SRA Snapshots Video Science™: Level A
correlation to
Missouri Science Standards
Grade 3

SRA Snapshots Video Science™ consists of four interdependent components. Each level has four program DVDs that provide engaging video lessons. The student edition (**SE**) provides student friendly text that reinforces the concepts introduced in the video. The Teacher's Resource Book (**TRB**) provides support activities in a blackline master format. The Teacher's Guide (**TG**) provides lesson planning, differentiated instruction activities, and answers to all student activities in the Student Edition.

KEY:

Reference	**Program Component**
Video	Video lessons on program DVDs
SE	Student Edition
TRB	Teacher's Resource Book
TG	Teacher's Guide

Strand 1: Properties and Principles of Matter and Energy
1. Changes in properties and states of matter provide evidence of the atomic theory or matter.
Concept D. Physical changes in the state of matter that result from thermal changes can be explained by the Kinetic Theory of Matter.
a. Compare the observable physical properties of solids, liquids, or gases (air) (i.e., visible vs. invisible, changes in shapes, changes in the amount of space occupied).
Chapter 8, Lesson 1, Video A, SE page 157; Video B, SE page 158; Video C, SE page 159; Process Skills 161

Strand 1: Properties and Principles of Matter and Energy
1. Changes in properties and states of matter provide evidence of the atomic theory or matter.
Concept D. Physical changes in the state of matter that result from thermal changes can be explained by the Kinetic Theory of Matter.
b. Identify everyday objects/substances as solid, liquid, or gas (e.g., air, water).
Chapter 8, Lesson 1, Video A, SE page 157; Video B, SE page 158; Video C, SE page 159; Process Skills 161

Strand 1: Properties and Principles of Matter and Energy
1. Changes in properties and states of matter provide evidence of the atomic theory or matter.
Concept D. Physical changes in the state of matter that result from thermal changes can be explained by the Kinetic Theory of Matter.
c. Recognize water evaporates (liquid water changes into a gas as it moves into the air).
Chapter 5, Lesson 2, Video B, SE page 100 **The Planet Earth, SE page 204**

Strand 1: Properties and Principles of Matter and Energy
1. Changes in properties and states of matter provide evidence of the atomic theory or matter.
Concept D. Physical changes in the state of matter that result from thermal changes can be explained by the Kinetic Theory of Matter.
d. Measure and compare the temperature of water when it exists as a solid to its temperature when it exists as a liquid.
Chapter 7, Lesson 2, Critical Thinking, SE page 167; Lesson 3, Video A, SE page 171

Strand 1: Properties and Principles of Matter and Energy
1. Changes in properties and states of matter provide evidence of the atomic theory or matter.
Concept D. Physical changes in the state of matter that result from thermal changes can be explained by the Kinetic Theory of Matter.
e. Investigate and recognize water can change from a liquid to a solid (freeze), and back again to a liquid (melt), as the result of temperature changes.
Chapter 8, Lesson 2, Video A, SE page 163; Video B, SE page 164; Process Skill, SE page 167

Strand 1: Properties and Principles of Matter and Energy
1. Changes in properties and states of matter provide evidence of the atomic theory or matter.
Concept D. Physical changes in the state of matter that result from thermal changes can be explained by the Kinetic Theory of Matter.
f. Describe the changes in the physical properties of water (i.e., shape, volume) when frozen or melted.
Chapter 8, Lesson 2, Video A, SE page 163; Video B, SE page 164; Process Skill, SE page 167

Strand 1: Properties and Principles of Matter and Energy
1. Changes in properties and states of matter provide evidence of the atomic theory or matter.
Concept D. Physical changes in the state of matter that result from thermal changes can be explained by the Kinetic Theory of Matter.
g. Predict and investigate the effect of heat energy (i.e., change in temperature, melting, evaporation) on objects and materials.
Chapter 8, Lesson 2, Video A, SE page 163; Process Skill, SE page 167

Strand 1: Properties and Principles of Matter and Energy
2. Energy has a source, can be transferred, and can be transformed into various forms but is conserved between and within systems.
Concept A. Forms of energy have a source, a means of transfer (work and heat), and a receiver.
a. Identify sources of thermal energy (e.g., Sun, stove, fire, body) that can cause solids to change to liquids, and liquids to change to gas.
Chapter 2, Lesson 2, Video A, SE page 31 **Chapter 8, Lesson 2, Video C, SE page 165; Lesson 3, Video A, SE page 171** **Chapter 9, Lesson 2, Video A, SE page 187; Lesson 3, Video B, SE page 194**

Strand 1: Properties and Principles of Matter and Energy
2. Energy has a source, can be transferred, and can be transformed into various forms but is conserved between and within systems.
Concept A. Forms of energy have a source, a means of transfer (work and heat), and a receiver.
b. Identify sources of light energy (e.g., Sun, bulbs, flames).
Chapter 2, Lesson 2, Video A, SE page 31 **Chapter 6, Lesson 1, Video A, SE page 113; Video B, SE page 114; Video C, SE page 115; Lesson 2, Video A, SE page 119** **Chapter 9, LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**

Strand 1: Properties and Principles of Matter and Energy
2. Energy has a source, can be transferred, and can be transformed into various forms but is conserved between and within systems.
Concept A. Forms of energy have a source, a means of transfer (work and heat), and a receiver.
c. Recognize light can be transferred from the source to the receiver (eye) through space.
Chapter 9, Lesson 1, Video A, SE page 179; Video B, SE page 180; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174

Strand 1: Properties and Principles of Matter and Energy
2. Energy has a source, can be transferred, and can be transformed into various forms but is conserved between and within systems.
Concept A. Forms of energy have a source, a means of transfer (work and heat), and a receiver.
d. Identify the three things (light source, object, and surface) necessary to produce a shadow.
Chapter 9, Lesson 1, Video A, SE page 191; Video A, TG page 163

Strand 1: Properties and Principles of Matter and Energy
2. Energy has a source, can be transferred, and can be transformed into various forms but is conserved between and within systems.
Concept C. Electromagnetic energy from the Sun (solar radiation) is a major source of energy on Earth.
a. Recognize the Sun is the primary source of light and food energy on Earth.
Chapter 2, Lesson 2, Video A, SE page 31 **Chapter 5, Lesson 1, Video B, SE page 92; Lesson 2, Video B, SE page 100** **Chapter 6, Lesson 1, Video A, SE page 113; Video B, SE page 114; Video C, SE page 115; Lesson 2, Video A, SE page 119**

Strand 3: Characteristics and Interactions of Living Organisms
1. There is a fundamental unity underlying the diversity of all living organisms.
Concept A. Organisms have basic needs for survival.
a. Describe the basic needs of most plants (i.e., air, water, light, nutrients, temperature).
Chapter 1, Lesson 1, Video B, SE page 4; Lesson 2, Video C, SE page 11; Lesson 3, Video C, SE page 19 **Chapter 2, KnowZone, SE pages 36-37; Lesson 3, Video B, SE page 40**

Strand 3: Characteristics and Interactions of Living Organisms
1. There is a fundamental unity underlying the diversity of all living organisms.
Concept B. Organisms progress through life cycles unique to different types of organisms.
a. Recognize plants progress through life cycles of seed germination, growth and development, reproduction, and death.
Chapter 1, Lesson 3, Video C, SE page 19; LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30

Strand 3: Characteristics and Interactions of Living Organisms
1. There is a fundamental unity underlying the diversity of all living organisms.
Concept B. Organisms progress through life cycles unique to different types of organisms.
b. Sequence and describe the stages in the life cycle of a flowering plant.
Chapter 1, Lesson 3, Video C, SE page 19; LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30

Strand 3: Characteristics and Interactions of Living Organisms
1. There is a fundamental unity underlying the diversity of all living organisms.
Concept D. Plants and animals have different structures that serve similar functions necessary for the survival of the organism.
a. Identify the major organs (roots, stems, flowers, leaves) and their functions in vascular plants (e.g., absorption, transport, reproduction).
Chapter 1, Lesson 1, Video B, SE page 4; Lesson 2, Video C, SE page 11; Lesson 3, Video C, SE page 19 **Chapter 2, KnowZone, SE pages 36-37; Lesson 3, Video B, SE page 40**

Strand 3: Characteristics and Interactions of Living Organisms
2. Living organisms carry out life processes in order to survive.
Concept C. Complex multicellular organisms have systems that interact to carry out life processes through physical and chemical means.
a. Illustrate and trace the path of water and nutrients as they move through the transport system of a plant.
Level A: **Chapter 1, Lesson 1, Video B, SE page 4** **See also Level C:** **Chapter 1, Lesson 2, Process Skill, SE page 13**

Strand 3: Characteristics and Interactions of Living Organisms
3. There is a genetic basis for the transfer of biological characteristics from one generation to the next through reproductive processes.
Concept D. There is heritable variation within every species of organism.
a. Identify and relate the similarities and differences between plants and their offspring (i.e., seedlings).
Chapter 1, Lesson 3, Video C, SE page 19

Strand 4: Changes in Ecosystems and the Interactions of Organisms with their Environment
2. Matter and energy flow through an ecosystem.
Concept A. As energy flows through the ecosystem, all organisms capture a portion of that energy and transform it to a form they can use.
a. Identify sunlight as the primary source of energy plants use to produce their own food.
Chapter 1, LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 2, Lesson 2, Video A, SE page 31**

Strand 4: Changes in Ecosystems and the Interactions of Organisms with their Environment
2. Matter and energy flow through an ecosystem.
Concept A. As energy flows through the ecosystem, all organisms capture a portion of that energy and transform it to a form they can use.
b. Classify populations of organisms as producers or consumers by the role they serve in the ecosystem.
Chapter 2, Lesson 2, Video A, SE page 31; Video B, SE page 32; Video C, SE page 33; LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48 **Chapter 3, Lesson 2, Video B, SE page 56** **Energy Transfer, SE page 203**

Strand 4: Changes in Ecosystems and the Interactions of Organisms with their Environment
2. Matter and energy flow through an ecosystem.
Concept A. As energy flows through the ecosystem, all organisms capture a portion of that energy and transform it to a form they can use.
c. Sequence the flow of energy through a food chain beginning with the Sun.
Chapter 2, Lesson 2, Video A, 31; Video B, SE page 32; Video C, SE page 33; LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48 **Energy Transfer, SE page 203**

Strand 4: Changes in Ecosystems and the Interactions of Organisms with their Environment
2. Matter and energy flow through an ecosystem.
Concept A. As energy flows through the ecosystem, all organisms capture a portion of that energy and transform it to a form they can use.
d. Predict the possible effects of removing an organism from a food chain.
Chapter 2, Lesson 2, Critical Thinking, SE page 35; Process Skill, SE page 35 **Chapter 3, Lesson 3, Critical Thinking, SE page 65**

Strand 5: Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere)
1. Earth's systems (Geosphere, atmosphere, and hydrosphere) have common components and unique structures.
Concept C. The atmosphere (air) is composed of a mixture of gases, including water vapor, and minute particles.
a. Recognize liquid water can change into a gas (vapor) in the air.
Chapter 5, Lesson 2, Video B, SE page 100 **The Planet Earth, SE page 204**

Strand 5: Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere)
1. Earth's systems (Geosphere, atmosphere, and hydrosphere) have common components and unique structures.
Concept C. The atmosphere (air) is composed of a mixture of gases, including water vapor, and minute particles.
b. Recognize clouds and fog are made of tiny droplets of water.
Chapter 5, Lesson 2, Video B, SE page 100

Strand 5: Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere)
1. Earth's systems (Geosphere, atmosphere, and hydrosphere) have common components and unique structures.
Concept C. The atmosphere (air) is composed of a mixture of gases, including water vapor, and minute particles.
c. Recognize air is a substance that surrounds us, takes up space, and moves around us as wind.
Chapter 4, Lesson 3, Video A, SE page 83 **Chapter 5, Lesson 1, Video A, SE page 91; Video B, SE page 92; Video C, SE page 93; LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102**

Strand 5: Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere)
2. Earth's systems (Geosphere, atmosphere, and hydrosphere) interact with one another as they undergo change by common processes.
Concept E. Changes in the form of water as it moves through Earth's systems are described as the water cycle.
a. Describe clouds and precipitation as forms of water.
Chapter 5, Lesson 2, Video B, SE page 100

Strand 6: Composition and Structure of the Universe and the Motion of the Objects within It
1. The universe has observable properties and structure.
Concept A. The Earth, Sun, and moon are part of a larger system that includes other planets and smaller celestial bodies.
a. Describe our sun as a star because it provides light energy to the solar system.
Chapter 6, Lesson 1, Video A, SE page 113; Video B, SE page 114; Video C, SE page 115; Lesson 2, Video A, SE page 119; LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120

Strand 6: Composition and Structure of the Universe and the Motion of the Objects within It
1. The universe has observable properties and structure.
Concept A. The Earth, Sun, and moon are part of a larger system that includes other planets and smaller celestial bodies.
b. Recognize the moon is a reflector of light.
Chapter 6, Lesson 1, Video C, SE page 115; Lesson 3, Process Skill, SE page 131

Strand 6: Composition and Structure of the Universe and the Motion of the Objects within It
2. Regular and predictable motions of objects in the universe can be described and explained as the result of gravitational forces.
Concept A. The apparent motion of the Sun and other stars, as seem from Earth, change in observable patterns.
a. Illustrate and describe how the Sun appears to move slowly across the sky from east to west during the day.
Chapter 6, Lesson 1, Video A, SE page 113; Critical Thinking, SE page 117; LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120

Strand 6: Composition and Structure of the Universe and the Motion of the Objects within It
2. Regular and predictable motions of objects in the universe can be described and explained as the result of gravitational forces.
Concept B. The apparent motion of the moon, as seen from Earth, and its actual position relative to Earth change in observable patterns.
a. Illustrate and describe how the moon appears to move slowly across the sky from east to west during the day and/or night.
Chapter 6, Lesson 1, Video C, SE page 115; Lesson 3, Process Skill, SE page 131

Strand 6: Composition and Structure of the Universe and the Motion of the Objects within It
2. Regular and predictable motions of objects in the universe can be described and explained as the result of gravitational forces.
Concept B. The apparent motion of the moon, as seen from Earth, and its actual position relative to Earth change in observable patterns.
b. Observe the change in the moon's appearance relative to time of day and month over several months and note the pattern in this change.
Chapter 6, Lesson 1, Video C, SE page 115; Lesson 3, Process Skill, SE page 131

Strand 6: Composition and Structure of the Universe and the Motion of the Objects within It
2. Regular and predictable motions of objects in the universe can be described and explained as the result of gravitational forces.
Concept C. The regular and predictable motions of the Earth and moon relative to the Sun explain natural phenomena on Earth, such as day, month, year, shadows, moon phases, eclipses, tides, and seasons.
a. Recognize there is a day/night cycle every 24 hours.
Chapter 6, Lesson 1, Video A, SE page 113; Process Skill, SE page 117

Strand 6: Composition and Structure of the Universe and the Motion of the Objects within It
2. Regular and predictable motions of objects in the universe can be described and explained as the result of gravitational forces.
Concept C. The regular and predictable motions of the Earth and moon relative to the Sun explain natural phenomena on Earth, such as day, month, year, shadows, moon phases, eclipses, tides, and seasons.
b. Describe the changes in length and position (direction) of shadows from morning to midday to afternoon.
Chapter 9, Lesson 1, Video A, SE page 191; Video A, TG page 163

Strand 6: Composition and Structure of the Universe and the Motion of the Objects within It
2. Regular and predictable motions of objects in the universe can be described and explained as the result of gravitational forces.
Concept C. The regular and predictable motions of the Earth and moon relative to the Sun explain natural phenomena on Earth, such as day, month, year, shadows, moon phases, eclipses, tides, and seasons.
c. Describe how the Sun's position in the sky changes the length and position of shadows.
Chapter 9, Lesson 1, Video A, SE page 191; Video A, TG page 163

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept A. Scientific inquiry includes the ability of students to formulate a testable question and explanation, and to select appropriate investigative methods in order to obtain evidence relevant to the explanation.
a. Pose questions about objects, materials, organisms, and events in the environment.
Chapter 1, Lesson 1, Process Skill, SE page 7; LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 2, Lesson 3, Process Skill, SE page 43; LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48** **Chapter 3, LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66** **Chapter 4, Lesson 2, Process Skill, SE page 79; LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84** **Chapter 5, LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 6, Lesson 3, Process Skill, SE page 131; LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120** **Chapter 7, LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156** **Chapter 9, Lesson 1, Process Skill, SE page 183; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept A. Scientific inquiry includes the ability of students to formulate a testable question and explanation, and to select appropriate investigative methods in order to obtain evidence relevant to the explanation.
b. Plan and conduct a fair test to answer a question.
Chapter 1, LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 2, LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48** **Chapter 3, LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66** **Chapter 4, LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84** **Chapter 5, LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 6, LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120** **Chapter 7, LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, Lesson 3, Process Skill, SE page 175; LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156** **Chapter 9, LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept B. Scientific inquiry relies upon gathering evidence from qualitative and quantitative observations.
a. Make qualitative observations using the five senses.
Chapter 1, Lesson 1, Process Skill, SE page 7; LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 2, Lesson 3, Process Skill, SE page 43; LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48** **Chapter 3, LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66** **Chapter 4, Lesson 2, Process Skill, SE page 79; LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84** **Chapter 5, LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 6, Lesson 3, Process Skill, SE page 131; LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120** **Chapter 7, LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, Lesson 2, Video A, SE page 163; Video B, SE page 164; Video C, SE page 165; LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156** **Chapter 9, Lesson 1, Critical Thinking, SE page 183; Process Skill, SE page 183; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept B. Scientific inquiry relies upon gathering evidence from qualitative and quantitative observations.
b. Make observations using simple tools and equipment (e.g., hand lenses, magnets, thermometers, metric rulers, balances, graduated cylinders).
Chapter 3, Lesson 2, Video A, SE page 55; Video B, SE page 56; Video C, SE page 57 **Chapter 5, KnowZone, SE pages 96-97; Lesson 3, Video A, SE page 105** **Chapter 6, KnowZone, SE page 124-125; Lesson 3, Video B, SE page 128; Video C, SE page 129; Process Skill, SE page 131** **Chapter 7, LabTime Hands-On Activity, TRB pages 123-125; TG page 138** **Chapter 8, Lesson 1, Video C, SE page 187; LabTime Hands-On Activity. TRB ages 141-143, TG page 156**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept B. Scientific inquiry relies upon gathering evidence from qualitative and quantitative observations.
c. Measure length to the nearest centimeter, mass using grams, temperature using degrees Celsius, volume using liters).
Chapter 3, Lesson 3, Process Skill, SE page 65 **Chapter 5, LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 7, LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156** **The Metric System, SE pages 200-201**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept B. Scientific inquiry relies upon gathering evidence from qualitative and quantitative observations.
d. Compare amounts/measurements.
Chapter 2, Lesson 2 Math in Science, SE page 35 **Chapter 3, Lesson 2 Math in Science, SE page 59; Lesson 3 Process Skill, SE page 65** **Chapter 4, Lesson 1 Math in Science, SE page 73; Process Skill, SE page 73** **Chapter 5, Lesson Math in Science, SE page 103; Process Skill, SE page 103** **Chapter 7, Lesson 2 Math in Science, SE page 147; LabTime Hands-On Activity, TRB Pages 123-125, TG page 138** **Chapter 8, LabTime Hands-On Activity, TRB pages 141-143, TG page 156** **Chapter 9, Lesson 2 Math in Science, SE page 191** **The Metric System, SE pages 200-201**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept B. Scientific inquiry relies upon gathering evidence from qualitative and quantitative observations.
e. Judge whether measurements and computation of quantities are reasonable.
Chapter 1, Lesson 2, Math in Science, SE page 13 **Chapter 2, Lesson 2, Math in Science, SE page 35** **Chapter 3, Lesson 2, Math in Science, SE page 59; Lesson 3, Process Skill, SE page 65** **Chapter 4, Lesson 1, Math in Science, 73; Process Skill, SE page 73** **Chapter 7, Lesson 2, Math in Science, SE page 147; LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156** **Chapter 9, Lesson 2, Math in Science, SE page 191** **The Metric System, SE pages 200-201**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept C. Evidence is used to formulate explanations.
a. Use quantitative and qualitative data as support for reasonable explanations.
Chapter 1, LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 3, LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66** **Chapter 5, LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 6, LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120** **Chapter 7, LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156** **Chapter 9, LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept C. Evidence is used to formulate explanations.
b. Use data as support for observed patterns and relationships, and to make predictions to be tested.
Chapter 1, Lesson 1, Process Skill, SE page 7; Lesson 2, Process Skill, SE page 13; Chapter 1 LabTime Hands-On Activity, TRB pages 15-17, TG page 30 **Chapter 2, Lesson 3, Process Skill, SE page 43** **Chapter 3, LabTime Hands-On Activity, TRB Pages 51-53, TG page 66** **Chapter 4, Lesson 2 Process Skill, SE page 79; LabTime Hands-On Activity, TRB pages 69-71, TG page 84** **Chapter 5, LabTime Hands-On Activity, TRB pages 87-89, TG page 102** **Chapter 6, Lesson 3 Process Skill, SE page 131; LabTime Hands-On Activity, TRB pages 105-107, TG page 120** **Chapter 7 LabTime Hands-On Activity, TRB pages 123-125, TG page 138** **Chapter 8, Lesson 3 Process Skill, SE page 175; LabTime Hands-On Activity, TRB pages 141-143, TG page 156** **Chapter 9, Lesson 1 Process Skill, SE page 183; LabTime Hands-On Activity, TRB pages 159-161, TG page 174**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept D. Scientific inquiry includes evaluation of explanations (hypotheses, laws, theories) in light of scientific principles (understandings).
a. Evaluate the reasonableness of an explanation.
Chapter 1, Lesson 1, Process Skill, SE page 7; Lesson 2, Process Skill, SE page 13; Chapter 1 LabTime Hands-On Activity, TRB pages 15-17, TG page 30 **Chapter 2, Lesson 3, Process Skill, SE page 43** **Chapter 3, LabTime Hands-On Activity, TRB Pages 51-53, TG page 66** **Chapter 4, Lesson 2 Process Skill, SE page 79; LabTime Hands-On Activity, TRB pages 69-71, TG page 84** **Chapter 5, LabTime Hands-On Activity, TRB pages 87-89, TG page 102** **Chapter 6, Lesson 3 Process Skill, SE page 131; LabTime Hands-On Activity, TRB pages 105-107, TG page 120** **Chapter 7 LabTime Hands-On Activity, TRB pages 123-125, TG page 138** **Chapter 8, Lesson 3 Process Skill, SE page 175; LabTime Hands-On Activity, TRB pages 141-143, TG page 156** **Chapter 9, Lesson 1 Process Skill, SE page 183; LabTime Hands-On Activity, TRB pages 159-161, TG page 174**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept D. Scientific inquiry includes evaluation of explanations (hypotheses, laws, theories) in light of scientific principles (understandings).
b. Analyze whether evidence supports proposed explanations.
Chapter 1, LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 2, LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48** **Chapter 3, Lesson 2, Process Skill, SE page 59; LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66** **Chapter 4, LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84** **Chapter 5, Lesson 1, Process Skill, SE page 95; LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 6, LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120** **Chapter 7, Lesson 2, Process Skill, SE page 147; LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156** **Chapter 9, LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept E. The nature of science relies upon communication of results and justification of explanations.
a. Communicate simple procedures and results of investigations and explanations through: • Oral presentations • Drawings and maps • Data tables • Graphs (bar, single line, pictograph) • Writings.
Chapter 1, LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 2, LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48** **Chapter 3, LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66** **Chapter 4, LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84** **Chapter 5, LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 6, LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120** **Chapter 7, LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, Lesson 2, Process Skill, SE page 167; Lesson 3, Process Skill, SE page 175; LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156** **Chapter 9, LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**

Strand 8: Impact of Science, Technology, and Human Activity
1. The nature of technology can advance, and is advanced by, science as it seeks to apply scientific knowledge in ways that meet human needs.
Concept A. Designed objects are used to do things better or more easily and to do some things that could not otherwise be done at all.
a. Recognize some objects or materials (e.g., Sun, fire, ice, snow) occur in nature (natural objects); others (e.g., stoves, refrigerators, bulbs, candles, lanterns) have been designed and made by people to solve human problems and enhance the quality of life (manmade objects).
Chapter 3, Lesson 2, Video A, SE page 55 **Chapter 4, Lesson 2, Video A, SE page 83; Video B, SE page 84; Video C, SE page 85** **Chapter 7, Lesson 2, Video C, SE page 145; Lesson 3, Video A, SE page 149; Video B, SE page 150; Video C, SE page 151; Process Skill, SE page 153** **Chapter 8, KnowZone, SE page 168-169; Lesson 3, video B, SE page 172; Video C, SE page 173**

Strand 8: Impact of Science, Technology, and Human Activity
1. The nature of technology can advance, and is advanced by, science as it seeks to apply scientific knowledge in ways that meet human needs.
Concept B. Advances in technology often result in improved data collection and an increase in scientific knowledge.
a. Describe how new technologies have helped scientists make better observations and measurements for investigations (e.g., telescopes, magnifiers, balances, microscopes, computers, stethoscopes, thermometers).
Chapter 3, Lesson 2, Video A, SE page 55; Video B, SE page 56; Video C, SE page 57 **Chapter 5, KnowZone, SE pages 96-97; Lesson 3, Video A, SE page 105** **Chapter 6, KnowZone, SE page 124-125; Lesson 3, Video B, SE page 128; Video C, SE page 129; Process Skill, SE page 131** **Chapter 7, LabTime Hands-On Activity, TRB pages 123-125; TG page 138** **Chapter 8, Lesson 1, Video C, SE page 187; LabTime Hands-On Activity. TRB ages 141-143, TG page 156**

Strand 8: Impact of Science, Technology, and Human Activity
2. Historical and cultural perspectives of scientific explanations help to improve understanding of the nature of science and how science knowledge and technology evolve over time.
Concept A. People of different gender and ethnicity have contributed to scientific discoveries and the invention of technological innovations.
a. Research biographical information about various scientists and inventors from different gender and ethnic backgrounds, and describe how their work contributed to science and technology.
Chapter 3, Lesson 2 Process Skill, SE page 59 **Chapter 4, KnowZone, SE pages 80-81** **Chapter 5, KnowZone, SE pages 96-97; Lesson 3, Video A, SE page 105** **Chapter 6, Lesson 3, Video B, SE page 128; Video C, SE page 129** **Chapter 7, Lesson 3, Video A, SE page 149; Video B, SE page 150; Video C, SE page 151** **Chapter 8, KnowZone, SE pages 168-169** **Chapter 9, Lesson 2, Video A, SE page 187; Video B, SE page SE page 188; Video C, SE page 189**

Strand 8: Impact of Science, Technology, and Human Activity
3. Science and technology affect, and are affected by society.
Concept A. People, alone or in groups, are always making discoveries about nature and inventing new ways to solve problems and get work done.
a. Identify a question that was asked, or could be asked, or a problem that needed to be solved when given a brief scenario (fiction or nonfiction of people working alone or in groups solving everyday problems or learning through discovery).
Chapter 1, Lesson 1, Process Skill, SE page 7; LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 2, Lesson 3, Process Skill, SE page 43; LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48** **Chapter 3, LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66** **Chapter 4, Lesson 2, Process Skill, SE page 79; LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84** **Chapter 5, LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 6, Lesson 3, Process Skill, SE page 131; LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120** **Chapter 7, LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156** **Chapter 9, Lesson 1, Process Skill, SE page 183; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**

Strand 8: Impact of Science, Technology, and Human Activity
3. Science and technology affect, and are affected by society.
Concept A. People, alone or in groups, are always making discoveries about nature and inventing new ways to solve problems and get work done.
b. Work with a group to solve a problem, giving due credit to the ideas and contributions of each group member.
Chapter 1, LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 2, LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48** **Chapter 3, LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66** **Chapter 4, LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84** **Chapter 5, LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 6, LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120** **Chapter 7, LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156** **Chapter 9, LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**

SRA Snapshots Video Science™: Level B
correlation to
Missouri Science Standards
Grade 4

SRA Snapshots Video Science™ consists of four interdependent components. Each level has four program DVDs that provide engaging video lessons. The student edition (**SE**) provides student friendly text that reinforces the concepts introduced in the video. The Teacher's Resource Book (**TRB**) provides support activities in a blackline master format. The Teacher's Guide (**TG**) provides lesson planning, differentiated instruction activities, and answers to all student activities in the Student Edition.

KEY:

Reference	**Program Component**
Video	Video lessons on program DVDs
SE	Student Edition
TRB	Teacher's Resource Book
TG	Teacher's Guide

Strand 1: Properties and Principles of Matter and Energy
1. Changes in properties and states of matter provide evidence of the atomic theory or matter.
Concept A. Objects, and the materials they are made of, have properties that can be used to describe and classify them.
a. Describe and compare the masses of objects to the nearest gram using balances.
Chapter 7, Lesson 2, Video B, SE page 144; Critical Thinking, SE page 147; Process Skill, SE page 147 **The Metric System, SE pages 200-201**

Strand 1: Properties and Principles of Matter and Energy
1. Changes in properties and states of matter provide evidence of the atomic theory or matter.
Concept A. Objects, and the materials they are made of, have properties that can be used to describe and classify them.
b. Describe and compare the volumes (the amount of space an object occupies) of objects using a graduated cylinder.
Chapter 7, Lesson 2, Video A, SE page 143 **The Metric System, SE pages 200-201**

Strand 1: Properties and Principles of Matter and Energy
1. Changes in properties and states of matter provide evidence of the atomic theory or matter.
Concept A. Objects, and the materials they are made of, have properties that can be used to describe and classify them.
c. Recognize that no two objects can occupy the same space at the same time (e.g., water level rises when an object or substance, such as a rock, is placed in a quantity of water).
Chapter 7, Lesson 1, Video A, SE page 135

Strand 1: Properties and Principles of Matter and Energy
1. Changes in properties and states of matter provide evidence of the atomic theory or matter.
Concept A. Objects, and the materials they are made of, have properties that can be used to describe and classify them.
d. Classify types of materials (e.g., water, salt, sugar, iron filings, salt water) into substances (materials that have specific physical properties) or mixtures of substances by using their characteristic properties.
Chapter 7, Lesson 3, Video B, SE page 150

Strand 1: Properties and Principles of Matter and Energy
1. Changes in properties and states of matter provide evidence of the atomic theory or matter.
Concept B. Properties of mixtures depend upon the concentrations, properties, and interactions of particles.
a. Identify water as a solvent that dissolves materials.
See Level C: **Chapter 7, Lesson 1, Video C, SE page 137**

Strand 1: Properties and Principles of Matter and Energy
1. Changes in properties and states of matter provide evidence of the atomic theory or matter.
Concept B. Properties of mixtures depend upon the concentrations, properties, and interactions of particles.
b. Observe and describe how mixtures are made by combining solids or liquids, or a combination of these.
Chapter 7, Lesson 3, Video B, SE page 150

Strand 1: Properties and Principles of Matter and Energy
1. Changes in properties and states of matter provide evidence of the atomic theory or matter.
Concept B. Properties of mixtures depend upon the concentrations, properties, and interactions of particles.
c. Distinguish between the components in a mixture (e.g., trail mix, conglomerate rock, salad).
Chapter 7, Lesson 3, Video B, SE page 150

Strand 1: Properties and Principles of Matter and Energy
1. Changes in properties and states of matter provide evidence of the atomic theory or matter.
Concept B. Properties of mixtures depend upon the concentrations, properties, and interactions of particles.
d. Describe ways to separate the components of a mixture by their properties (i.e., sorting, filtration, magnets, screening).
Chapter 7, Lesson 3, Video B, SE page 150

Strand 1: Properties and Principles of Matter and Energy
1. Changes in properties and states of matter provide evidence of the atomic theory or matter.
Concept I. Mass is conserved during any physical or chemical change.
a. Recognize that the total mass of a material remains constant whether it is together, in parts, or in a different state.
Chapter 7, Lesson 2, Video B, SE page 144

Strand 1: Properties and Principles of Matter and Energy
2. Energy has a source, can be transferred, and can be transformed into various forms but is conserved between and within systems.
Concept A. Forms of energy have a source, a means of transfer (work and heat), and a receiver.
a. Construct and diagram a complete electric circuit by using a source (e.g., battery), means of transfer (e.g., wires), and receiver (e.g., resistance bulbs, motors, fans).
Level B: **Chapter 9, Lesson 1, Video C, SE page 181** **See also Level A:** **Chapter 9, Lesson 2, Video B, SE page 188; Process Skill, SE page 191** **See also Level C:** **Chapter 8, Lesson 3, Video A, SE page 171**

Strand 1: Properties and Principles of Matter and Energy
2. Energy has a source, can be transferred, and can be transformed into various forms but is conserved between and within systems.
Concept A. Forms of energy have a source, a means of transfer (work and heat), and a receiver.
b. Observe and describe the evidence of energy transfer in a closed series circuit (e.g., lit bulb, moving fan, motor).
Level B: **Chapter 9, Lesson 1, Video C, SE page 181** **See also Level A:** **Chapter 9, Lesson 2, Video B, SE page 188; Process Skill, SE page 191** **See also Level C:** **Chapter 8, Lesson 3, Video A, SE page 171**

Strand 1: Properties and Principles of Matter and Energy
2. Energy has a source, can be transferred, and can be transformed into various forms but is conserved between and within systems.
Concept A. Forms of energy have a source, a means of transfer (work and heat), and a receiver.
c. Classify materials as conductors or insulators of electricity when placed within a circuit (e.g., wood, pencil lead, plastic, glass, aluminum foil, lemon juice, air, water).
Chapter 9, Lesson 1, Video B, SE page 180

Strand 1: Properties and Principles of Matter and Energy
2. Energy has a source, can be transferred, and can be transformed into various forms but is conserved between and within systems.
Concept F. Energy can change from one form to another within systems, but the total amount remains the same.
a. Identify the evidence of energy transformations (temperature change, light, sound, motion, and magnetic effects) that occur in electrical circuits.
Chapter 9, Lesson 1, Video C, SE page 181; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174

Strand 2: Properties and Principles of Force and Motion
1. The motion of an object is described by its change in position relative to another object or point.
Concept A. The motion of an object is described as a change in position, direction, and speed relative to another object (frame of reference).
a. Classify different types of motion (straight line, curved, back and forth).
Level B: **Chapter 8, Lesson 3, Video A, SE page 171** **See also Level C:** **Chapter 9, Lesson 1, Video A, SE page 179; Lesson 2, Video A, SE page 187; Video B, SE page 188; Video C, SE page 189; Critical Thinking, SE page 191; Process Skill, SE page 191; Lesson 3, Video A, SE page 193; Video B, SE page 194; Video C, SE page 195; Critical Thinking, SE page 197; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**

Strand 2: Properties and Principles of Force and Motion
1. The motion of an object is described by its change in position relative to another object or point.
Concept A. The motion of an object is described as a change in position, direction, and speed relative to another object (frame of reference).
b. Describe an object's motion in terms of distance and time.
See Level C: **Chapter 9, KnowZone, SE pages 184-185; Lesson 2, Video A, SE page 187; Video B, SE page 188; Video C, SE page 189; Critical Thinking, SE page 191; Process Skill, SE page 191**

Strand 2: Properties and Principles of Force and Motion
2. Forces affect motion.
Concept A. Forces are classified as either contact forces (pushes, pulls, friction, buoyancy) or non-contact forces (gravity, magnetism), that can be described in terms of direction and magnitude.
a. Identify the forces acting on the motion of objects traveling in a straight line.
Level B: **Chapter 8, Lesson 3, Critical Thinking, SE page 175** **See also Level C:** **Chapter 9, Lesson 1, Video A, SE page 179; Video B, SE page 180; Video C, SE page 181; Critical Thinking, SE page 183; Process Skill, SE page 183; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**

Strand 2: Properties and Principles of Force and Motion
2. Forces affect motion.
Concept A. Forces are classified as either contact forces (pushes, pulls, friction, buoyancy) or non-contact forces (gravity, magnetism), that can be described in terms of direction and magnitude.
b. Recognize friction as a force that slows down or stops a moving object that is touching another object or surface.
Level B: **Chapter 8, Lesson 3, Video A, SE page 171; Critical Thinking, SE page 175** **See also Level C:** **Chapter 9, Lesson 1, Lesson 1, Video C, SE page 181; Critical Thinking, SE page 183; Process Skill, SE page 183**

Strand 2: Properties and Principles of Force and Motion
2. Forces affect motion.
Concept A. Forces are classified as either contact forces (pushes, pulls, friction, buoyancy) or non-contact forces (gravity, magnetism), that can be described in terms of direction and magnitude.
c. Compare the forces (measured by a spring scale in Newtons) required to overcome friction when an object moves over different surfaces (i.e., rough/smooth).
See Level C: **Chapter 9, Lesson 3, Video B, SE page 194**

Strand 2: Properties and Principles of Force and Motion
2. Forces affect motion.
Concept B. Every object exerts a gravitational force on every other object.
a. Determine the gravitational pull of the Earth on an object (weight) using a spring scale.
Chapter 8, Lesson 3, Video A, SE page 171

Strand 2: Properties and Principles of Force and Motion
2. Forces affect motion.
Concept D. Newton's Laws of Motion explain the interaction of mass and forces, and are used to predict changes in motion.
a. Recognize that balanced forces do not affect an object's motion.
See Level C: **Chapter 9, Lesson 3, Video A, SE page 193**

Strand 2: Properties and Principles of Force and Motion
2. Forces affect motion.
Concept D. Newton's Laws of Motion explain the interaction of mass and forces, and are used to predict changes in motion.
b. Describe how unbalanced forces acting on an object changes its speed (faster/slower), direction of motion, or both.
Level B: **Chapter 8, Lesson 3, Critical Thinking, SE page 175** **See also Level C:** **Chapter 9, Lesson 1, Video A, SE page 179; Video B, SE page 180; Video C, SE page 181; Lesson 3, Video A, SE page 193; Video B, SE page 194; Video C, SE page 195; Critical Thinking, SE page 197; Process Skill, SE page 197**

Strand 2: Properties and Principles of Force and Motion
2. Forces affect motion.
Concept D. Newton's Laws of Motion explain the interaction of mass and forces, and are used to predict changes in motion.
c. Explain how increasing or decreasing the amount of force on an object affects the motion of that object.
See Level A: **Chapter 7, Lesson 1, Video C, SE page 135; Video B, SE page 136; Video C, SE page 137** **See also Level C:** **Chapter 9, Lesson 1, Video A, SE page 179; Video C, SE page 181; Lesson 2, Video A, SE page 187; Video B, SE page 188; Video C, SE page 189; Lesson 3, Video A, SE page 193; Video B, SE page 194; Video C, SE page 195**

Strand 2: Properties and Principles of Force and Motion
2. Forces affect motion.
Concept D. Newton's Laws of Motion explain the interaction of mass and forces, and are used to predict changes in motion.
d. Explain how the mass of an object (e.g., cars, marbles, rocks, boulders) affects the force required to move it.
Chapter 8, Lesson 3, Video A, SE page 171

Strand 2: Properties and Principles of Force and Motion
2. Forces affect motion.
Concept D. Newton's Laws of Motion explain the interaction of mass and forces, and are used to predict changes in motion.
e. Predict how the change in speed of an object (i.e., faster/slower//remains the same) is affected by the amount of force applied to an object and the mass of the object.
See Level C: **Chapter 9, Lesson 3, Video B, SE page 194**

Strand 2: Properties and Principles of Force and Motion
2. Forces affect motion.
Concept D. Newton's Laws of Motion explain the interaction of mass and forces, and are used to predict changes in motion.
f. Predict the effects of an electrostatic force (static electricity) on the motion of object (attract or repel).
Chapter 9, Lesson 1, Video A, SE page 179; Video B, SE page 180; Process Skill, SE page 183; Lesson 2, Video A, SE page 185; Video B, SE page 186

Strand 4 Changes in Ecosystems and Interactions of Organisms with their Environments
1. Organisms are interdependent with one another and with their environment.
Concept a. All populations living together within a community interact with one another and with their environment in order to survive and maintain a balanced ecosystem.
a. Identify the ways a specific organism may interact with other organisms or with the environment (e.g., pollination, shelter, seed dispersal, camouflage, migration, hibernation, defensive mechanism).
Chapter 2, Lesson 1, Video A, SE page 25; Video B, SE page 26; Video C, SE page 27; Lesson 2, Video A, SE page 31; Video B, SE page 32; Video C, SE page 33; Process Skill, SE page 35; Lesson 3, Video A, SE page 39; Video B, SE page 40; Video C, SE page 41; Critical Thinking, SE page 43; Process Skill, SE page 43; Lesson **Chapter 3, Lesson 1, Video A, SE page 47; Video B, SE page 48; Video C, SE page 49; Process Skill, SE page 51**

Strand 4 Changes in Ecosystems and Interactions of Organisms with their Environments
1. Organisms are interdependent with one another and with their environment.
Concept a. All populations living together within a community interact with one another and with their environment in order to survive and maintain a balanced ecosystem.
b. Recognize different environments (i.e., pond, forest, prairie) support the life of different types of plants and animals.
Chapter 2, Lesson 1, Video B, SE page 26 **Chapter 3, Lesson 2, Video A, SE page 55; Video B, SE page 56; Video C, SE page 57; Process Skill, SE page 59**

Strand 4 Changes in Ecosystems and Interactions of Organisms with their Environments
1. Organisms are interdependent with one another and with their environment.
Concept D. The diversity of species within an ecosystem is affected by changes in the environment, which can be caused by other organisms or outside processes.
a. Identify examples in Missouri where human activity has had a beneficial or harmful effect on other organisms (e.g., feeding birds, littering vs. picking up trash, hunting/conservation of species, paving/restoring greenspace).
Chapter 1, Lesson 1, Video C, SE page 5 **Chapter 2, Lesson 1, Video B, SE page 26; Critical Thinking, SE page 29; Lesson 3, Video C, SE page 41; Critical Thinking, SE page 43; Process Skill, SE page 43** **Chapter 3, Lesson 1, Video C, SE page 49; Lesson 2, Critical Thinking, SE page 59; Lesson 3, Video C, SE page 63; Critical Thinking, SE page 65; Process Skill, SE page 65; LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66**

Strand 4: Changes in Ecosystems and the Interactions of Organisms with their Environment
2. Matter and energy flow through an ecosystem.
Concept A. As energy flows through the ecosystem, all organisms capture a portion of that energy and transform it to a form they can use.
a. Classify populations of organisms as producers, consumers, or decomposers by the role they serve in the ecosystem.
Chapter 2, Lesson 2, Video A, SE page 31; Video B, SE page 32; Video C, SE page 33; Critical Thinking, SE page 35; Process Skill, SE page 35; LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48 **Energy Transfer, SE page 203**

Strand 4: Changes in Ecosystems and the Interactions of Organisms with their Environment
2. Matter and energy flow through an ecosystem.
Concept A. As energy flows through the ecosystem, all organisms capture a portion of that energy and transform it to a form they can use.
b. Differentiate between the three types of consumers (herbivore, carnivore, omnivore).
Chapter 2, Lesson 3, Video A, SE page 39; Video B, SE page 40 **Energy Transfer, SE page 203**

Strand 4: Changes in Ecosystems and the Interactions of Organisms with their Environment
2. Matter and energy flow through an ecosystem.
Concept A. As energy flows through the ecosystem, all organisms capture a portion of that energy and transform it to a form they can use.
c. Categorize organisms as predator or prey in a given ecosystem.
Chapter 2, Lesson 3, Video A, SE page 39; Video B, SE page 40 **Energy Transfer, SE page 203**

Strand 4: Changes in Ecosystems and the Interactions of Organisms with their Environment
3. Genetic variation sorted by the natural selection process explains evidence of biological evolution.
Concept A. Evidence for the nature and rates of evolution can be found in anatomical and molecular characteristics of organisms and in the fossil record.
a. Compare and contrast common fossils found in Missouri (i.e., trilobites, ferns, crinoids, gastropods, bivalves, fish, mastodons) to organisms present on Earth today.
Chapter 1, Lesson 1, Video C, SE page 5; Math in Science, SE page 7; Process Skill, SE page 7 **Chapter 4, Lesson 2, Video B, SE page 76; LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84**

Strand 4: Changes in Ecosystems and the Interactions of Organisms with their Environment
3. Genetic variation sorted by the natural selection process explains evidence of biological evolution.
Concept C. Natural selection is the process of sorting individuals based on their ability to survive and reproduce within their ecosystem.
a. Identify specialized structures and describe how they help plants survive in their environment (e.g., roots, cactus needles, thorns, winged seed, waxy leaves).
Chapter 1, Lesson 3, Video A, SE page 17; Video B, SE page 18; Video C, SE page 19 **Chapter 2, Lesson 2, Video A, SE page 31; LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48**

Strand 4: Changes in Ecosystems and the Interactions of Organisms with their Environment
3. Genetic variation sorted by the natural selection process explains evidence of biological evolution.
Concept C. Natural selection is the process of sorting individuals based on their ability to survive and reproduce within their ecosystem.
b. Identify specialized structures and senses and describe how they help animals survive in their environment (e.g., antennae, body covering, teeth, beaks, whiskers, appendages).
Chapter 1, Lesson 2, Video A, SE page 9; Video B, SE page 10; Video C, SE page 11; Critical Thinking, SE page 13; KnowZone, SE pages 14-15; LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 2, KnowZone, SE pages 36-37**

Strand 4: Changes in Ecosystems and the Interactions of Organisms with their Environment
3. Genetic variation sorted by the natural selection process explains evidence of biological evolution.
Concept C. Natural selection is the process of sorting individuals based on their ability to survive and reproduce within their ecosystem.
c. Recognize internal cues (e.g., hunger) and external cues (e.g., changes in the environment) that cause organisms to behave in certain ways (e.g., hunting, migration, hibernation).
Chapter 1, Lesson 2, Video C, SE page 11; Writing in Science, SE page 13 **Chapter 3, Lesson 1, Video B, SE page 48; Video C, SE page 49; KnowZone, SE pages 52-53**

Strand 4: Changes in Ecosystems and the Interactions of Organisms with their Environment
3. Genetic variation sorted by the natural selection process explains evidence of biological evolution.
Concept C. Natural selection is the process of sorting individuals based on their ability to survive and reproduce within their ecosystem.
d. Predict which plant or animal will be able to survive in a specific environment based on its special structures or behaviors.
Chapter 1, Lesson 2, Video C, SE page 11; Lesson 3, Video B, SE page 18; LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 2, KnowZone, SE pages 36-37** **Chapter 3, Lesson 1, Video A, SE page 47; Video B, SE page 48; Lesson 2, Video B, SE page 56**

Strand 5: Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere)
1. Earth's systems (Geosphere, atmosphere, and hydrosphere) have common components and unique structures.
Concept A. The Earth's crust is composed of various materials, including soil, minerals, and rocks, with characteristics properties.
a. Identify and describe the components of soil (e.g., pant roots and debris, bacteria, fungi, worms, types of rocks) and its properties (e.g., odor, color, resistance to erosion, texture, fertility, relative grain size, absorption rate).
See Level A: **Chapter 4, Lesson 2, Video C, SE page 77; Process Skill, SE page 79** **See also Level C:** **Chapter 4, Lesson 3, Video C, SE page 85**

Strand 5: Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere)
1. Earth's systems (Geosphere, atmosphere, and hydrosphere) have common components and unique structures.
Concept A. The Earth's crust is composed of various materials, including soil, minerals, and rocks, with characteristics properties.
b. Compare the physical properties (i.e., size, shape, color, texture, layering, presence of fossils) of rocks (mixtures of different Earth materials, each with observable physical properties).
Chapter 4, Lesson 2, Video B, SE page 76; Video C, SE page 77; Writing in Science, SE page 79; Process Skill, SE page 79; LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84

Strand 5: Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere)
2. Earth's systems (Geosphere, atmosphere, and hydrosphere) interact with one another as they undergo change by common processes.
Concept A. The Earth's materials and surface features are changed through a variety of external processes.
a. Observe and describe the breakdown of plant and animal material into soil through decomposition processes (i.e., decay, rotting, composting, digestion).
See Level A: **Chapter 4, Lesson 2, Video C, SE page 77; Process Skill, SE page 79** **See also Level C:** **Chapter 4, Lesson 3, Video C, SE page 85**

Strand 5: Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere)
2. Earth's systems (Geosphere, atmosphere, and hydrosphere) interact with one another as they undergo change by common processes.
Concept A. The Earth's materials and surface features are changed through a variety of external processes.
b. Identify the major landforms on Earth (i.e., mountains, plains, oceans, river valleys, coastlines, canyons).
Chapter 4, Lesson 1, Video A, SE page 69; Video B, SE page 70

Strand 5: Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere)
2. Earth's systems (Geosphere, atmosphere, and hydrosphere) interact with one another as they undergo change by common processes.
Concept A. The Earth's materials and surface features are changed through a variety of external processes.
c. Describe how weathering agents (e.g., water, chemicals, temperature, wind, plants) cause surface changes that create and/or change Earth's surface materials and/or landforms.
Chapter 4, Lesson 2, Video A, SE page 75; Process Skill, SE page 79

Strand 5: Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere)
2. Earth's systems (Geosphere, atmosphere, and hydrosphere) interact with one another as they undergo change by common processes.
Concept A. The Earth's materials and surface features are changed through a variety of external processes.
d. Describe how erosional processes (i.e., action of gravity, waves, wind, rivers, glaciers) cause surface changes that create and/or change Earth's surface materials and/or landforms.
Chapter 4, Lesson 2, Video A, SE page 75; Process Skill, SE page 79

Strand 5: Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere)
3. Human activity is dependent upon and affects Earth's resources and systems.
Concept A. Earth's materials are limited natural resources affected by human activity.
a. Identify the ways humans affect the erosion and deposition of Earth's materials (e.g., clearing of land, planting vegetation, paving land, construction of new buildings).
Chapter 1, Lesson 3, Critical Thinking, SE page 21

Strand 5: Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere)
3. Human activity is dependent upon and affects Earth's resources and systems.
Concept A. Earth's materials are limited natural resources affected by human activity.
b. Propose ways to solve simple environmental problems (e.g., recycling, composting, ways to decrease soil erosion) that result from human activity.
Chapter 1, Lesson 3, Critical Thinking, SE page 21 **Chapter 2, Lesson 2, Critical Thinking, SE page 29; Lesson 3, Critical Thinking, SE page 43; Process Skill, SE page 43** **Chapter 3, Lesson 2, Critical Thinking, SE page 59; Lesson 3, Critical Thinking, SE page 65; Process Skill, SE page 65**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept A. Scientific inquiry includes the ability of students to formulate a testable question and explanation, and to select appropriate investigative methods in order to obtain evidence relevant to the explanation.
a. Formulate testable questions and explanations (hypotheses).
Chapter 1, LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 2, LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48** **Chapter 3, Lesson 3, Process Skill, SE page 65; LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66** **Chapter 4, Lesson 3, Process Skill, SE page 85; LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84** **Chapter 5, LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 6, LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120** **Chapter 7, LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156** **Chapter 9, LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept A. Scientific inquiry includes the ability of students to formulate a testable question and explanation, and to select appropriate investigative methods in order to obtain evidence relevant to the explanation.
b. Recognize the characteristics of a fair and unbiased test.
Chapter 1, LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 2, LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48** **Chapter 3, Lesson 3, Process Skill, SE page 65; LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66** **Chapter 4, Lesson 3, Process Skill, SE page 85; LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84** **Chapter 5, LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 6, LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120** **Chapter 7, LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156** **Chapter 9, LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept A. Scientific inquiry includes the ability of students to formulate a testable question and explanation, and to select appropriate investigative methods in order to obtain evidence relevant to the explanation.
c. Conduct a fair test to answer a question.
Chapter 1, LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 2, LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48** **Chapter 3, Lesson 3, Process Skill, SE page 65; LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66** **Chapter 4, Lesson 3, Process Skill, SE page 85; LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84** **Chapter 5, LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 6, LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120** **Chapter 7, LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156** **Chapter 9, LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept B. Scientific inquiry relies upon gathering evidence from qualitative and quantitative observations.
a. Make qualitative observations using the five senses.
Chapter 1, Lesson 2, Process Skill, SE page 13; Lesson 3, Process Skill, SE page 21; LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 2, Lesson 1, Process Skill, SE page 29; LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48** **Chapter 3, LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66** **Chapter 4, Lesson 2, Process Skill, SE page 79; Lesson 3, Process Skill, SE page 85; LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84** **Chapter 5, Lesson 1, Process Skill, SE page 95; LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 6, Lesson 1, Writing in Science, SE page 117; Process Skill, SE page 117; LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120** **Chapter 7, Lesson 2, Process Skill, SE page 147; LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, Lesson 1, Video A, SE page 161; Lesson 3, Process Skill, SE page 175; LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156** **Chapter 9, LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept B. Scientific inquiry relies upon gathering evidence from qualitative and quantitative observations.
b. Make observations using simple tools and equipment (e.g., hand lenses, magnets, thermometers, metric rulers, balances, graduated cylinders).
Chapter 1, Lesson 1, Video A, SE page 3 **Chapter 4, Lesson 2, Video C, SE page 77** **Chapter 5 LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 6, Lesson 3, Video A, SE page 125; Video B, SE page 126; Video C, SE page 127; KnowZone, SE pages 105-107; LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120** **Chapter 7, Lesson 2, Video A, SE page 143; Video B, SE page 144; Video C, SE page 145** **Chapter 8, Lesson 2, Video C, SE page 165; KnowZone, SE pages 168-169** **Chapter 9 KnowZone, SE pages 196-197**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept B. Scientific inquiry relies upon gathering evidence from qualitative and quantitative observations.
c. Measure length to the nearest centimeter, mass using grams, temperature using degrees Celsius, volume using liters, weight to the nearest Newton.
Chapter 1, LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 5, LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 6, LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120** **Chapter 7, Lesson 2, Video A, SE page 143; Video B, SE page 144; Video C, SE page 145; Process Skill, SE page 147** **Chapter 8, Lesson 3, Process Skill, SE page 175** **The Metric System, SE pages 200-201**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept B. Scientific inquiry relies upon gathering evidence from qualitative and quantitative observations.
d. Compare amounts/measurements.
Chapter 1, Lesson 1. Math in Science, SE page 7; LabTime Hands-On Activity, TRB pages 15-17, TG page 30 **Chapter 3, Lesson 3 Math in Science, SE page 65; LabTime Hands-On Activity, TRB pages 51-53, TG page 66** **Chapter 4, Lesson 1 Math in Science, SE page 73; LabTime Hands-On Activity, TRB pages 69-71, TG page 84** **Chapter 5 LabTime Hands-On Activity, TRB pages 87-89, TG page 102** **Chapter 6 LabTime Hands-On Activity, TRB pages 105-107, TG page 120** **Chapter 7, Lesson 2, Video A, SE page 143; Video B, SE page 144; Video C, SE page 145; Math in Science, SE page 147; Process Skill, SE page 147; LabTime Hands-On Activity, TRB pages 123-125, TG page 138** **Chapter 8, Lesson 3 Math in Science, SE page 175** **Chapter 9, Lesson 3 Math in Science, SE page 195** **The Metric System, SE pages 200-201**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept B. Scientific inquiry relies upon gathering evidence from qualitative and quantitative observations.
e. Judge whether measurements and computation of quantities are reasonable.
Chapter 1, Lesson 1. Math in Science, SE page 7; LabTime Hands-On Activity, TRB pages 15-17, TG page 30 **Chapter 3, Lesson 3 Math in Science, SE page 65; LabTime Hands-On Activity, TRB pages 51-53, TG page 66** **Chapter 4, Lesson 1 Math in Science, SE page 73; LabTime Hands-On Activity, TRB pages 69-71, TG page 84** **Chapter 5 LabTime Hands-On Activity, TRB pages 87-89, TG page 102** **Chapter 6 LabTime Hands-On Activity, TRB pages 105-107, TG page 120** **Chapter 7, Lesson 2, Video A, SE page 143; Video B, SE page 144; Video C, SE page 145; Math in Science, SE page 147; Process Skill, SE page 147; LabTime Hands-On Activity, TRB pages 123-125, TG page 138** **Chapter 8, Lesson 3 Math in Science, SE page 175** **Chapter 9, Lesson 3 Math in Science, SE page 195** **The Metric System, SE pages 200-201**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept C. Evidence is used to formulate explanations.
a. Use quantitative and qualitative data as support for reasonable explanations.
Chapter 1, Lesson 1, Process Skill, SE page 7; LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 2, Lesson 2, Process Skill, SE page 35; LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48** **Chapter 3, Lesson 1, Process Skill, SE page 51; LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66** **Chapter 4, Lesson 3, Process Skill, SE page 85; LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84** **Chapter 5, Lesson 1, Process Skill, SE page 95; LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 6, Lesson 2, Process Skill, SE page 123; LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120** **Chapter 7, Lesson 1, Process Skill, SE page 139; LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156** **Chapter 9, Lesson 1, Process Skill, SE page 183; Lesson 3, Process Skill, SE page 195; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept C. Evidence is used to formulate explanations.
b. Use data as support for observed patterns and relationships, and to make predictions to be tested.
Chapter 1, LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 2, Lesson 3, Process Skill, SE page 43; LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48** **Chapter 3, Lesson 1, Process Skill, SE page 51; LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66** **Chapter 4, LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84** **Chapter 5, Lesson 2, Process Skill, SE page 101; LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 6, LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120** **Chapter 7, Lesson 1, Process Skill, SE page 139; LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, Lesson 2, Process Skill, SE page 167; LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156** **Chapter 9, Lesson 3, Process Skill, SE page 195; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept D. Scientific inquiry includes evaluation of explanations (hypotheses, laws, theories) in light of scientific principles (understandings).
a. Evaluate the reasonableness of an explanation.
Chapter 1, Lesson 1, Process Skill, SE page 7; Lesson 2, Process Skill, SE page 11; LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 2, LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48** **Chapter 3, Lesson 3, Process Skill, SE page 65; LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66** **Chapter 4, Lesson 3, Process Skill, SE page 85; LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84** **Chapter 5, Lesson 1, Process Skill, SE page 95; LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 6, Lesson 3, Process Skill, SE page 129; LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120** **Chapter 7, Lesson 1, Process Skill, SE page 139; Lesson 3, Process Skill, SE page 153l LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156** **Chapter 9, Lesson 1, Process Skill, SE page 183; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept D. Scientific inquiry includes evaluation of explanations (hypotheses, laws, theories) in light of scientific principles (understandings).
b. Analyze whether evidence supports proposed explanations.
Chapter 1, Lesson 2, Process Skill, SE page 13; LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 2, LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48** **Chapter 3, LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66** **Chapter 4, LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84** **Chapter 5, LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 6, LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120** **Chapter 7, LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, Lesson 3, Process Skill, SE page 175; LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156** **Chapter 9, LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept E. The nature of science relies upon communication of results and justification of explanations.
a. Communicate simple procedures and results of investigations and explanations through: • Oral presentations • Drawings and maps • Data tables • Graphs (bar, single line, pictograph) • Writings.
Chapter 1, LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 2, LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48** **Chapter 3, Lesson 3, Process Skill, SE page 65; LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66** **Chapter 4, LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84** **Chapter 5, Lesson 3, Process Skill, SE page 109; LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 6, LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120** **Chapter 7, LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156** **Chapter 9, LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**

Strand 8: Impact of Science, Technology, and Human Activity
1. The nature of technology can advance, and is advanced by, science as it seeks to apply scientific knowledge in ways that meet human needs.
Concept A. Designed objects are used to do things better or more easily and to do some things that could not otherwise be done at all.
a. Design and construct an electrical device, using materials and/or existing objects, that can be used to perform a task.
Chapter 9, Lesson 1, Video C, SE page 181; Critical Thinking, SE page 183; Lesson 2, Video B, SE page 186; Video C, SE page 187; Critical Thinking, SE page 189; Process Skill, SE page 189; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174

Strand 8: Impact of Science, Technology, and Human Activity
1. The nature of technology can advance, and is advanced by, science as it seeks to apply scientific knowledge in ways that meet human needs.
Concept B. Advances in technology often result in improved data collection and an increase in scientific knowledge.
a. Describe how new technologies have helped scientists make better observations and measurements for investigations (e.g., telescopes, magnifiers, balances, microscopes, computers, stethoscopes, thermometers).
Chapter 1, LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 5, LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 6, LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120** **Chapter 7, Lesson 2, Video A, SE page 143; Video B, SE page 144; Video C, SE page 145; Process Skill, SE page 147** **Chapter 8, Lesson 3, Process Skill, SE page 175** **The Metric System, SE pages 200-201**

Strand 8: Impact of Science, Technology, and Human Activity
1. The nature of technology can advance, and is advanced by, science as it seeks to apply scientific knowledge in ways that meet human needs.
Concept C. Technological solutions to problems often have drawbacks as well as benefits.
a. Identify how the effects of inventions or technological advances (e.g., different types of light bulbs, semiconductors/integrated circuits and electronics, satellite imagery, robotics, communication, transportation, generation of energy, renewable materials) may be helpful, harmful, or both.
Chapter 4, Lesson 1, Video B, SE page 70; Lesson 3, Video C, SE page 83 **Chapter 5, Lesson 2, Video C, SE page 99; KnowZone, SE pages 102-103** **Chapter 6, Lesson 3, Video A, SE page 125; Video B, SE page 126; Video C, SE page 127; Process Skill, SE page 129** **Chapter 7, KnowZone, SE pages 140-141** **Chapter 8, Lesson 2, Video C, SE page 165; KnowZone, SE pages 168-169** **Chapter 9, Lesson 2, Video C, SE page 187; Process Skill, SE page 189; Lesson 3, Video A, SE page 191; Process Skill, SE page 195; KnowZone, SE pages 196-197**

Strand 8: Impact of Science, Technology, and Human Activity
2. Historical and cultural perspectives of scientific explanations help to improve understanding of the nature of science and how science knowledge and technology evolve over time.
Concept A. People of different gender and ethnicity have contributed to scientific discoveries and the invention of technological innovations.
a. Research biographical information about various scientists and inventors from different gender and ethnic backgrounds, and describe how their work contributed to science and technology.
Chapter 4, Lesson 2, Video C, SE page 77 **Chapter 6, Lesson 3, Video A, SE page 125; Video B, SE page 126; Video C, SE page 127; Math in Science, SE page 129; KnowZone, SE pages 130-131** **Chapter 7, Lesson 3, Video A, SE page 149** **Chapter 8 KnowZone, SE pages 168-169** **Chapter 9 KnowZone, SE pages 196-197**

Strand 8: Impact of Science, Technology, and Human Activity
3. Science and technology affect, and are affected by society.
Concept A. People, alone or in groups, are always making discoveries about nature and inventing new ways to solve problems and get work done.
a. Identify a question that was asked, or could be asked, or a problem that needed to be solved when given a brief scenario (fiction or nonfiction of people working alone or in groups solving everyday problems or learning through discovery).
Chapter 1, LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 2, LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48** **Chapter 3, Lesson 3, Process Skill, SE page 65; LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66** **Chapter 4, Lesson 3, Process Skill, SE page 85; LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84** **Chapter 5, LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 6, LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120** **Chapter 7, LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156** **Chapter 9, LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**

Strand 8: Impact of Science, Technology, and Human Activity
3. Science and technology affect, and are affected by society.
Concept A. People, alone or in groups, are always making discoveries about nature and inventing new ways to solve problems and get work done.
b. Work with a group to solve a problem, giving due credit to the ideas and contributions of each group member.
Chapter 1, LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 2, LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48** **Chapter 3, LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66** **Chapter 4, LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84** **Chapter 5, LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 6, LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120** **Chapter 7, LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156** **Chapter 9, LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**

SRA Snapshots Video Science™: Level C
correlation to
Missouri Science Standards
Grade 5

SRA Snapshots Video Science™ consists of four interdependent components. Each level has four program DVDs that provide engaging video lessons. The student edition (**SE**) provides student friendly text that reinforces the concepts introduced in the video. The Teacher's Resource Book (**TRB**) provides support activities in a blackline master format. The Teacher's Guide (**TG**) provides lesson planning, differentiated instruction activities, and answers to all student activities in the Student Edition.

KEY:

Reference	**Program Component**
Video	Video lessons on program DVDs
SE	Student Edition
TRB	Teacher's Resource Book
TG	Teacher's Guide

Strand 1: Properties and Principles of Matter and Energy
1. Changes in properties and states of matter provide evidence of the atomic theory or matter.
Concept C. Properties of matter can be explained in terms of moving particles too small to be seen without tremendous magnification.
a. Recognize how changes in state (i.e., freezing/melting, condensation/evaporation) provide evidence that matter is made of particles too small to be seen.
Chapter 7, Lesson 1, Video B, SE page 136; Lesson 2, Video A, SE page 143

Strand 1: Properties and Principles of Matter and Energy
1. Changes in properties and states of matter provide evidence of the atomic theory or matter.
Concept D. Physical changes in the state of matter that result from thermal changes can be explained by the Kinetic Theory of Matter.
a. Classify matter as a solid, a liquid, or a gas, as it exists at room temperature, using physical properties (i.e., volume, shape, ability to flow).
Chapter 7, Lesson 1, Video B, SE page 136; Lesson 2, Video A, SE page 143

Strand 1: Properties and Principles of Matter and Energy
1. Changes in properties and states of matter provide evidence of the atomic theory or matter.
Concept D. Physical changes in the state of matter that result from thermal changes can be explained by the Kinetic Theory of Matter.
b. Predict the effect of heat energy on the physical properties of water as it changes to and from a solid, liquid, or gas (i.e., freezing/melting, evaporation/condensation).
Chapter 7, Lesson 1, Video B, SE page 136

Strand 1: Properties and Principles of Matter and Energy
1. Changes in properties and states of matter provide evidence of the atomic theory or matter.
Concept I. Mass is conserved during any physical or chemical change.
a. Recognize the mass of water remains constant as it changes state (as evidenced in a closed container).
Chapter 7, Lesson 1, Video B, SE page 136

Strand 1: Properties and Principles of Matter and Energy
2. Energy has a source, can be transferred, and can be transformed into various forms but is conserved between and within systems.
Concept A. Forms of energy have a source, a means of transfer (work and heat), and a receiver.
a. Recognize light can be transferred from the source to the receiver (eye) through space in straight lines.
See Level A: **Chapter 9, Lesson 1, Video A, SE page 179; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174** **See also Level B:** **Chapter 8, Lesson 2, Video A, SE page 163; Video C, SE page 165**

Strand 1: Properties and Principles of Matter and Energy
2. Energy has a source, can be transferred, and can be transformed into various forms but is conserved between and within systems.
Concept A. Forms of energy have a source, a means of transfer (work and heat), and a receiver.
b. Recognize how an object (e.g., moon, mirror, objects in the room) can only be seen when light is reflected from that object to the receiver (eye).
See Level A: **Chapter 9, Lesson 1, Video A, SE page 179; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174** **See also Level B:** **Chapter 8, Lesson 2, Video A, SE page 163; Video C, SE page 165**

Strand 1: Properties and Principles of Matter and Energy
2. Energy has a source, can be transferred, and can be transformed into various forms but is conserved between and within systems.
Concept C. Electromagnetic energy from the Sun (solar radiation) is a major source of energy on Earth.
a. Recognize the Sun as the primary source of energy for temperature change on Earth.
Chapter 4, Lesson 3, Video C, SE page 85 **Chapter 5, Lesson 1, Video A, SE page 91** **Chapter 8, Lesson 1, Video A, SE page 157** **Electromagnetic Energy, SE pages 206-207**

Strand 2: Properties and Principles of Force and Motion
2. Forces affect motion.
Concept A. Forces are classified as either contact forces (pushes, pulls, friction, buoyancy) or non-contact forces (gravity, magnetism), that can be described in terms of direction and magnitude.
a. Identify the forces acting on a load and use a spring scale to measure the weight (resistance force) of the load.
This concept is not covered at this level.

Strand 2: Properties and Principles of Force and Motion
2. Forces affect motion.
Concept D. Newton's Laws of Motion explain the interaction of mass and forces, and are used to predict changes in motion.
a. Describe how friction affects the amount of force needed to do work over different surfaces or through different media.
Chapter 9, Lesson 1, Video C, SE page 181

Strand 2: Properties and Principles of Force and Motion
2. Forces affect motion.
Concept F. Simple machines (levers, inclined planes, wheel and axle, pulleys) affect the force applied to an object and/or direction of movement as work is done.
a. Explain how work can be done on an object (force applied and distance moved).
This concept is not covered at this level.

Strand 2: Properties and Principles of Force and Motion
2. Forces affect motion.
Concept F. Simple machines (levers, inclined planes, wheel and axle, pulleys) affect the force applied to an object and/or direction of movement as work is done.
b. Recognize simple machines change the amount of effort force and/or direction of force.
See Level A: **Chapter 8, Lesson 3, Video A, SE page 149; Video B, SE page 150; Video C, SE page 151; Writing in Science, SE page 153; Process Skill, SE page 153** **See also Level B:** **Chapter 8, Lesson 3, Video C, SE page 173; Math in Science, SE page 175; Process Skill, SE page 175**

Strand 2: Properties and Principles of Force and Motion
2. Forces affect motion.
Concept F. Simple machines (levers, inclined planes, wheel and axle, pulleys) affect the force applied to an object and/or direction of movement as work is done.
c. Compare the measures of effort force (measured using a spring scale to the nearest Newton) needed to lift a load with and without the use of simple machines.
This concept is not covered at this level.

Strand 2: Properties and Principles of Force and Motion
2. Forces affect motion.
Concept F. Simple machines (levers, inclined planes, wheel and axle, pulleys) affect the force applied to an object and/or direction of movement as work is done.
d. Identify the simple machines in common tools and household items.
See Level A: **Chapter 8, Lesson 3, Video A, SE page 149; Video B, SE page 150; Video C, SE page 151; Writing in Science, SE page 153; Process Skill, SE page 153** **See also Level B:** **Chapter 8, Lesson 3, Video C, SE page 173; Math in Science, SE page 175; Process Skill, SE page 175**

Strand 3: Characteristics and Interactions of Living Organisms
1. There is a fundamental unity underlying the diversity of all living organisms.
Concept D. Plants and animals have different structures that serve similar functions necessary for the survival of the organism.
a. Compare structures (e.g., wings vs. fins vs. legs; gills vs. lungs; feathers vs. hair vs. scales) that serve similar functions for animals belonging to different vertebrate classes.
Level C: **Chapter 1, Lesson 2, Video A, SE page 9** **See also Level B:** **Chapter 1, Lesson 2, Video B, SE page 10; Process Skill, SE page 13**

Strand 3: Characteristics and Interactions of Living Organisms
1. There is a fundamental unity underlying the diversity of all living organisms.
Concept E. Biological classifications are based on how organisms are related.
a. Explain how similarities are the basis for classification.
Chapter 2, Lesson 1, Video A, SE page 25; Video B, SE page 26; Process Skill, SE page 29

Strand 3: Characteristics and Interactions of Living Organisms
1. There is a fundamental unity underlying the diversity of all living organisms.
Concept E. Biological classifications are based on how organisms are related.
b. Distinguish between plants (which use sunlight to make their own food) and animals (which must consume energy-rich food).
Level C: **Chapter 3, Lesson 1, Video C, SE page 49** **Energy Transfer, SE page 203** **See also Level A:** **Chapter 2, Lesson 2, Video B, SE page 32; Video C, SE page 33; LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48** **Energy Transfer, SE page 203** **See also Level C:** **Chapter 2, Lesson 2, Video A, SE page 39; Video B, SE page 40; Process Skill, SE page 43** **Energy Transfer, SE page 203**

Strand 3: Characteristics and Interactions of Living Organisms
1. There is a fundamental unity underlying the diversity of all living organisms.
Concept E. Biological classifications are based on how organisms are related.
c. Classify animals as vertebrates or invertebrates.
See Level B: **Chapter 1, Lesson 2, Video A, SE page 9; Video B, SE page 10; Critical Thinking, SE page 13; Process Skill, SE page 13; KnowZone, SE pages 14-15**

Strand 3: Characteristics and Interactions of Living Organisms
1. There is a fundamental unity underlying the diversity of all living organisms.
Concept E. Biological classifications are based on how organisms are related.
d. Classify vertebrates animals into classes (amphibians, birds, reptiles, mammals, fish) based on their characteristics.
See Level B: **Chapter 1, Lesson 2, Video B, SE page 10; Process Skill, SE page 13**

Strand 3: Characteristics and Interactions of Living Organisms
1. There is a fundamental unity underlying the diversity of all living organisms.
Concept E. Biological classifications are based on how organisms are related.
e. Identify plants or animals using simple dichotomous keys.
Chapter 2, Lesson 1, Video A, SE page 25; Video B, SE page 26; Process Skill, SE page 29

Strand 3: Characteristics and Interactions of Living Organisms
2. Living organisms carry out life processes in order to survive.
Concept C. Complex multicellular organisms have systems that interact to carry out life processes through physical and chemical means.
a. Recognize the major life processes carried out by the major systems of plants and animals (e.g., support, reproductive, digestive, transport/circulatory, excretory, response).
See Level B: **Chapter 1, Lesson 3, Video A, SE page 17; Video B, SE page 18; Video C, SE page 19; LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48**

Strand 5: Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere)
1. Earth's systems (geosphere, atmosphere, and hydrosphere) have common components and unique structures.
Concept B. The hydrosphere is composed of water (a material with unique properties) and other materials.
a. Classify major bodies of surface water (e.g., rivers, lakes, oceans, glaciers) as fresh or salt water, flowing or stationary, large or small, solid or liquid, surface or groundwater.
Chapter 4, Lesson 1, Video A, SE page 69 **Chapter 5, Lesson 2, Video A, SE page 97; Video B, SE page 98; Video C, SE page 99; Critical Thinking, SE page 101; Process Skill, SE page 101**

Strand 5: Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere)
1. Earth's systems (geosphere, atmosphere, and hydrosphere) have common components and unique structures.
Concept B. The hydrosphere is composed of water (a material with unique properties) and other materials.
b. Relate the type of water to the process by which it was formed.
Chapter 5, Lesson 2, Video A, SE page 97; Video B, SE page 98; Video C, SE page 99; Process Skill, SE page 101

Strand 5: Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere)
1. Earth's systems (geosphere, atmosphere, and hydrosphere) have common components and unique structures.
Concept C. The atmosphere (air) is composed of a mixture of gases, including water vapor, and minute particles.
a. Recognize the atmosphere is composed of a mixture of gases, water, and minute particles.
Chapter 5, Lesson 1, Video A, SE page 91; Video C, SE page 93; Critical Thinking, SE page 95; LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102

Strand 5: Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere)
2. Earth's systems (geosphere, atmosphere, and hydrosphere) interact with one another as they undergo change by common processes.
Concept E. Changes in the form of water as it moves through Earth's systems are described as the water cycle.
a. Describe and trace the path of water as it cycles through the hydrosphere, geosphere, and atmosphere (i.e., the water cycle: evaporation, condensation, precipitation, surface run-off/groundwater flow).
Chapter 4, Lesson 1, Video A, SE page 69 **Chapter 5, Lesson 2, Video A, SE page 97; Video B, SE page 98; Video C, SE page 99; Critical Thinking, SE page 101; Process Skill, SE page 101** **The Water Cycle, SE page 204**

Strand 5: Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere)
2. Earth's systems (geosphere, atmosphere, and hydrosphere) interact with one another as they undergo change by common processes.
Concept E. Changes in the form of water as it moves through Earth's systems are described as the water cycle.
b. Identify the different forms water can take (e.g., snow, rain, sleet, flog, clouds, dew) as it moves through the water cycle.
Chapter 5, Lesson 2, Video B, SE page 98

Strand 5: Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere)
2. Earth's systems (geosphere, atmosphere, and hydrosphere) interact with one another as they undergo change by common processes.
Concept F. Constantly changing properties of the atmosphere occur in patterns which are described as weather.
a. Identify and use appropriate tools (i.e., thermometer, anemometer, wind vane, hygrometer, barometer, rain gauge, satellite images, weather maps) to collect weather data (i.e., temperature, wind speed and direction, relative humidity, air pressure, precipitation, cloud type and cover).
Level C: **Chapter 5, Lesson 3, Video A, SE page 103; Critical Thinking, SE page 107; Process Skill, SE page 107** **See also Level A:** **Chapter 5, KnowZone, SE pages 96-97; Level 3, Video A, SE page 105; Video V, SE page 106; Video C, SE page 107; Critical Thinking, SE page 109; LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **See also Level B:** **Chapter 5, Lesson 2, Video C, SE page 99; Critical Thinking, SE page 101; LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102**

Strand 5: Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere)
2. Earth's systems (geosphere, atmosphere, and hydrosphere) interact with one another as they undergo change by common processes.
Concept F. Constantly changing properties of the atmosphere occur in patterns which are described as weather.
b. Recognize and summarize relationships between weather data (e.g., temperature and time of day, cloud cover and temperature, wind direction and temperature) collected over a period of time.
Chapter 5, Lesson 3, Video A, SE page 103; Video B, SE page 104; Video C, SE page 105

Strand 5: Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere)
3. Human activity is dependent upon and affects Earth's resources and systems.
Concept A. Earth's materials are limited natural resources affected by human activity.
a. Explain how major bodies of water are important natural resources for human activity (e.g., food, recreation, habitat, irrigation, solvent, transportation).
Chapter 5, Lesson 2, Video A, SE page 97; Video C, SE page 99; Critical Thinking, SE page 101

Strand 5: Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere)
3. Human activity is dependent upon and affects Earth's resources and systems.
Concept A. Earth's materials are limited natural resources affected by human activity.
b. Describe how human needs and activities (e.g., irrigation, damming of rivers, waste treatment, sources of drinking water) have affected the quantity and quality of major bodies of fresh water.
Chapter 3, Lesson 3, Video B, SE page 62 **Chapter 5, Lesson 2, Video C, SE page 99; Critical Thinking, SE page 101**

Strand 5: Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere)
3. Human activity is dependent upon and affects Earth's resources and systems.
Concept A. Earth's materials are limited natural resources affected by human activity.
c. Propose solutions to problems related to water quality and availability that result from human activity.
Chapter 3, Lesson 3, Video B, SE page 62 **Chapter 5, Lesson 2, Video C, SE page 99; Critical Thinking, SE page 101**

Strand 6: Composition and Structure of the Universe and the Motion of the Objects within It
1. The universe has observable properties and structure.
Concept A. The Earth, Sun, and moon are part of a larger system that includes other planets and smaller celestial bodies.
a. Recognize the Earth is one of several planets within a solar system that orbits the Sun.
Chapter 6, Lesson 1, Video A, SE page 113; Video B, SE page 114; Video C, SE page 115; Critical Thinking, SE page 117; Process Skill, SE page 117; KnowZone, SE pages 118-119

Strand 6: Composition and Structure of the Universe and the Motion of the Objects within It
1. The universe has observable properties and structure.
Concept A. The Earth, Sun, and moon are part of a larger system that includes other planets and smaller celestial bodies.
b. Recognize the moon orbits the Earth.
Chapter 6, Lesson 2, Video C, SE page 123

Strand 6: Composition and Structure of the Universe and the Motion of the Objects within It
1. The universe has observable properties and structure.
Concept A. The Earth, Sun, and moon are part of a larger system that includes other planets and smaller celestial bodies.
c. Recognize planets look like stars and appear to move across the sky among the stars.
Level C: **Chapter 6, Lesson 1, Video A, SE page 113** **See also Level B:** **Chapter 6, Lesson 1, Video B, SE page 114**

Strand 6: Composition and Structure of the Universe and the Motion of the Objects within It
1. The universe has observable properties and structure.
Concept B. The Earth has a composition and location suitable to sustain life.
a. Describe physical features of the planet Earth that allows life to exist (e.g., air, water, temperature) and compare these to the physical features of the Sun, the moon, and other planets.
Chapter 5, Lesson 1, Video A, SE page 91; Critical Thinking, SE page 95; Lesson 2, Video A, SE page 97; Video B, SE page 98; Lesson 3, Video C, SE page 105 **Chapter 6, Lesson 1, Video A, SE page 113; Video B, SE page 114; Critical Thinking, SE page 117; Lesson 2, Video A, SE page 127; Critical Thinking, SE page 131; Process Skill, SE page 131**

Strand 6: Composition and Structure of the Universe and the Motion of the Objects within It
2. Regular and predictable motions of objects in the universe can be described and explained as the result of gravitational forces.
Concept B. The apparent position of the moon, as seen from Earth, and its actual position relative to Earth change in observable patterns.
a. Sequence images of the lit portion of the moon seen from Earth as it cycles day –to-day in about a month in order of occurrence.
Chapter 6, Lesson 2, Video C, SE page 123

Strand 6: Composition and Structure of the Universe and the Motion of the Objects within It
2. Regular and predictable motions of objects in the universe can be described and explained as the result of gravitational forces.
Concept C. The regular and predictable motions of the Earth and moon relative to the Sun explain natural phenomena on Earth, such as day, month, year, shadows, moon phases, eclipses, tides, and seasons.
a. Recognize the Earth rotates once every 24 hours.
Chapter 6, Lesson 2, Video A, SE page 121; Video B, SE page 122; Video C, SE page 123

Strand 6: Composition and Structure of the Universe and the Motion of the Objects within It
2. Regular and predictable motions of objects in the universe can be described and explained as the result of gravitational forces.
Concept C. The regular and predictable motions of the Earth and moon relative to the Sun explain natural phenomena on Earth, such as day, month, year, shadows, moon phases, eclipses, tides, and seasons.
2. Relate changes in the length and position of a shadow to the time of day and apparent motion of the Sun in the sky, as determined by Earth's rotation.
Chapter 9, Lesson 1, Video A, SE page 191; Video A, TG page 163

Strand 6: Composition and Structure of the Universe and the Motion of the Objects within It
2. Regular and predictable motions of objects in the universe can be described and explained as the result of gravitational forces.
Concept C. The regular and predictable motions of the Earth and moon relative to the Sun explain natural phenomena on Earth, such as day, month, year, shadows, moon phases, eclipses, tides, and seasons.
c. Relate the apparent motion of the Sun, moon, and stars in the sky to the rotation of the Earth.
Level C: **Chapter 6, Lesson 1, Video A, SE page 113** **See also Level B:** **Chapter 6, Lesson 1, Video B, SE page 114**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept A. Scientific inquiry includes the ability of students to formulate a testable question and explanation, and to select appropriate investigative methods in order to obtain evidence relevant to the explanation.
a. Formulate testable questions and explanations (hypotheses).
Chapter 1, Lesson 2, Process Skill, SE page 13; LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 2, LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48** **Chapter 3, Lesson 1, Process Skill, SE page 51; Lesson 3, Process Skill, SE page 65; LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66** **Chapter 4, Lesson 2, Process Skill, 81; LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84** **Chapter 5, LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 6, LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120** **Chapter 7, Lesson 1, Process Skill, SE page 139; Lesson 2, Process Skill, SE page 147; LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156** **Chapter 9, Lesson 3, Process Skill, SE page 197; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept A. Scientific inquiry includes the ability of students to formulate a testable question and explanation, and to select appropriate investigative methods in order to obtain evidence relevant to the explanation.
b. Recognize the characteristics of a fair and unbiased test.
Chapter 1, LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 2, LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48** **Chapter 3, LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66** **Chapter 4, LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84** **Chapter 5, Lesson 2, Process Skill, SE page 101; LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 6, LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120** **Chapter 7, LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156** **Chapter 9, Lesson 2, Process Skill, SE page 191; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept A. Scientific inquiry includes the ability of students to formulate a testable question and explanation, and to select appropriate investigative methods in order to obtain evidence relevant to the explanation.
c. Conduct a fair test to answer a question.
Chapter 1, LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 2, LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48** **Chapter 3, LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66** **Chapter 4, LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84** **Chapter 5, Lesson 2, Process Skill, SE page 101; LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 6, LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120** **Chapter 7, LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156** **Chapter 9, Lesson 2, Process Skill, SE page 191; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept A. Scientific inquiry includes the ability of students to formulate a testable question and explanation, and to select appropriate investigative methods in order to obtain evidence relevant to the explanation.
d. Make suggestions for reasonable improvements or extensions of a fair test.
Chapter 1, LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 2, LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48** **Chapter 3, LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66** **Chapter 4, LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84** **Chapter 5, Lesson 2, Process Skill, SE page 101; LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 6, LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120** **Chapter 7, LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156** **Chapter 9, Lesson 2, Process Skill, SE page 191; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept B. Scientific inquiry relies upon gathering evidence from qualitative and quantitative observations.
a. Make qualitative observations using the five senses.
Chapter 1, LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 2, LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48** **Chapter 3, LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66** **Chapter 4, LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84** **Chapter 5, Lesson 2, Process Skill, SE page 101; LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 6, LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120** **Chapter 7, LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156** **Chapter 9, Lesson 2, Process Skill, SE page 191; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept B. Scientific inquiry relies upon gathering evidence from qualitative and quantitative observations.
b. Determine the appropriate tools and techniques to collect data.
Chapter 1, Lesson 1, Video A, SE page 3; Video B, SE page 4: Video C, SE page 5; Lesson 2, Video A, SE page 9; Video B, SE page 10; Video C, SE page 11; Lesson 3, Video A, SE page 15; Video B, SE page 16 **Chapter 5 LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 6, Lesson 3, Video B, SE page 128; Video C, SE page 129** **Chapter 7, Lesson 2, Video B, SE page 144; LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, Lesson C, Video C, SE page 165; KnowZone, SE pages 168-169** **Chapter 9, Lesson 2 Process Skill, SE page 191**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept B. Scientific inquiry relies upon gathering evidence from qualitative and quantitative observations.
c. Use a variety of tools and equipment to gather data (e.g., hand lenses, magnets, thermometers, metric rulers, balances, graduated cylinders, spring scales).
Chapter 1, Lesson 1, Video A, SE page 3; Video B, SE page 4: Video C, SE page 5; Lesson 2, Video A, SE page 9; Video B, SE page 10; Video C, SE page 11; Lesson 3, Video A, SE page 15; Video B, SE page 16 **Chapter 5 LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 6, Lesson 3, Video B, SE page 128; Video C, SE page 129** **Chapter 7, Lesson 2, Video B, SE page 144; LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, Lesson C, Video C, SE page 165; KnowZone, SE pages 168-169** **Chapter 9, Lesson 2 Process Skill, SE page 191**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept B. Scientific inquiry relies upon gathering evidence from qualitative and quantitative observations.
d. Measure length to the nearest centimeter, mass to the nearest gram, volume to the nearest milliliter, temperature to the nearest degree Celsius, weight to the nearest Newton.
Chapter 1, LabTime Hands-On Activity 1, TRB page 15, TG page 30 **Chapter 5, Lesson 3, Process Skill, SE page 107; LabTime Hands-On Activity 5, TRB page 87, TG page 102** **Chapter 7, Lesson 2, Video C, SE page 165; LabTime Hands-On Activity 7, TRB page 123, TG page 138** **Chapter 8, LabTime Hands-On Activity 8, TRB page 141, TG page 156** **Chapter 9, Lesson 2, Process Skill, SE page 191** **The Metric System, SE page 200-201**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept B. Scientific inquiry relies upon gathering evidence from qualitative and quantitative observations.
e. Compare amounts/measurements.
Chapter 1, Lesson 1 Math in Science, SE page 7; LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 2, Lesson 2 Math in Science, SE page 35** **Chapter 3 LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66** **Chapter 4, Lesson 1 Math in Science, SE page 73** **Chapter 5, Lesson 2 Math in Science, SE page 101; Lesson 3 Process Skill, SE page 107; LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 7, Lesson 2 Math in Science, SE page 147; LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, Lesson 3 Math in Science, SE page 175; LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156** **Chapter 9, Lesson 2 Process Skill, SE page 191**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept B. Scientific inquiry relies upon gathering evidence from qualitative and quantitative observations.
f. Judge whether measurements and computation of quantities are reasonable.
Chapter 1, Lesson 1 Math in Science, SE page 7; LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 2, Lesson 2 Math in Science, SE page 35** **Chapter 3 LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66** **Chapter 4, Lesson 1 Math in Science, SE page 73** **Chapter 5, Lesson 2 Math in Science, SE page 101; Lesson 3 Process Skill, SE page 107; LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 7, Lesson 2 Math in Science, SE page 147; LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, Lesson 3 Math in Science, SE page 175; LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156** **Chapter 9, Lesson 2 Process Skill, SE page 191**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept C. Evidence is used to formulate explanations.
a. Use quantitative and qualitative data as support for reasonable explanations.
Chapter 1, Lesson 1, Process Skill, SE page 7; LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 2, LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48** **Chapter 3, LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66** **Chapter 4, LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84** **Chapter 5, LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 6, LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120** **Chapter 7, LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156** **Chapter 9, Lesson 2, Process Skill, SE page 191; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept C. Evidence is used to formulate explanations.
b. Use data as support for observed patterns and relationships, and to make predictions to be tested.
Chapter 1, Lesson 2, Process Skill, SE page 13; LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 2, LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48** **Chapter 3, Lesson 1, Process Skill, SE page 51; Lesson 3, Process Skill, SE page 65; LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66** **Chapter 4, Lesson 2, Process Skill, 81; LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84** **Chapter 5, LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 6, LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120** **Chapter 7, Lesson 1, Process Skill, SE page 139; Lesson 2, Process Skill, SE page 147; LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156** **Chapter 9, Lesson 3, Process Skill, SE page 197; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept D. Scientific inquiry includes evaluation of explanations (hypotheses, laws, theories) in light of scientific principles (understandings).
a. Evaluate the reasonableness of an explanation.
Chapter 1, LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 2, Lesson 3, Process Skill, SE page 43; LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48** **Chapter 3, Lesson 1, Process Skill, SE page 51; LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66** **Chapter 4, LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84** **Chapter 5, Lesson 1, Process Skill, SE page 95; LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 6, LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120** **Chapter 7, Lesson 3, Process Skill, SE page 153; LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156** **Chapter 9, Lesson 2, Process Skill, SE page 191; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept D. Scientific inquiry includes evaluation of explanations (hypotheses, laws, theories) in light of scientific principles (understandings).
b. Analyze whether evidence and scientific principles support proposed explanations.
Chapter 1, LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 2, Lesson 3, Process Skill, SE page 43; LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48** **Chapter 3, Lesson 1, Process Skill, SE page 51; LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66** **Chapter 4, LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84** **Chapter 5, Lesson 1, Process Skill, SE page 95; LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 6, LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120** **Chapter 7, Lesson 3, Process Skill, SE page 153; LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156** **Chapter 9, Lesson 2, Process Skill, SE page 191; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**

Strand 7: Scientific Inquiry
1. Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.
Concept E. The nature of science relies upon communication of results and justification of explanations.
a. Communicate simple procedures and results of investigations and explanations through: • Oral presentations • Drawings and maps • Data tables • Graphs (bar, single line, pictograph) • Writings.
Chapter 1, LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 2, LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48** **Chapter 3, LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66** **Chapter 4, LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84** **Chapter 5, LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 6, Lesson 3, Process Skill, SE page 131; LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120** **Chapter 7, LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156** **Chapter 9, LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**

Strand 8: Impact of Science, Technology, and Human Activity
1. The nature of technology can advance, and is advanced by, science as it seeks to apply scientific knowledge in ways that meet human needs.
Concept A. Designed objects are used to do things better or more easily and to do some things that could not otherwise be done at all.
a. Design and construct a machine, using materials and/or existing objects, that can be used to perform a task.
Chapter 9 LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174

Strand 8: Impact of Science, Technology, and Human Activity
1. The nature of technology can advance, and is advanced by, science as it seeks to apply scientific knowledge in ways that meet human needs.
Concept B. Advances in technology often result in improved data collection and an increase in scientific knowledge.
a. Describe how new technologies have helped scientists make better observations and measurements for investigations (e.g., telescopes, electronic balances, electronic microscopes, x-ray technology, computers, ultrasounds, computer probes such as thermometers).
Chapter 1, Lesson 2, Process Skill, SE page 13; LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 3, Lesson 3, Process Skill, SE page 65; LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66** **Chapter 4, Lesson 2, Process Skill, SE page 81** **Chapter 5, Lesson 3, Process Skill, SE page 107; LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 7, Lesson 1, Process Skill, SE page 139; Lesson 2, Process Skill, SE page 147; LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 9, Lesson 3, Process Skill, SE page 197; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174** **The Metric System, SE pages 200-201**

Strand 8: Impact of Science, Technology, and Human Activity
1. The nature of technology can advance, and is advanced by, science as it seeks to apply scientific knowledge in ways that meet human needs.
Concept C. Technological solutions to problems often have drawbacks as well as benefits.
a. Identify how the effects of inventions or technological advances (e.g., complex machinery, technologies used in space exploration, satellite imagery, weather observation and prediction, communication, transportation, robotics, tracking devices) may be helpful, harmful, or both.
Chapter 1, Lesson 3, Critical Thinking, SE page 19 **Chapter 3, Lesson 3, Video C, SE page 62; Video C, SE page 63** **Chapter 4, Lesson 1, Critical Thinking, SE page 73; Lesson 3, Vide C, SE page 85; Critical Thinking, SE page 87** **Chapter 5, Lesson 1, Video C, SE page 93; Critical Thinking, SE page 95; Lesson 2, Video C, SE page 99; Critical Thinking, SE page 101** **Chapter 6, Lesson 3, Video A, SE page 127; Video B, SE page 128; Video C, SE page 129; Critical Thinking, SE page 131** **Chapter 8, Lesson 1, Video C, SE page 159; Lesson 3, Video C, SE page 173**

Strand 8: Impact of Science, Technology, and Human Activity
2. Historical and cultural perspectives of scientific explanations help to improve understanding of the nature of science and how science knowledge and technology evolve over time.
Concept A. People of different gender and ethnicity have contributed to scientific discoveries and the invention of technological innovations.
a. Research biographical information about various scientists and inventors from different gender and ethnic backgrounds, and describe how their work contributed to science and technology.
Chapter 1, Lesson 1, Video A, SE page 3; Video B, SE page 4: Video C, SE page 5; Lesson 2, Video A, SE page 9; Video B, SE page 10; Video C, SE page 11; Lesson 3, Video A, SE page 15; Video B, SE page 16 **Chapter 5 LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 6, Lesson 3, Video B, SE page 128; Video C, SE page 129** **Chapter 7, Lesson 2, Video B, SE page 144; LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, Lesson C, Video C, SE page 165; KnowZone, SE pages 168-169** **Chapter 9, Lesson 2 Process Skill, SE page 191**

Strand 8: Impact of Science, Technology, and Human Activity
3. Science and technology affect, and are affected by society.
Concept A. People, alone or in groups, are always making discoveries about nature and inventing new ways to solve problems and get work done.
a. Identify a question that was asked, or could be asked, or a problem that needed to be solved when given a brief scenario (fiction or nonfiction of people working alone or in groups solving everyday problems or learning through discovery).
Chapter 1, Lesson 2, Process Skill, SE page 13; LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 2, LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48** **Chapter 3, Lesson 1, Process Skill, SE page 51; Lesson 3, Process Skill, SE page 65; LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66** **Chapter 4, Lesson 2, Process Skill, 81; LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84** **Chapter 5, LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 6, LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120** **Chapter 7, Lesson 1, Process Skill, SE page 139; Lesson 2, Process Skill, SE page 147; LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156** **Chapter 9, Lesson 3, Process Skill, SE page 197; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**

Strand 8: Impact of Science, Technology, and Human Activity
3. Science and technology affect, and are affected by society.
Concept A. People, alone or in groups, are always making discoveries about nature and inventing new ways to solve problems and get work done.
b. Work with a group to solve a problem, giving due credit to the ideas and contributions of each group member.
Chapter 1, LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30 **Chapter 2, LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48** **Chapter 3, LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66** **Chapter 4, LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84** **Chapter 5, LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102** **Chapter 6, Lesson 3, Process Skill, SE page 131; LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120** **Chapter 7, LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138** **Chapter 8, LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156** **Chapter 9, LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**