanic lithosphere, including the continental shelf, continental slope, and abyssal plain.
Objective 6.6.1: Define oceanic lithosphere, continental slope, and abyssal plain.
Earth Science Lab, Level A: Card 88 **Earth Science Lab, Level B:** Card 88

Earth and Space Science
6. Describe regions of the oceanic lithosphere, including the continental shelf, continental slope, and abyssal plain.
Objective 6.6.2: Label a diagram of the regions of the oceanic lithosphere.
Earth Science Lab, Level A: Card 88 **Earth Science Lab, Level B:** Card 88

Earth and Space Science
7. Describe Earth's biomes.
Objective 6.7.1: Define biome and climate.
Life Science Lab, Level A: Cards 81, 82 **Life Science Lab, Level B:** Cards 81, 82 **Earth Science Lab, Level A:** Cards 55, 58, 60 **Earth Science Lab, Level B:** Cards 55, 58, 60

Earth and Space Science
7. Describe Earth's biomes.
Objective 6.7.2: Identify various types of biomes.
Life Science Lab, Level A: Cards 81, 82 **Life Science Lab, Level B:** Cards 81, 82 **Earth Science Lab, Level A:** Card 89 **Earth Science Lab, Level B:** Card 89

Earth and Space Science
7. Describe Earth's biomes.
Objective 6.7.3: Describe characteristics of one of Earth's biomes, including climate, location, plants, animals, and soil type.
Life Science Lab, Level A: Cards 81, 82 **Life Science Lab, Level B:** Cards 81, 82 **Earth Science Lab, Level A:** Cards 58, 89 **Earth Science Lab, Level B:** Cards 58, 89

Earth and Space Science
7. Describe Earth's biomes.
Additional content to be taught: • **Identifying geographic factors that cause diversity in flora and fauna, including elevation, location, and climate.**
Life Science Lab, Level A: Cards 81, 82, 86 **Life Science Lab, Level B:** Cards 81, 82, 86 **Earth Science Lab, Level A:** Cards 56, 57, 58, 89, 90 **Earth Science Lab, Level B:** Cards 56, 57, 58, 89, 90

Earth and Space Science
8. Describe how Earth's rotation, Earth's axial tilt, and distance from the equator cause variations in the heating and cooling of various locations on Earth.
Objective: 6.8.1: Define rotation, axial tilt, revolution, and equator.
Earth Science Lab, Level A: Card 62 **Earth Science Lab, Level B:** Card 62

Earth and Space Science
8. Describe how Earth's rotation, Earth's axial tilt, and distance from the equator cause variations in the heating and cooling of various locations on Earth.
Objective: 6.8.2: Relate the variations in heating and cooling on Earth to seasonal changes.
Earth Science Lab, Level A: Card 62 **Earth Science Lab, Level B:** Card 62

Earth and Space Science
9. Identify the moon's phases.
Objective 6.9.1: Illustrate the phases of the moon during the course of a lunar cycle.
Earth Science Lab, Level A: Card 64 **Earth Science Lab, Level B:** Card 64

Earth and Space Science
9. Identify the moon's phases.
Objective 6.9.2: Describe the positions of Earth, the moon, and the sun during the course of a day or lunar cycle.
Earth Science Lab, Level A: Cards 62, 64 **Earth Science Lab, Level B:** Cards 62, 64

Earth and Space Science
9. Identify the moon's phases.
Additional content to be taught: • **Describing lunar and solar eclipses.**
Earth Science Lab, Level A: Card 65 **Earth Science Lab, Level B:** Card 65

Earth and Space Science
9. Identify the moon's phases.
Additional content to be taught: • **Relating effects of the moon's position on oceanic tides.**
Earth Science Lab, Level A: Card 66 **Earth Science Lab, Level B:** Card 66

Earth and Space Science
10. Describe components of the universe and their relationships to each other, including stars, planets, and their moons, solar systems, and galaxies.
Objective 6.10.1: Identify characteristics of the major components of the universe,
Earth Science Lab, Level A: Cards 67, 68, 69, 70, 71, 72, 73, 75, 77, 78 **Earth Science Lab, Level B:** Cards 67, 68, 69, 70, 71, 72, 73, 75, 77, 78 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99

Earth and Space Science
10. Describe components of the universe and their relationships to each other, including stars, planets, and their moons, solar systems, and galaxies.
Objective 6.10.2: Sequence the planets in order according to distance from the sun.
Earth Science Lab, Level A: Cards 68, 69, 70, 71, 72, 73 **Earth Science Lab, Level B:** Cards 68, 69, 70, 71, 72, 73 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99

Earth and Space Science
10. Describe components of the universe and their relationships to each other, including stars, planets, and their moons, solar systems, and galaxies.
Objective 6.10.3: Identify the moon's influence on Earth.
Earth Science Lab, Level A: Cards 63, 64, 65, 66 **Earth Science Lab, Level B:** Cards 63, 64, 65, 66

Earth and Space Science
10. Describe components of the universe and their relationships to each other, including stars, planets, and their moons, solar systems, and galaxies.
Additional content to be taught: • **Identifying the impact of space exploration on innovations in technology.**
Earth Science Lab, Level A: Cards 79, 80, 81 **Earth Science Lab, Level B:** Cards 79, 80, 81

Earth and Space Science
10. Describe components of the universe and their relationships to each other, including stars, planets, and their moons, solar systems, and galaxies.
Additional content to be taught: • **Mapping seasonal changes in locations of constellations in the night sky.**
Earth Science Lab, Level A: Card 75 **Earth Science Lab, Level B:** Card 75

Earth and Space Science
10. Describe components of the universe and their relationships to each other, including stars, planets, and their moons, solar systems, and galaxies.
Additional content to be taught: • **Describing the life cycle of a star.**
Earth Science Lab, Level A: Cards 75, 76 **Earth Science Lab, Level B:** Cards 75, 76

Earth and Space Science
11. Describe units used to measure distance in space, including astronomical units and light years.
Objective 6.11.1: Define astronomical unit and light year.
Earth Science Lab, Level A: Card 74 **Earth Science Lab, Level B:** Card 74

Earth and Space Science
11. Describe units used to measure distance in space, including astronomical units and light years.
Objective 6.11.2: Compare distances from the sun to planets in our solar system.
Earth Science Lab, Level A: Cards 68, 69, 70, 71, 72, 73, 74 **Earth Science Lab, Level B:** Cards 68, 69, 70, 71, 72, 73, 74 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 7, *Sizes in the Solar System*, pages 97-99

SRA Life, Earth, and Physical Science Laboratories
correlation to
Alabama Course of Study: Science
Grade 7

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Life Science
1. Describe characteristics common to living things, including growth and development, reproduction, cellular organization, use of energy, exchange of gases, and response to the environment.
Objective 7.1.1: Identify common parts of plant and animal cells, including nucleus, cytoplasm, and cell membrane.
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
1. Describe characteristics common to living things, including growth and development, reproduction, cellular organization, use of energy, exchange of gases, and response to the environment.
Objective 7.1.2: Identify how cell division helps living things grow.
Life Science Lab, Level A: Card 10 **Life Science Lab, Level B:** Card 10

Life Science
1. Describe characteristics common to living things, including growth and development, reproduction, cellular organization, use of energy, exchange of gases, and response to the environment.
Objective 7.1.3: Explain conditions essential for growth and development of living things.
Life Science Lab, Level A: Cards 1, 4, 9, 17, 45, 46, 84, 86, 87, 88, 89, 90 **Life Science Lab, Level B:** Cards 1, 4, 9, 17, 45, 46, 84, 86, 87, 88, 89, 90 **Life Science Lab Teacher's Handbook:** Hands-On Activity 7, *The Effects of Acid Rain*, pages 101-103

Life Science
1. Describe characteristics common to living things, including growth and development, reproduction, cellular organization, use of energy, exchange of gases, and response to the environment.
Addition content to be taught: • **Identifying homeostasis as the process by which an organism responds to its internal or external environment.**
Life Science Lab, Level A: Cards 23, 24, 41, 43, 44, 83 **Life Science Lab, Level B:** Cards 23, 24, 41, 43, 44, 83 **Life Science Lab Teacher's Handbook:** Hands-On Activity 3, *Investigating Arthropods*, pages 85-87

Life Science
1. Describe characteristics common to living things, including growth and development, reproduction, cellular organization, use of energy, exchange of gases, and response to the environment.
Addition content to be taught: • **Predicting how an organism's behavior impacts the environment.**
Life Science Lab, Level A: Cards 13, 72, 80, 86, 87, 88, 89, 90 **Life Science Lab, Level B:** Cards 13, 72, 80, 86, 87, 88, 89, 90 **Life Science Lab Teacher's Handbook:** Hands-On Activity 7, *The Effects of Acid Rain*, pages 101-103

Life Science
1. Describe characteristics common to living things, including growth and development, reproduction, cellular organization, use of energy, exchange of gases, and response to the environment.
Addition content to be taught: • **Identifying unicellular organisms, including bacteria and protists, by their methods of locomotion, reproduction, ingestion, excretion, and effects on other organisms.**
Life Science Lab, Level A: Cards 11, 12, 13, 14 **Life Science Lab, Level B:** Cards 11, 12, 13, 14 **Life Science Lab Teacher's Handbook:** Hands-On Activity 2, *Culturing Bacteria*, pages 81-83

Life Science
1. Describe characteristics common to living things, including growth and development, reproduction, cellular organization, use of energy, exchange of gases, and response to the environment.
Addition content to be taught: • **Identifying the structure of a virus.**
Life Science Lab, Level A: Card 11 **Life Science Lab, Level B:** Card 11

Life Science
2. Identify functions of organelles found in eukaryotic cells, including the nucleus, cell membrane, cell wall, mitochondria, chloroplasts, and vacuoles.
Objective 7.2.1: Define eukaryotic cells, organelle, mitochondria, chloroplasts, and vacuoles.
Life Science Lab, Level A: Cards 6, 7, 8, 9, 10 **Life Science Lab, Level B:** Cards 6, 7, 8, 9, 10 **Life Science Lab Teacher's Handbook:** Hands-On Activity 1, *Examining Cells*, pages 77-79

Life Science
2. Identify functions of organelles found in eukaryotic cells, including the nucleus, cell membrane, cell wall, mitochondria, chloroplasts, and vacuoles.
Objective 7.2.2: Identify the organelles of animal and plant cells.
Life Science Lab, Level A: Cards 6, 7, 8, 9 **Life Science Lab, Level B:** Cards 6, 7, 8, 9

Life Science
2. Identify functions of organelles found in eukaryotic cells, including the nucleus, cell membrane, cell wall, mitochondria, chloroplasts, and vacuoles.
Addition content to be taught: • **Identifying components of the cell theory.**
Life Science Lab, Level A: Cards 5, 6, 7, 8, 9, 10 **Life Science Lab, Level B:** Cards 5, 6, 7, 8, 9, 10 **Life Science Lab Teacher's Handbook:** Hands-On Activity 1, *Examining Cells*, pages 77-79

Life Science
2. Identify functions of organelles found in eukaryotic cells, including the nucleus, cell membrane, cell wall, mitochondria, chloroplasts, and vacuoles.
Addition content to be taught: • **Identifying cells as prokaryotic or eukaryotic.**
Life Science Lab, Level A: Card 3 **Life Science Lab, Level B:** Card 3

Life Science
2. Identify functions of organelles found in eukaryotic cells, including the nucleus, cell membrane, cell wall, mitochondria, chloroplasts, and vacuoles.
Addition content to be taught: • **Listing the sequence of the mitotic cell cycle.**
Life Science Lab, Level A: Card 10 **Life Science Lab, Level B:** Card 10

Life Science
3. Relate major tissues ad organs to the skeletal, circulatory, reproductive, muscular, respiratory, nervous, and digestive systems to their functions.
Objective 7.3.1: Describe the hierarchy of life from cells, tissues, and organs to the body systems.
Life Science Lab, Level A: Card 44 **Life Science Lab, Level B:** Card 44

Life Science
3. Relate major tissues ad organs to the skeletal, circulatory, reproductive, muscular, respiratory, nervous, and digestive systems to their functions.
Objective 7.3.2: Identify the major tissues and organs of each of the body systems.
Life Science Lab, Level A: Cards 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58 **Life Science Lab, Level B:** Cards 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58 **Life Science Lab Teacher's Handbook:** Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91

Life Science
3. Relate major tissues ad organs to the skeletal, circulatory, reproductive, muscular, respiratory, nervous, and digestive systems to their functions.
Addition content to be taught: • **Arranging in order the organizational levels of the human body from the cell through organ systems.**
Life Science Lab, Level A: Cards 44, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58 **Life Science Lab, Level B:** Cards 44, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58 **Life Science Lab Teacher's Handbook:** Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91

Life Science
4. Describe organisms in the six-kingdom classification system by their characteristics.
Objective 7.4.1: Define kingdom and classification system.
Life Science Lab, Level A: Cards 2, 3 **Life Science Lab, Level B:** Cards 2, 3

Life Science
4. Describe organisms in the six-kingdom classification system by their characteristics.
Objective 7.4.2: List the six kingdoms.
Life Science Lab, Level A: Cards 3, 11, 12, 13, 14, 15, 16, 25, 27 **Life Science Lab, Level B:** Cards 3, 11, 12, 13, 14, 15, 16, 25, 27

Life Science
4. Describe organisms in the six-kingdom classification system by their characteristics.
Objective 7.4.3: Identify the characteristics of each kingdom.
Life Science Lab, Level A: Cards 3, 11, 12, 13, 14, 15, 16, 25, 27 **Life Science Lab, Level B:** Cards 3, 11, 12, 13, 14, 15, 16, 25, 27 **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
4. Describe organisms in the six-kingdom classification system by their characteristics.
Objective 7.4.4: Match an organism to its corresponding kingdom.
Life Science Lab, Level A: Cards 3, 11, 12, 13, 14, 15, 16, 25, 27 **Life Science Lab, Level B:** Cards 3, 11, 12, 13, 14, 15, 16, 25, 27 **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
4. Describe organisms in the six-kingdom classification system by their characteristics.
Addition content to be taught: • **Recognizing genus and species as components of a scientific name.**
Life Science Lab, Level A: Cards 2, 3 **Life Science Lab, Level B:** Cards 2, 3

Life Science
4. Describe organisms in the six-kingdom classification system by their characteristics.
Addition content to be taught: • **Identifying contributions of Aristotle and Linnaeus to the early history of taxonomy.**
Life Science Lab, Level A: Cards 2, 3 **Life Science Lab, Level B:** Cards 2, 3

Life Science
5. Identify major differences between plants and animals, including internal structures, external structures, methods of locomotion, methods of reproduction, and stages of development.
Objective 7.5.1: Identify major characteristics of plants.
Life Science Lab, Level A: Cards 16, 17, 18, 19, 20, 21, 22, 23, 24 **Life Science Lab, Level B:** Cards 16, 17, 18, 19, 20, 21, 22, 23, 24

Life Science
5. Identify major differences between plants and animals, including internal structures, external structures, methods of locomotion, methods of reproduction, and stages of development.
Objective 7.5.2: Identify major characteristics of animals.
Life Science Lab, Level A: Cards 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43 **Life Science Lab, Level B:** Cards 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43 **Life Science Lab Teacher's Handbook:** Hands-On Activity 3, *Investigating Arthropods*, pages 85-87

Life Science
5. Identify major differences between plants and animals, including internal structures, external structures, methods of locomotion, methods of reproduction, and stages of development.
Addition content to be taught: • **Describing the process of photosynthesis and cellular respiration.**
Life Science Lab, Level A: Cards 9, 16, 17 **Life Science Lab, Level B:** Cards 9, 16, 17

Life Science
6. Describe evidence of species variation due to climatic, changing landforms, interspecies interaction, and genetic mutation.
Objective 7.6.1: Define species variation, adaptation, and mutation.
Life Science Lab, Level A: Cards 64, 65, 66 **Life Science Lab, Level B:** Cards 64, 65, 66

Life Science
6. Describe evidence of species variation due to climatic, changing landforms, interspecies interaction, and genetic mutation.
Objective 7.6.2: List adaptations that occur due to climate, changing landforms, interspecies interaction, and genetic mutation.
Life Science Lab, Level A: Cards 23, 41, 64, 65, 66 **Life Science Lab, Level B:** Cards 23, 41, 64, 65, 66

Life Science
7. Describe biotic and abiotic factors in the environment.
Objective 7.7.1: Define biotic and abiotic.
Life Science Lab, Level A: Card 70 **Life Science Lab, Level B:** Card 70

Life Science
7. Describe biotic and abiotic factors in the environment.
Objective 7.7.2: List examples of living things.
Life Science Lab, Level A: Cards 1, 2, 3, 4, 12, 13, 14, 15, 16, 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 1, 2, 3, 4, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40

Life Science
7. Describe biotic and abiotic factors in the environment.
Objective 7.7.3: List examples of nonliving things.
Life Science Lab, Level A: Cards 11, 17, 46, 70, 78, 79 **Life Science Lab, Level B:** Cards 11, 17, 46, 70, 78, 79

Life Science
7. Describe biotic and abiotic factors in the environment.
Addition content to be taught: • **Classifying organisms as autotrophs or heterotrophs.**
Life Science Lab, Level A: Cards 76, 77 **Life Science Lab, Level B:** Cards 76, 77

Life Science
7. Describe biotic and abiotic factors in the environment.
Addition content to be taught: • **Arranging the sequence of energy flow in an ecosystem through food webs, food chains, and energy pyramids.**
Life Science Lab, Level A: Cards 76, 77 **Life Science Lab, Level B:** Cards 76, 77 **Life Science Lab Teacher's Handbook:** Hands-On Activity 6, *How Much Does Energy Cost?*, pages 97-99

Life Science
8. Describe the function of chromosomes.
Objective 7.8.1: Define chromosomes.
Life Science Lab, Level A: Cards 61, 62, 63, 64 **Life Science Lab, Level B:** Cards 61, 62, 63, 64

Life Science
8. Describe the function of chromosomes.
Objective 7.8.2: Define deoxyribonucleic acid (DNA), heredity, genetics, genes, and allele.
Life Science Lab, Level A: Cards 61, 62, 63, 64 **Life Science Lab, Level B:** Cards 61, 62, 63, 64

Life Science
8. Describe the function of chromosomes.
Objective 7.8.3: Identify common parts of plant and animal cells, including the nucleus, cytoplasm, and cell membrane.
Life Science Lab, Level A: Cards 6, 7, 8, 9 **Life Science Lab, Level B:** Cards 6, 7, 8, 9

Life Science
8. Describe the function of chromosomes.
Addition content to be taught: • **Identifying genes as parts of chromosomes that carry genetic traits.**
Life Science Lab, Level A: Cards 61, 62, 63, 64 **Life Science Lab, Level B:** Cards 61, 62, 63, 64

Life Science
9. Identify the process of chromosome reduction in the production of sperm and egg cells during meiosis.
Objective 7.9.1: Define meiosis, gamete, and zygote.
Life Science Lab, Level A: Card 61 **Life Science Lab, Level B:** Card 61

Life Science
9. Identify the process of chromosome reduction in the production of sperm and egg cells during meiosis.
Objective 7.9.2: Compare mitosis and meiosis.
Life Science Lab, Level A: Cards 60, 61 **Life Science Lab, Level B:** Cards 60, 61

Life Science
10. Identify differences between deoxyribonucleic acid (DNA) and ribonucleic acid (RNA).
Objective 7.10.1: Define nitrogen bases.
Life Science Lab, Level A: Card 64 **Life Science Lab, Level B:** Card 64

Life Science
10. Identify differences between deoxyribonucleic acid (DNA) and ribonucleic acid (RNA).
Objective 7.10.2: Identify nitrogen bases, including thymine, uracil, adenine, guanine, and cytosine.
Life Science Lab, Level A: Card 64 **Life Science Lab, Level B:** Card 64

Life Science
10. Identify differences between deoxyribonucleic acid (DNA) and ribonucleic acid (RNA).
Objective 7.10.3: Illustrate the structure of a strand of DNA.
Life Science Lab, Level A: Card 64 **Life Science Lab, Level B:** Card 64

Life Science
10. Identify differences between deoxyribonucleic acid (DNA) and ribonucleic acid (RNA).
Addition content to be taught: • **Identifying Watson and Crick as scientists who discovered the shape of the DNA molecule.**
Life Science Lab, Level A: Card 64 **Life Science Lab, Level B:** Card 64

Life Science
11. Identify Mendel's laws of genetics.
Objective 7.11.1: Define gene, inherited trait, dominant trait, and recessive trait.
Life Science Lab, Level A: Cards 62, 63, 64 **Life Science Lab, Level B:** Cards 62, 63, 64

Life Science
11. Identify Mendel's laws of genetics.
Objective 7.11.2: Discuss the scientific contributions of Gregor Mendel.
Life Science Lab, Level A: Card 63 **Life Science Lab, Level B:** Card 63

Life Science
11. Identify Mendel's laws of genetics.
Addition content to be taught: • **Recognizing Down's syndrome and sickle cell anemia as inherited genetic disorders.**
Life Science Lab, Level A: Card 69 **Life Science Lab, Level B:** Card 69

Life Science
11. Identify Mendel's laws of genetics.
Addition content to be taught: • **Using a monohybrid Punnett square to predict the probability of traits passed from parents to offspring.**
Life Science Lab, Level A: Card 63 **Life Science Lab, Level B:** Card 63

SRA Life, Earth, and Physical Science Laboratories
correlation to
Alabama Course of Study: Science
Grade 8

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

Physical Science
1. Identify steps within the scientific process.
Objective 8.1.1: Define experiment, control, independent variable, dependent variable, and data.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99 **Classroom Resource CD-ROM:** Writing Strategy 8, 15, 16, 22, 23, 24

Physical Science
1. Identify steps within the scientific process.
Objective 8.1.2: Distinguish among hypothesis, theory, and scientific law.
Life Science Lab, Level A: Card 5 **Life Science Lab, Level B:** Card 5 **Life Science Lab Teacher's Handbook:** Hands-On Activity 3, *Investigating Arthropods,* pages 85-87 **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, 9, 37, 53, 55, 59 **Physical Science Lab, Level B:** Cards 3, 9, 37, 53, 55, 59 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87 **Classroom Resource CD-ROM:** Writing Strategy 8

Physical Science

1. Identify steps within the scientific process.

Additional content to be taught:

- **Applying process skills to interpret data from graphs, tables, and charts.**

Life Science Lab Teacher's Handbook: 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 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 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, 16, 21, 22, 24, 27, 29

Physical Science

1. Identify steps within the scientific process.

Additional content to be taught:

- **Identifying controls and variables in a scientific investigation.**

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

Physical Science

1. Identify steps within the scientific process.

Additional content to be taught:

- **Measuring dimension, volume, and mass using *Systéme International d'Unités* (SI units).**

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

Physical Science
1. Identify steps within the scientific process.
Additional content to be taught: • **Identifying examples of hypotheses.**
Life Science Lab Teacher's Handbook: Hands-On Activity 3, *Investigating Arthropods*, pages 85-87 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 2, *Chemical Reaction Rates*, pages 81-83; Hands-On Activity 3, *Energy Conversion*, pages 85-87 **Classroom Resource CD-ROM:** Writing Strategy 15, 23

Physical Science
1. Identify steps within the scientific process.
Additional content to be taught: • **Identifying appropriate laboratory glassware, balances, time measuring equipment, and optical instruments used to conduct 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

Physical Science
2. Describe the structure of atoms, including the location of protons, neutrons, and electrons.
Objective 8.2.1: Define atom, nucleus, proton, neutron, electron, and electron cloud.
Physical Science Lab, Level A: Cards 3, 4, 21, 22 **Physical Science Lab, Level B:** Cards 3, 4, 21, 22

Physical Science
2. Describe the structure of atoms, including the location of protons, neutrons, and electrons.
Objective 8.2.2: Label the parts of an atom, including the electron cloud.
Physical Science Lab, Level A: Cards 3, 21, 22 **Physical Science Lab, Level B:** Cards 3, 21, 22

Physical Science
2. Describe the structure of atoms, including the location of protons, neutrons, and electrons.
Additional content to be taught: • **Identifying the charge of each subatomic particle.**
Physical Science Lab, Level A: Cards 21, 22, 23 **Physical Science Lab, Level B:** Cards 21, 22, 23

Physical Science
2. Describe the structure of atoms, including the location of protons, neutrons, and electrons.
Additional content to be taught: • **Identifying Democritus and Dalton as contributors to the atomic theory.**
Physical Science Lab, Level A: Cards 3, 21 **Physical Science Lab, Level B:** Cards 3, 21

Physical Science
3. Determine the number of protons, neutrons, and electrons, and the mass of an element using the periodic table.
Objective 8.3.1: Define terms related to the periodic table.
Physical Science Lab, Level A: Cards 17, 18, 19, 20, 21 **Physical Science Lab, Level B:** Cards 17, 18, 19, 20, 21

Physical Science
3. Determine the number of protons, neutrons, and electrons, and the mass of an element using the periodic table.
Objective 8.3.2: Describe the structure and function of the periodic table.
Physical Science Lab, Level A: Cards 17, 18, 19, 20, 21 **Physical Science Lab, Level B:** Cards 17, 18, 19, 20, 21

Physical Science
3. Determine the number of protons, neutrons, and electrons, and the mass of an element using the periodic table.
Additional content to be taught: • **Locating metals, nonmetals, metalloids, and noble gases on 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
3. Determine the number of protons, neutrons, and electrons, and the mass of an element using the periodic table.
Additional content to be taught: • **Using data about the number of electrons in the outer shell of an atom to determine its reactivity.**
Physical Science Lab, Level A: Cards 21, 22, 23, 24, 25, 26, 27 **Physical Science Lab, Level B:** Cards 21, 22, 23, 24, 25, 26, 27

Physical Science
4. State the law of conservation of matter.
Objective 8.4.1: Define chemical reaction.
Physical Science Lab, Level A: Cards 27, 28, 29, 30 **Physical Science Lab, Level B:** Cards 27, 28, 29, 30

Physical Science
4. State the law of conservation of matter.
Additional content to be taught: • **Balancing chemical equations by adjusting coefficients.**
Physical Science Lab, Level A: Cards 27, 28, 29 **Physical Science Lab, Level B:** Cards 27, 28, 29 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83

Physical Science
5. Differentiate between ionic and covalent bonds.
Objective 8.5.1: Define chemical bond, ionic bond, and covalent bond.
Physical Science Lab, Level A: Cards 23, 24, 25 **Physical Science Lab, Level B:** Cards 23, 24, 25

Physical Science
5. Differentiate between ionic and covalent bonds.
Objective 8.5.2: Draw electron dot diagrams using the periodic table.
Physical Science Lab, Level A: Cards 22, 23, 24 **Physical Science Lab, Level B:** Cards 22, 23, 24

Physical Science
5. Differentiate between ionic and covalent bonds.
Additional content to be taught: • **Illustrating the transfer or sharing of electrons using electron dot diagrams.**
Physical Science Lab, Level A: Cards 22, 23, 24 **Physical Science Lab, Level B:** Cards 22, 23, 24

Physical Science
6. Define solution in terms of solute and solvent.
Objective 8.6.1: Define solution, solute, and solvent.
Physical Science Lab, Level A: Card 13 **Physical Science Lab, Level B:** Card 13

Physical Science
6. Define solution in terms of solute and solvent.
Objective 8.6.2: Identify mixtures and compounds.
Physical Science Lab, Level A: Cards 11, 12, 13 **Physical Science Lab, Level B:** Cards 11, 12, 13

Physical Science
6. Define solution in terms of solute and solvent.
Objective 8.6.3: Recognize solutions as liquid, gaseous, or solid.
Physical Science Lab, Level A: Card 13 **Physical Science Lab, Level B:** Card 13

Physical Science
6. Define solution in terms of solute and solvent.
Additional content to be taught: • **Defining diffusion and osmosis.**
Life Science Lab, Level A: Card 8 **Life Science Lab, Level B:** Card 8

Physical Science
6. Define solution in terms of solute and solvent.
Additional content to be taught: • **Defining isotonic, hypertonic, and hypotonic solutions.**
Physical Science Lab, Level A: Card 13 **Physical Science Lab, Level B:** Card 13

Physical Science
6. Define solution in terms of solute and solvent.
Additional content to be taught: • **Describing acids and bases based on their hydrogen ion concentration.**
Physical Science Lab, Level A: Cards 14, 15, 16 **Physical Science Lab, Level B:** Cards 14, 15, 16 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases*, pages 77-79

Physical Science
7. Describe states of matter based on kinetic energy of particles in matter.
Objective 8.7.1: Define kinetic energy and the kinetic theory of matter.
Physical Science Lab, Level A: Cards 36, 37, 39, 40, 41, 42 **Physical Science Lab, Level B:** Cards 36, 37, 39, 40, 41, 42 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 3, *Energy Conversion*, pages 85-87

Physical Science
7. Describe states of matter based on kinetic energy of particles in matter.
Objective 8.7.2: List characteristics of the states of matter.
Physical Science Lab, Level A: Cards 5, 6, 7 **Physical Science Lab, Level B:** Cards 5, 6, 7

Physical Science
7. Describe states of matter based on kinetic energy of particles in matter.
Additional content to be taught: • **Explaining effects of temperature, concentration, surface area, and catalysts on the rate of chemical reactions.**
Physical Science Lab, Level A: Cards 9, 27, 28, 29 **Physical Science Lab, Level B:** Cards 9, 27, 28, 29

Physical Science
8. Identify Newton's three laws of motion.
Objective 8.8.1: Define mass and force.
Physical Science Lab, Level A: Cards 54, 57 **Physical Science Lab, Level B:** Cards 54, 57

Physical Science
8. Identify Newton's three laws of motion.
Objective 8.8.2: Describe Newton's contributions to the scientific community.
Physical Science Lab, Level A: Card 55 **Physical Science Lab, Level B:** Card 55

Physical Science
8. Identify Newton's three laws of motion.
Additional content to be taught: • **Defining terminology such as action and reaction forces, inertia, acceleration, momentum, and friction.**
Physical Science Lab, Level A: Cards 51, 52, 53, 54, 55, 58, 59 **Physical Science Lab, Level B:** Cards 51, 52, 53, 54, 55, 58, 59 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 4, *Reducing Friction*, pages 89-91

Physical Science
8. Identify Newton's three laws of motion.
Additional content to be taught: • **Interpreting distance-time graphs.**
Physical Science Lab, Level A: Cards 51, 52 **Physical Science Lab, Level B:** Cards 51, 52 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 4, *Reducing Friction*, pages 89-91

Physical Science
9. Describe how mechanical advantages of simple machines reduce the amount of force needed for work.
Objective 8.9.1: Define mechanical advantage.
Physical Science Lab, Level A: Cards 63, 64 **Physical Science Lab, Level B:** Cards 63, 64

Physical Science
9. Describe how mechanical advantages of simple machines reduce the amount of force needed for work.
Objective 8.9.2: Describe the six types of simple machines.
Physical Science Lab, Level A: Cards 63, 64 **Physical Science Lab, Level B:** Cards 63, 64

Physical Science
9. Describe how mechanical advantages of simple machines reduce the amount of force needed for work.
Additional content to be taught: • **Describing the effect of force on pressure in fluids.**
Physical Science Lab, Level A: Card 60 **Physical Science Lab, Level B:** Card 60

Physical Science
10. Differentiate between potential and kinetic energy.
Objective 8.10.1. Define potential energy.
Physical Science Lab, Level A: Cards 36, 37, 40 **Physical Science Lab, Level B:** Cards 36, 37, 40

Physical Science
10. Differentiate between potential and kinetic energy.
Objective 8.10.2: Define kinetic energy.
Physical Science Lab, Level A: Cards 36, 37, 39 **Physical Science Lab, Level B:** Cards 36, 37, 39

Physical Science
11. Explain the law of conservation of energy and its relationship to energy transformation, including chemical to electrical, chemical to heat, electrical to light, electrical to mechanical, and electrical to sound.
Objective 8.11.1: Describe various forms of energy.
Physical Science Lab, Level A: Cards 36, 39, 40, 41, 42, 45, 46, 47, 48, 49, 66, 67, 74, 76, 77, 78, 79, 80, 82, 83 **Physical Science Lab, Level B:** Cards 36, 39, 40, 41, 42, 45, 46, 47, 48, 49, 66, 67, 74, 76, 77, 78, 79, 80, 82, 83 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 5, *Making a Potato Battery*, pages 93-95; Hands-On Activity 6, *Making Sound*, pages 97-99

Physical Science
11. Explain the law of conservation of energy and its relationship to energy transformation, including chemical to electrical, chemical to heat, electrical to light, electrical to mechanical, and electrical to sound.
Objective 8.11.2: Discuss the law of conservation of energy.
Physical Science Lab, Level A: Card 37 **Physical Science Lab, Level B:** Card 37 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 3, *Energy Conversion,* pages 85-87

Physical Science
11. Explain the law of conservation of energy and its relationship to energy transformation, including chemical to electrical, chemical to heat, electrical to light, electrical to mechanical, and electrical to sound.
Objective 8.11.3: Identify examples of energy transformations.
Physical Science Lab, Level A: Cards 27, 28, 29, 34, 37, 38, 43, 44, 54, 67, 68, 69, 70, 76, 80, 81, 84, 85, 90 **Physical Science Lab, Level B:** Cards 27, 28, 29, 34, 37, 38, 43, 44, 54, 67, 68, 69, 70, 76, 80, 81, 84, 85, 90 **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

Physical Science
12. Classify waves as mechanical or electromagnetic.
Objective 8.12.1: Define wave, mechanical wave, and electromagnetic wave.
Physical Science Lab, Level A: Cards 77, 78, 79, 83 **Physical Science Lab, Level B:** Cards 77, 78, 79, 83 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 6, *Making Sound,* pages 97-99

Physical Science
12. Classify waves as mechanical or electromagnetic.
Objective 8.12.2: Label a wave, including length, amplitude, period, crest, trough, and frequency.
Physical Science Lab, Level A: Cards 77, 78 **Physical Science Lab, Level B:** Cards 77, 78

Physical Science
12. Classify waves as mechanical or electromagnetic.
Additional content to be taught: • **Describing how earthquake waves, sound waves, water waves, and electromagnetic waves can be destructive or beneficial due to the transfer of energy.**
Earth Science Lab, Level A: Cards 15, 16 **Earth Science Lab, Level B:** Cards 15, 16 **Physical Science Lab, Level A:** Cards 79, 80, 81, 84, 90 **Physical Science Lab, Level B:** Cards 79, 80, 81, 84, 90 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 6, *Making Sound,* pages 97-99

Physical Science
12. Classify waves as mechanical or electromagnetic.
Additional content to be taught: • **Describing longitudinal and transverse waves.**
Physical Science Lab, Level A: Cards 77, 78 **Physical Science Lab, Level B:** Cards 77, 78

Physical Science
12. Classify waves as mechanical or electromagnetic.
Additional content to be taught: • **Describing how waves travel through different media.**
Earth Science Lab, Level A: Cards 15, 16 **Earth Science Lab, Level B:** Cards 15, 16 **Physical Science Lab, Level A:** Cards 78, 79, 85, 86, 87, 88 **Physical Science Lab, Level B:** Cards 78, 79, 85, 86, 87, 88

Physical Science
12. Classify waves as mechanical or electromagnetic.
Additional content to be taught: • **Relating wavelength, frequency, and amplitude to energy.**
Physical Science Lab, Level A: Cards 77, 78 **Physical Science Lab, Level B:** Cards 77, 78

Physical Science
12. Classify waves as mechanical or electromagnetic.
Additional content to be taught: • **Describing the electromagnetic spectrum in terms of frequencies.**
Physical Science Lab, Level A: Cards 82, 83, 84, 85 **Physical Science Lab, Level B:** Cards 82, 83, 84, 85