SRA Snapshots Video Science™: Level A
correlation to
New York Science Core Curriculum
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

Standard 4: The Physical Setting
1.1a Natural cycles and patterns include: • Earth spinning around once every 24 hours (rotation), resulting in day and night • Earth moving in a path around the Sun (revolution), resulting in one Earth year • The length of daylight and darkness varying with the seasons • Weather changing from day to day and through the seasons • The appearance of the Moon changing as it moves in a path around Earth to complete a single cycle.
Chapter 5, Lesson 1, Video B, SE page 92; Lesson 2, Video B, SE page 100; Process Skill, SE page 103; Lesson 3, Video B, SE page 106 **Chapter 6, Lesson 1, Video A, SE page 113; Video B, SE page 114; Video C, SE page 115; Process Skill, SE page 117; LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120**

Standard 4: The Physical Setting
1.1b Humans organize time into units based on natural motions of Earth: • Second, minute, hour • Week, month.
Chapter 6, Lesson 1, Video A, SE page 113; Video C, SE page 115 **Chapter 8, LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156**

Standard 4: The Physical Setting
1.1c The Sun and other stars appear to move in a recognizable pattern both daily and seasonally.
Chapter 6, Lesson 3, Video A, SE page 127

Standard 4: The Physical Setting
2.1a Weather is the condition of the outside air at a particular time.
Chapter 5, Lesson 1, Video B, SE page 92; Video C, SE page 93; Writing in Science, SE page 95; Process Skill, SE page 95; Lesson 2, Video B, SE page 100; Math in Science, SE page 103; Process Skill, SE page 103; Lesson 3, Video A, SE page 105; Video B, SE page 106; Video C, SE page 107; Process Skill, SE page 107; LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102

Standard 4: The Physical Setting
2.1b Weather can be described and measured by: • Temperature • Wind speed and direction • Form and amount of precipitation • General sky conditions (cloudy, sunny, partly cloudy).
Chapter 5, Lesson 1, Video B, SE page 92; Video C, SE page 93; Writing in Science, SE page 95; Process Skill, SE page 95; Lesson 2, Video B, SE page 100; Math in Science, SE page 103; Process Skill, SE page 103; Lesson 3, Video A, SE page 105; Video B, SE page 106; Video C, SE page 107; Process Skill, SE page 107; LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102

Standard 4: The Physical Setting
2.1c Water is recycled by natural processes on Earth: • Evaporation: changing of water (liquid) into water vapor (gas) • Condensation: changing of water vapor (gas) into water (liquid) • Precipitation: rain, sleet, snow, hail • Runoff: water flowing on Earth's surface • Groundwater: water that moves downward into the ground.
Chapter 5, Lesson 2, Video A, SE page 99; Video B, SE page 100, Video C, SE page 101

Standard 4: The Physical Setting
2.1d Erosion and deposition result from the interaction among air, water, and land. • Interaction between air and water breaks down earth materials • Pieces of earth material may be moved by air, water, wind, and gravity • Pieces of earth materials will settle or deposit on land or in the water in different places • Soil is composed of broken-down pieces of living and nonliving earth material.
Chapter 4, Lesson 1, Video B, SE page 70; Lesson 2, Video C, SE page 77; LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84

Standard 4: The Physical Setting
2.1e Extreme natural events (floods, fires, earthquakes, volcanic eruptions, hurricanes, tornadoes, and other severe storms) may have positive or negative impacts on living things.
Chapter 3, Lesson 3, Video B, SE page 62 **Chapter 4, Lesson 1, Video C, SE page 71** **Chapter 5, Lesson 3, Video B, SE page 106**

Standard 4: The Physical Setting
3.1a Matter takes up space and has mass. Two objects cannot occupy the same place at the same time.
Chapter 8, Lesson 1, Video A, SE page 157; Video C, SE page 159

Standard 4: The Physical Setting
3.1b Matter has properties (color, hardness, odor, sound, taste, etc.) that can be observed through the senses.
Chapter 8, Lesson 1, Video B, SE page 158; Process Skill, SE page 161

Standard 4: The Physical Setting
3.1c Objects have properties that can be observed, described, and/or measured: length, width, volume, size, shape, mass, or weight, temperature, texture, flexibility, reflectiveness of light.
Chapter 8, Lesson 1, Video A, SE page 157; Video C, SE page 159; Lesson 2, Video A, SE page 163

Standard 4: The Physical Setting
3.1d Measurements can be made with standard metric units and nonstandard units.
Chapter 4, Lesson 3, Process Skill, SE page 87 **Chapter 5, Lesson 2, Process Skill, SE page 103; Lesson 3, Video A, SE page 105** **Chapter 7, Lesson 3, Process Skill, SE page 153** **Chapter 8, LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156** **The Metric System, SE pages 200-201**

Standard 4: The Physical Setting
3.1e The material(s) an object is made up of determine some specific properties of the object (sink/float, conductivity, magnetism). Properties can be observed or measured with tools such as hand lenses, metric rulers, thermometers, balances, magnets, circuit testers, and graduated cylinders.
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 1, Video A, SE page 157; Video B, SE page 158; Video C, SE page 159; KnowZone, SE pages 168-169; Lesson 3, Video B, SE page 172; Video C, SE page 173; Process Skill, SE page 175; LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156**

Standard 4: The Physical Setting
3.1f Objects and/or materials can be sorted or classified according to their properties.
Chapter 7, Lesso2, Video A, SE page 143 **Chapter 8, Lesson 1, Video B, SE page 158; Process Skill, SE page 161; Lesson 2, Process Skill, SE page 167; Lesson 3, Video B, SE page 172; Video C, SE page 173; Process Skill, SE page 175**

Standard 4: The Physical Setting
3.1g Some properties of an object are dependent on the conditions of the present surroundings in which the object exists. For example: • Temperature-hot or cold • Lighting-shadows, color • Moisture-wet or dry.
Chapter 8, Lesson 3, Video A, SE page 171; Process Skill, SE page 175; LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156

Standard 4: The Physical Setting
3.2a Matter exists in three states: solid, liquid, gas. • Solids have a definite shape and volume • Liquids do not have a definite shape but have a definite volume • Gases do not hold their shape or volume.
Chapter 8, Lesson 2, Video A, SE page 163; Process Skill, SE page 167

Standard 4: The Physical Setting
3.2b Temperature can affect the state of matter of a substance.
Chapter 8, Lesson 2, Video A, SE page 163; Video C, SE page 167; Lesson 3, Video A, SE page 171; Process Skill, SE page 175; LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156

Standard 4: The Physical Setting
3.2c Changes in the properties or materials of objects can be observed and described.
Chapter 8, Lesson 2, Video A, SE page 163; Video B, SE page 164; Video C, SE page 165

Standard 4: The Physical Setting
4.1a Energy exists in various forms: heat, electric, sound, chemical, mechanical, light.
Chapter 8, Lesson 3, Video A, SE page 171; LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156 **Chapter 9, Lesson 1, Video A, SE page 179; Video C, SE page 181; Lesson 2, Video A, SE page 187; Lesson 3, Video A, SE page 193; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**

Standard 4: The Physical Setting
4.1b Energy can be transferred from one place to another.
Chapter 8, Lesson 3, Video A, SE page 171; Process Skill, SE page 175; LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156 **Chapter 9, Lesson 1, Video A, SE page 179; Video C, SE page 181; Lesson 2, Video A, SE page 187; Video C, SE page 189; Process Skill, SE page 191; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**

Standard 4: The Physical Setting
4.1c Some materials transfer energy better than others (heat and electricity).
Chapter 8, Lesson 3, Video B, SE page 172; Video C, SE page 173; Process Skill, SE page 175; LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156

Standard 4: The Physical Setting
4.1d Energy and matter interact: water is evaporated by the Sun's heat; a bulb is lighted by means of electrical current; a musical instrument is played to produce sound; dark colors may absorb light, light colors may reflect light.
Chapter 5, Lesson 2, Video B, SE page 100 **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 9, Lesson 1, Video A, SE page 179; Video B, SE page 180; Video C, SE page 181; Process Skill, SE page 183; Lesson 2, Video A, SE page 187; Video B, SE page 188; Video C, SE page 189; Process Skill, SE page 191**

Standard 4: The Physical Setting
4.1e Electricity travels in a closed circuit.
Chapter 9, Lesson 2, Video B, SE page 188; Video C, SE page 189; Process Skill, SE page 191

Standard 4: The Physical Setting
4.1f Heat can be released in many ways, for example, by burning, rubbing (friction), or combining one substance with another.
Chapter 8, Lesson 1, Video A, SE page 171

Standard 4: The Physical Setting
4.1g Interactions with forms of energy can be either helpful or harmful.
Chapter 9, Lesson 1, Video A, SE page 179; Video B, SE page 180; Video C, SE page 181; KnowZone, SE pages 184-185; 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; Process Skill, SE page 197

Standard 4: The Physical Setting
4.2a Everyday events involve one form of energy being changed to another. • Animals convert food to heat and motion • The Sun's energy warms the air and water.
Chapter 2, Lesson 2, Video A, SE page 31; Video B, SE page 32; Video C, SE page 33

Standard 4: The Physical Setting
4.2b Humans utilize interactions between matter and energy. • Chemical to electrical, light and heat; battery and bulb • Electrical to sound (e.g., doorbell buzzer) • Mechanical to sound (e.g., musical instruments, clapping) • Light to electrical (e.g., solar-powered calculator).
Chapter 9, Lesson 1, Video C, SE page 181; Lesson 2, Video A, SE page 187; Process Skill, SE page 191; Lesson 3, Video A, SE page 193; Video B, SE page 194

Standard 4: The Physical Setting
5.1a The position of an object can be described by locating it relative to another object or the background (e.g., on top of, next to, over, under, etc.).
Chapter 7, Lesson 1, Video A, SE page 135

Standard 4: The Physical Setting
5.1b The position or direction of motion of an object can be changed by pushing or pulling.
Chapter 7, Lesson 1, Video A, SE page 135; LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138

Standard 4: The Physical Setting
5.1c The force of gravity pulls objects toward the center of Earth.
Chapter 7, Lesson 1, Video C, SE page 137

Standard 4: The Physical Setting
5.1d The amount of change in the motion of an object is affected by friction.
Chapter 7, Lesson 1, Video B, SE page 136; LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138

Standard 4: The Physical Setting
5.1e Magnetism is a force that may attract or repel certain materials.
Chapter 7, Lesson 2, Video A, SE page 143; Video B, SE page 144; Video C, SE page 145

Standard 4: The Physical Setting
5.1f Mechanical energy may cause change in motion through the application of force through the use of simple machines such as pulleys, levers, and inclined planes.
Chapter 7, 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

Standard 4: The Physical Setting
5.2a The forces of gravity and magnetism can affect objects through gases, liquids, and solids.
Chapter 7, Lesson 1, Video C, SE page 137; Lesson 2, Video A, SE page 143; Video B, SE page 144; Video C, SE page 145

Standard 4: The Physical Setting
5.2b The force of magnetism on objects decreases as distance increases.
Chapter 7, Lesson 2, Video A, SE page 143; Video B, SE page 144; Video C, SE page 145

Standard 4: The Living Environment
1.1a Animals need air, water, and food in order to live and thrive.
Chapter 1, Lesson 1, Video A, SE page 3; Video C, SE page 5 **Chapter 3, Lesson 1, Video A, SE page 47**

Standard 4: The Living Environment
1.1b Plants require air, water, nutrients, and light in order to live and thrive.
Chapter 1, Lesson 1, Video A, SE page 3; Video B, SE page 4; LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30

Standard 4: The Living Environment
1.1c Nonliving things do not live and thrive.
Chapter 1, Lesson 1, Process Skill, SE page 7 **Chapter 2, Lesson 1, Video A, SE page 25**

Standard 4: The Living Environment
1.1d Nonliving things can be human-created or naturally occurring.
Chapter 1, Lesson 1, Process Skill, SE page 7 **Chapter 2, Lesson 1, Video A, SE page 25**

Standard 4: The Living Environment
1.2a Living things grow, take in nutrients, breathe, reproduce, eliminate wastes, and die.
Chapter 1, Lesson 1, Video A, SE page 3; Lesson 3, Video A, SE page 17; Video B, SE page 18; Video C, SE page 19; Process Skill, SE page 21

Standard 4: The Living Environment
2.1a Some traits of living things have been inherited (e.g., color of flowers and number of limbs of animals).
Chapter 2, Lesson 3, Video B, SE page 40; Video C, SE page 41

Standard 4: The Living Environment
2.1b Some characteristics result from an individual's interactions with the environment and cannot be inherited by the next generation (e.g., having scars; riding a bicycle).
See Level B: **Chapter 3, Lesson 2, Video C, SE page 57; Lesson 3, Video C, SE page 63** **See also Level C:** **Chapter 2, Lesson 1, Video C, SE page 27** **Chapter 3, Lesson 3, Video A, SE page 61; Video B, SE page 62**

Standard 4: The Living Environment
2.2a Plants and animals closely resemble their parents and other individuals in their species.
Chapter 1, Lesson 3, Video A, SE page 17; Video B, SE page 18; Video C, SE page 19; Process Skill, SE page 21

Standard 4: The Living Environment
2.2b Plants and animals can transfer specific traits to their offspring when they reproduce.
Chapter 1, Lesson 3, Video A, SE page 17; Video B, SE page 18; Video C, SE page 19; Process Skill, SE page 21

Standard 4: The Living Environment
3.1a Each animal has different structures that serve different functions in growth, survival, and reproduction. • Wings, legs, or fins enable some animals to seek shelter and escape predators • The mouth, including teeth, jaws, and tongue, enables some animals to eat and drink • Eyes, nose, ears, tongue, and skin of some animals enable the animals to sense their surroundings • Claws, shells, spines, feathers, fur, scales, and color of body covering enable some animals to protect themselves from predators and other environmental conditions, or enable them to obtain food • Some animals have parts that are used to produce sounds and smells to help the animal meet its needs • The characteristics of some animals change as seasonal conditions change (e.g., fur grows and is shed to help regulate body heat; body fat is a form of stored energy and it changes as the seasons change).
Chapter 1, Lesson 2, Video A, SE page 9; Video B, SE page 10 **Chapter 2, KnowZone, SE pages 36-37**

Standard 4: The Living Environment
3.1b Each plant has different structures that serve different functions in growth, survival, and reproduction. • Roots help support the pant and take in water and nutrients • Leaves help plants utilize sunlight to make food for the plant • Stems, stalks, trunks, and other similar structures provide support for the plant • Some plants have flowers • Flowers are reproductive structures of plants that produce fruit which contains seeds • Seeds contain stored food that aids in germination and the growth of young plants.
Chapter 1, Lesson 1, Video B, SE page 4; Lesson 2, Video C, SE page 10 **Chapter 2, KnowZone, SE pages 36-37**

Standard 4: The Living Environment
3.1c In order to survive in their environment, plants and animals must be adapted to that environment. • Seeds disperse by a plant's own mechanism and/or in a variety of ways that can include wind, water, and animals • Leaf, flower, stem, and root adaptations may include variations in size, shape, thickness, color, smell, and texture • Animal adaptations include coloration for warning or attraction, camouflage, defense mechanisms, movement, hibernation, and migration.
Chapter 2, KnowZone, SE pages 36-37; Lesson 3, Video B, SE page 40; Video C, SE page 41; Process Skill, SE page 43

Standard 4: The Living Environment
3.2a Individuals within a species may compete with each other for food, mates, space, water, and shelter in their environments.
Chapter 2, Lesson 3, Video A, SE page 39

Standard 4: The Living Environment
3.2b All individuals have variations, and because of these variations individuals of a species may have an advantage in surviving and reproducing.
Chapter 1, Lesson 3, Video A, SE page 17; Video B, SE page 18; Video C, SE page 19

Standard 4: The Living Environment
4.1a Plants and animals have life cycles. These may include beginning of a life, development into an adult, and eventually death.
Chapter 1, Lesson 3, Video A, SE page 17; Video B, SE page 18; Video C, SE page 19; Process Skill, SE page 21

Standard 4: The Living Environment
4.1b Each kind of plant goes through its own stages of growth and development that may include seed, young plant, and mature plant.
Chapter 1, Lesson 3, Video C, SE page 19

Standard 4: The Living Environment
4.1c The length of time from beginning of development to death of the plant is called its life span.
Chapter 1, Lesson 3, Video C, SE page 19

Standard 4: The Living Environment
4.1d Life cycles of some plants include changes from seed to mature plant.
Chapter 1, Lesson 3, Video C, SE page 19

Standard 4: The Living Environment
4.1e Each generation of animal goes through changes in form from young to adult. This completed sequence of changes in form is called a life cycle. Some insects change from egg to larva to pupa to adult.
Chapter 1, Lesson 3, Video A, SE page 17; Video B, SE page 18; Video C, SE page 19; Process Skill, SE page 21

Standard 4: The Living Environment
4.1f Each kind of animal goes through its own stages of growth and development during its life span.
Chapter 1, Lesson 3, Video A, SE page 17; Video B, SE page 18; Process Skill, SE page 21

Standard 4: The Living Environment
4.1g The length of time from an animal's birth to its death is called its life span. Life spans of different animals vary.
Chapter 1, Lesson 3, Video A, SE page 17; Video B, SE page 18; Process Skill, SE page 21

Standard 4: The Living Environment
4.2a Growth is the process by which plants and animals increase in size.
Chapter 1, Lesson 3, Video A, SE page 17; Video B, SE page 18; Video C, SE page 19; Process Skill, SE page 21

Standard 4: The Living Environment
4.2b Food supplies the energy and materials necessary for growth and repair.
Chapter 1, Lesson 1, Video C, SE page 5 **Chapter 2, Lesson 2, Video A, SE page 31; Video B, SE page 32; Video C, SE page 33** **Chapter 3, Lesson 1, Video C, SE page 49**

Standard 4: The Living Environment
5.1a All living things grow, take in nutrients, breathe, reproduce, and eliminate waste.
Chapter 1, Lesson 1, Video A, SE page 3; Video B, SE page 4; Video C, SE page 5 **Chapter 3, Lesson 1, Video A, SE page 47**

Standard 4: The Living Environment
5.1b An organism's external physical features can enable it to carry out life functions in its particular environment.
Chapter 2, KnowZone, SE pages 36-37; Lesson 3, Video A, SE page 39; Video B, SE page 40; Video C, SE page 41; Process Skill, SE page 43

Standard 4: The Living Environment
5.2a Plants respond to changes in their environment. For example, the leaves of some green plants change position as the direction of light changes; the parts of some plants undergo seasonal changes that enable the plant to grow; seeds germinate, and leave form and grow.
Chapter 2, KnowZone, SE pages 36-37; Lesson 3, Video B, SE page 40; LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30

Standard 4: The Living Environment
5.2b Animals respond to change in their environment (e.g., perspiration, heart rate, breathing rate, eye blinking, shivering, and salivating).
Chapter 1, KnowZone, SE pages 36-37; Lesson 3, Video C, SE page 41; Process Skill, SE page 43

Standard 4: The Living Environment
5.2c Senses provide essential information (regarding danger, food, mates, etc.) to animals about their environments.
Chapter 2, Lesson 3, Video C, SE page 41

Standard 4: The Living Environment
5.2d Some animals, including humans, move from place to place to meet their needs.
Chapter 2, Lesson 3, Video C, SE page 41

Standard 4: The Living Environment
5.2e Particular animal characteristics are influenced by changing environmental conditions including: fat storage in winter, coat thickness in winter, camouflage, shedding of fur.
Chapter 2, Lesson 3, Video C, SE page 41

Standard 4: The Living Environment
5.2f Some animal behaviors are influenced by environmental conditions. These behaviors may include: nest building, hibernating, hunting, migrating, and communicating.
Chapter 2, Lesson 3, Video C, SE page 41

Standard 4: The Living Environment
5.2g The health, growth, and development of organisms are affected by environmental conditions such as the availability of food, air, water, space, shelter, heat, and sunlight.
Chapter 1, Lesson 1, Video A, SE page 3; Video B, SE page 4; Video C, SE page 5 **Chapter 2, Lesson 2, Video C, SE page 27**

Standard 4: The Living Environment
5.3a Humans need a variety of healthy foods, exercise, and rest in order to grown and maintain good health.
Chapter 3, Lesson 1, Video A, SE page 47; Video B, SE page 48; Video C, SE page 49; Process Skill, SE page 51; KnowZone, SE pages 52-53

Standard 4: The Living Environment
5.3b Good health habits include hand washing and personal cleanliness; avoiding harmful substances (including alcohol, tobacco, illicit drugs); eating a balanced diet; engaging in regular exercise.
Chapter 3, Lesson 1, Video A, SE page 47; Video B, SE page 48; Video C, SE page 49; Process Skill, SE page 51; KnowZone, SE pages 52-53

Standard 4: The Living Environment
6.1a Green plants are producers because they provide the basic food supply for themselves and animals.
Chapter 2, Lesson 2, Video A, SE page 31; Video C, SE page 33; LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48

Standard 4: The Living Environment
6.1b All animals depend on plants. Some animals (predators) eat other animals (prey).
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

Standard 4: The Living Environment
6.1c Animals eat plants for food may in turn become food for other animals. This sequence is called a food chain.
Chapter 2, Lesson 2, Video A, SE page 31; Video C, SE page 33; LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48

Standard 4: The Living Environment
6.1d Decomposers are living things that play a vital role in recycling nutrients.
Chapter 2, Lesson 2, Video C, SE page 33 **Chapter 3, Lesson 2, Video B, SE page 56; LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66**

Standard 4: The Living Environment
6.1e An organism's pattern of behavior is related to the nature of that organism's environment, including the kinds and numbers of other organisms present, the availability of food and other resources, and the physical characteristics of the environment.
Chapter 2, Lesson 1, Video B, SE page 26; Video C, SE page 27; KnowZone, SE page 36-37 **Chapter 3, Lesson 1, Video A, SE page 39; Lesson 3, Video C, SE page 63**

Standard 4: The Living Environment
6.1f When the environment changes, some plants and animals survive and reproduce, and others die or move to new locations.
Chapter 2, Lesson 2, Video C, SE page 27; Lesson 3, Process Skill, SE page 5 **Chapter 3, Lesson 1, Video A, SE page 39; Lesson 3, Video B, SE page 62; Video C, SE page 63**

Standard 4: The Living Environment
6.2a Plants manufacture food by utilizing air, water, and energy from the Sun.
Chapter 2, Lesson 2, Video A, SE page 31; Video B, SE page 32

Standard 4: The Living Environment
6.2b The Sun's energy is transferred on Earth from plants to animals through the food chain.
Chapter 1, Lesson 1, Video B, SE page 4 **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**

Standard 4: The Living Environment
6.2c Heat energy from the Sun powers the water cycle.
Chapter 5, Lesson 2, Video B, SE page 100 **The Water Cycle, SE page 204**

Standard 4: The Living Environment
7.1a Humans depend on their natural and constructed environments.
Chapter 3, Lesson 1, Video A, SE page 47; Video B, SE page 48; Video C, SE page 49; Lesson 3, Video A, SE page 61 **Chapter 4, Lesson 2, Video C, SE page 77; Lesson 3, Video A, SE page 83; Video B, SE page 84; Video C, SE page 85** **Chapter 5, Lesson 2, Video C, SE page 101** **Chapter 9, Lesson 3, Video C, SE page 195**

Standard 4: The Living Environment
7.1b Over time humans have changed their environment by cultivating crops and raising animals, creating shelter, using energy, manufacturing goods, developing means of transportation, changing populations, and carrying out other activities.
Chapter 3, Lesson 3, Video A, SE page 61; Video C, SE page 63 **Chapter 4, Lesson 3, Video A, SE page 83; Video B, SE page 84**

Standard 4: The Living Environment
7.1c Humans, as individuals or communities, change environments in ways that can be either helpful or harmful for themselves and other organisms.
Chapter 2, Lesson 1, Video C, SE page 27 **Chapter 3, Lesson 3, Video A, SE page 61; Video C, SE page 63**

SRA Snapshots Video Science™: Level B
correlation to
New York Science Core Curriculum
Grade 4

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1.1a Natural cycles and patterns include: • Earth spinning around once every 24 hours (rotation), resulting in day and night • Earth moving in a path around the Sun (revolution), resulting in one Earth year • The length of daylight and darkness varying with the seasons • Weather changing from day to day and through the seasons • The appearance of the Moon changing as it moves in a path around Earth to complete a single cycle.
Chapter 5, Lesson 1, Video A, SE page 91 **Chapter 6, Lesson 1, Video B, SE page 114; Video C, SE page 115; Process Skill, SE page 117**

Standard 4: The Physical Setting
1.1b Humans organize time into units based on natural motions of Earth: • Second, minute, hour • Week, month.
Chapter 6, Lesson 1, Video B, SE page 114; Video C, SE page 115

Standard 4: The Physical Setting
1.1c The Sun and other stars appear to move in a recognizable pattern both daily and seasonally.
Chapter 6, Lesson 1, Video A, SE page 113

Standard 4: The Physical Setting
2.1a Weather is the condition of the outside air at a particular time.
Chapter 5, Lesson 2, Video B, SE page 98; Video C, SE page 99; Process Skill, SE page 101

Standard 4: The Physical Setting
2.1b Weather can be described and measured by: • Temperature • Wind speed and direction • Form and amount of precipitation • General sky conditions (cloudy, sunny, partly cloudy).
Chapter 5, Lesson 1, Video B, SE page 92; Lesson 2, Video B, SE page 98; Video C, SE page 99; Process Skill, SE page 101

Standard 4: The Physical Setting
2.1c Water is recycled by natural processes on Earth: • Evaporation: changing of water (liquid) into water vapor (gas) • Condensation: changing of water vapor (gas) into water (liquid) • Precipitation: rain, sleet, snow, hail • Runoff: water flowing on Earth's surface • Groundwater: water that moves downward into the ground.
Chapter 6, Lesson 1, Video A, SE page 91; Video B, SE page 92

Standard 4: The Physical Setting
2.1d Erosion and deposition result from the interaction among air, water, and land. • Interaction between air and water breaks down earth materials • Pieces of earth material may be moved by air, water, wind, and gravity • Pieces of earth materials will settle or deposit on land or in the water in different places • Soil is composed of broken-down pieces of living and nonliving earth material.
Chapter 4, Lesson 2, Video A, SE page 75; Video C, SE page 77

Standard 4: The Physical Setting
2.1e Extreme natural events (floods, fires, earthquakes, volcanic eruptions, hurricanes, tornadoes, and other severe storms) may have positive or negative impacts on living things.
Chapter 3, Lesson 3, Video A, SE page 31

Standard 4: The Physical Setting
3.1a Matter takes up space and has mass. Two objects cannot occupy the same place at the same time.
Chapter 7, Lesson 1, Video A, SE page 135; Video B, SE page 136

Standard 4: The Physical Setting
3.1b Matter has properties (color, hardness, odor, sound, taste, etc.) that can be observed through the senses.
Chapter 7, Lesson 1, Video A, SE page 135; Video B, SE page 136; Video C, SE page 137

Standard 4: The Physical Setting
3.1c Objects have properties that can be observed, described, and/or measured: length, width, volume, size, shape, mass, or weight, temperature, texture, flexibility, reflectiveness of light.
Chapter 7, Lesson 2, Video A, SE page 143; Video B, SE page 144; Video C, SE page 145; Process Skill, SE page 147 **The Metric System, SE pages 200-201**

Standard 4: The Physical Setting
3.1d Measurements can be made with standard metric units and nonstandard units.
Chapter 6, Lesson 2, Video C, SE page 99 **Chapter 7, Lesson 2, Video A, SE page 143; Video B, SE page 144; Video C, SE page 145; Process Skill, SE page 147** **The Metric System, SE pages 200-201**

Standard 4: The Physical Setting
3.1e The material(s) an object is made up of determine some specific properties of the object (sink/float, conductivity, magnetism). Properties can be observed or measured with tools such as hand lenses, metric rulers, thermometers, balances, magnets, circuit testers, and graduated cylinders.
Chapter 7, KnowZone, SE pages 140-141; Lesson 2, Video A, SE page 143; Video B, SE page 144; Video C, SE page 145; Process Skill, SE page 147 **Chapter 9, Lesson 2, Video A, SE page 185**

Standard 4: The Physical Setting
3.1f Objects and/or materials can be sorted or classified according to their properties.
Chapter 4, Lesson 2, Video B, SE page 76; Process Skill, SE page 79; Lesson 3, Video A, SE page 81; Video B, SE page 82; Video C, SE page 83; Process Skill, SE page 85 **Chapter 7, Lesson 2, Video A, SE page 149**

Standard 4: The Physical Setting
3.1g Some properties of an object are dependent on the conditions of the present surroundings in which the object exists. For example: • Temperature-hot or cold • Lighting-shadows, color • Moisture-wet or dry.
Chapter 7, Lesson 1, Video C, SE page 177; Process Skill, SE page 139

Standard 4: The Physical Setting
3.2a Matter exists in three states: solid, liquid, gas. • Solids have a definite shape and volume • Liquids do not have a definite shape but have a definite volume • Gases do not hold their shape or volume.
Chapter 7, Lesson 1, Video C, SE page 177; Process Skill, SE page 139

Standard 4: The Physical Setting
3.2b Temperature can affect the state of matter of a substance.
Chapter 7, Lesson 1, Video C, SE page 177; Process Skill, SE page 139

Standard 4: The Physical Setting
3.2c Changes in the properties or materials of objects can be observed and described.
Chapter 7, Lesson 3, Video B, SE page 150; Video C, SE page 151

Standard 4: The Physical Setting
4.1a Energy exists in various forms: heat, electric, sound, chemical, mechanical, light.
Chapter 8, Lesson 1, Video A, SE page 157; Lesson 2, Video A, SE page 163 **Chapter 9, Lesson 1, Video A, SE page 179; Lesson 3, Video A, SE page 191**

Standard 4: The Physical Setting
4.1b Energy can be transferred from one place to another.
Chapter 8, Lesson 1, Video B, SE page 158; Lesson 2, Video B, SE page 164 **Chapter 9, Lesson 2, Video B, SE page 186**

Standard 4: The Physical Setting
4.1c Some materials transfer energy better than others (heat and electricity).
Chapter 9, Lesson 1, Video B, SE page 180

Standard 4: The Physical Setting
4.1d Energy and matter interact: water is evaporated by the Sun's heat; a bulb is lighted by means of electrical current; a musical instrument is played to produce sound; dark colors may absorb light, light colors may reflect light.
Chapter 7, Lesson 3, video C, SE page 151 **Chapter 8, Lesson 1, Video A, SE page 157; Video B, SE page 158; Video C, SE page 159; Lesson 3, Video A, SE page 163; Video B, SE page 164; Video C, SE page 165; Lesson 3, Video A, SE page 171; Video B, SE page 172; Video C, SE page 173** **Chapter 9, Lesson 1, Video A, SE page 179; Video B, SE page 180; Video C, SE page 181; Lesson 2, Video A, SE page 185; Video B, SE page 186; Video C, SE page 187; Lesson 3, Video A, SE page 191; Video C, SE page 193**

Standard 4: The Physical Setting
4.1e Electricity travels in a closed circuit.
Chapter 9, Lesson 1, Video C, SE page 181

Standard 4: The Physical Setting
4.1f Heat can be released in many ways, for example, by burning, rubbing (friction), or combining one substance with another.
Chapter 16, Lesson 1, Video A, SE page 113

Standard 4: The Physical Setting
4.1g Interactions with forms of energy can be either helpful or harmful.
Chapter 8, Lesson 1, Critical Thinking, SE page 161; Lesson 2, Video B, SE page 164; Video C, SE page 165 **Chapter 9, Lesson 1, Video B, SE page 180; Lesson 3, Video B, SE page 192; Video C, SE page 193**

Standard 4: The Physical Setting
4.2a Everyday events involve one form of energy being changed to another. • Animals convert food to heat and motion • The Sun's energy warms the air and water.
Chapter 2, Lesson 1, Video A, SE page 25; Lesson 2, Video A, SE page 31; Video B, SE page 32; Video C, SE page 33; Writing in Science, SE page 35; Process Skill, SE page 35 **Chapter 5, Lesson 3, Video A, SE page 105; Video B, SE page 106; Video C, SE page 197; Process Skill, SE page 109**

Standard 4: The Physical Setting
4.2b Humans utilize interactions between matter and energy. • Chemical to electrical, light and heat; battery and bulb • Electrical to sound (e.g., doorbell buzzer) • Mechanical to sound (e.g., musical instruments, clapping) • Light to electrical (e.g., solar-powered calculator).
Chapter 8, Lesson 3, Video B, SE page 172 **Chapter 9, Lesson 1, Video B, SE page 180; Video C, SE page 181; Lesson 2, Video B, SE page 186; Video C, SE page 187; Lesson 3, Video A, SE page 191; Video B, SE page 192**

Standard 4: The Physical Setting
5.1a The position of an object can be described by locating it relative to another object or the background (e.g., on top of, next to, over, under, etc.).
Chapter 8, Lesson 2, Video A, SE page 171

Standard 4: The Physical Setting
5.1b The position or direction of motion of an object can be changed by pushing or pulling.
Chapter 8, Lesson 2, Video A, SE page 171

Standard 4: The Physical Setting
5.1c The force of gravity pulls objects toward the center of Earth.
Chapter 5, Lesson 2, Video A, SE page 97 **Chapter 7, Lesson 2, Video A, SE page144** **Chapter 8, Lesson 3, Video A, SE page 171**

Standard 4: The Physical Setting
5.1d The amount of change in the motion of an object is affected by friction.
Chapter 8, Lesson 2, Video A, SE page 171

Standard 4: The Physical Setting
5.1e Magnetism is a force that may attract or repel certain materials.
Chapter 8, Lesson 2, Video A, SE page 185; Video B, SE page 186

Standard 4: The Physical Setting
5.1f Mechanical energy may cause change in motion through the application of force through the use of simple machines such as pulleys, levers, and inclined planes.
Chapter 8, Lesson 3, Video C, SE page 173; Process Skill, SE page 175

Standard 4: The Physical Setting
5.2a The forces of gravity and magnetism can affect objects through gases, liquids, and solids.
Chapter 6, Lesson 1, Video C, SE page 115 **Chapter 8, Lesson 2, Video A, SE page 185; Video B, SE page 186**

Standard 4: The Physical Setting
5.2b The force of magnetism on objects decreases as distance increases.
Chapter 8, Lesson 2, Video A, SE page 185; Video B, SE page 186

Standard 4: The Living Environment
1.1a Animals need air, water, and food in order to live and thrive.
Chapter 2, Lesson 1, Video B, SE page 26; Lesson 2, Video B, SE page 32; Video C, SE page 33 **Chapter 5, Lesson 1, Video C, SE page 93; Lesson 2, Video A, SE page 97**

Standard 4: The Living Environment
1.1b Plants require air, water, nutrients, and light in order to live and thrive.
Chapter 1, Lesson 3, Video B, SE page 18 **Chapter 2, Lesson 1, Video B, SE page 26; Lesson 2, Video A, SE page 31** **Chapter 5; Lesson 1, Video C, SE page 93; Lesson 2, Video A, SE page 97**

Standard 4: The Living Environment
1.1c Nonliving things do not live and thrive.
Chapter 2, Lesson 1, Video A, SE page 25

Standard 4: The Living Environment
1.1d Nonliving things can be human-created or naturally occurring.
Chapter 2, Lesson 1, Video A, SE page 25

Standard 4: The Living Environment
1.2a Living things grow, take in nutrients, breathe, reproduce, eliminate wastes, and die.
Chapter 1, Lesson 1, Video A, SE page 3

Standard 4: The Living Environment
2.1a Some traits of living things have been inherited (e.g., color of flowers and number of limbs of animals).
Chapter 1, Lesson 1, Video B, SE page 4; Lesson 2, Video C, SE page 11

Standard 4: The Living Environment
2.1b Some characteristics result from an individual's interactions with the environment and cannot be inherited by the next generation (e.g., having scars; riding a bicycle).
Chapter 1, Lesson 1, Video B, SE page 4; Lesson 2, Video C, SE page 11

Standard 4: The Living Environment
2.2a Plants and animals closely resemble their parents and other individuals in their species.
Chapter 1, Lesson 3, Video C, SE page 19

Standard 4: The Living Environment
2.2b Plants and animals can transfer specific traits to their offspring when they reproduce.
This concept is not covered at this level.

Standard 4: The Living Environment
3.1a Each animal has different structures that serve different functions in growth, survival, and reproduction. • Wings, legs, or fins enable some animals to seek shelter and escape predators • The mouth, including teeth, jaws, and tongue, enables some animals to eat and drink • Eyes, nose, ears, tongue, and skin of some animals enable the animals to sense their surroundings • Claws, shells, spines, feathers, fur, scales, and color of body covering enable some animals to protect themselves from predators and other environmental conditions, or enable them to obtain food • Some animals have parts that are used to produce sounds and smells to help the animal meet its needs • The characteristics of some animals change as seasonal conditions change (e.g., fur grows and is shed to help regulate body heat; body fat is a form of stored energy and it changes as the seasons change).
Chapter 1, KnowZone, SE pages 14-15 **Chapter 2, KnowZone, SE pages 36-37**

Standard 4: The Living Environment
3.1b Each plant has different structures that serve different functions in growth, survival, and reproduction. • Roots help support the pant and take in water and nutrients • Leaves help plants utilize sunlight to make food for the plant • Stems, stalks, trunks, and other similar structures provide support for the plant • Some plants have flowers • Flowers are reproductive structures of plants that produce fruit which contains seeds • Seeds contain stored food that aids in germination and the growth of young plants.
Chapter 1, Lesson 3, Video A, SE page 17; Video B, SE page 18

Standard 4: The Living Environment
3.1c In order to survive in their environment, plants and animals must be adapted to that environment. • Seeds disperse by a plant's own mechanism and/or in a variety of ways that can include wind, water, and animals • Leaf, flower, stem, and root adaptations may include variations in size, shape, thickness, color, smell, and texture • Animal adaptations include coloration for warning or attraction, camouflage, defense mechanisms, movement, hibernation, and migration.
Chapter 1, Lesson 2, Video C, SE page 11 **Chapter 3, Lesson 1, Video C, SE page 49; KnowZone, SE page 52-53**

Standard 4: The Living Environment
3.2a Individuals within a species may compete with each other for food, mates, space, water, and shelter in their environments.
Chapter 3, Lesson 1, Video A, SE page 47; Video B, SE page 48; Lesson 2, Video C, SE page 57; Lesson 3, Video B, SE page 62

Standard 4: The Living Environment
3.2b All individuals have variations, and because of these variations individuals of a species may have an advantage in surviving and reproducing.
Chapter 1, Lesson 2, Video C, SE page 11

Standard 4: The Living Environment
4.1a Plants and animals have life cycles. These may include beginning of a life, development into an adult, and eventually death.
Chapter 1, Lesson 3, Video C, SE page 19

Standard 4: The Living Environment
4.1b Each kind of plant goes through its own stages of growth and development that may include seed, young plant, and mature plant.
Chapter 1, Lesson 3, Video C, SE page 19

Standard 4: The Living Environment
4.1c The length of time from beginning of development to death of the plant is called its life span.
Chapter 1, Lesson 3, Video C, SE page 19

Standard 4: The Living Environment
4.1d Life cycles of some plants include changes from seed to mature plant.
Chapter 1, Lesson 3, Video C, SE page 19

Standard 4: The Living Environment
4.1e Each generation of animal goes through changes in form from young to adult. This completed sequence of changes in form is called a life cycle. Some insects change from egg to larva to pupa to adult.
See Level A: **Chapter 1, Lesson 3, Video A, SE page 17; Video B, SE page 18; Process Skill, SE page 21** **See also Level C:** **Chapter 2, Lesson 2, Video A, SE page 31; KnowZone, SE pages 36-37**

Standard 4: The Living Environment
4.1f Each kind of animal goes through its own stages of growth and development during its life span.
See Level A: **Chapter 1, Lesson 3, Video A, SE page 17; Video B, SE page 18; Process Skill, SE page 21** **See also Level C:** **Chapter 2, Lesson 2, Video A, SE page 31; KnowZone, SE pages 36-37**

Standard 4: The Living Environment
4.1g The length of time from an animal's birth to its death is called its life span. Life spans of different animals vary.
See Level A: **Chapter 1, Lesson 3, Video A, SE page 17; Video B, SE page 18; Process Skill, SE page 21** **See also Level C:** **Chapter 2, Lesson 2, Video A, SE page 31; KnowZone, SE pages 36-37**

Standard 4: The Living Environment
4.2a Growth is the process by which plants and animals increase in size.
Level B: **Chapter 1, Lesson 1, Video A, SE page 3; Lesson 3, Video C, SE page 19** **See also Level A:** **Chapter 1, Lesson 3, Video A, SE page 17; Video B, SE page 18; Process Skill, SE page 21** **See also Level C:** **Chapter 2, Lesson 2, Video A, SE page 31; KnowZone, SE pages 36-37**

Standard 4: The Living Environment
4.2b Food supplies the energy and materials necessary for growth and repair.
Chapter 1, Lesson 1, Video A, SE page 3 **Chapter 2, Lesson 1, Video A, SE page 25; Lesson 2, Video A, SE page 31; Video B, SE page 32; Video C, SE page 33; Lesson 3, Video A, SE page 39; Video B, SE page 40; Video C, SE page 41**

Standard 4: The Living Environment
5.1a All living things grow, take in nutrients, breathe, reproduce, and eliminate waste.
Chapter 1, Lesson1, video A, SE page 3; Lesson 3, Video B, SE page 18 **Chapter 2, Lesson 1, Video A, SE page 25; Lesson 2, Video A, SE page 31**

Standard 4: The Living Environment
5.1b An organism's external physical features can enable it to carry out life functions in its particular environment.
Chapter 1, Lesson 2, Video A, SE page 9; Video B, SE page 10; KnowZone, SE pages 14-15; Lesson 3, Video A, SE page 17; Video B, SE page 18; Video C, SE page 19 **Chapter 2, KnowZone, SE pages 36-37**

Standard 4: The Living Environment
5.2a Plants respond to changes in their environment. For example, the leaves of some green plants change position as the direction of light changes; the parts of some plants undergo seasonal changes that enable the plant to grow; seeds germinate, and leave form and grow.
Chapter 1, Lesson 3, Video A, SE page 17; Video B, SE page 18; Video C, SE page 19

Standard 4: The Living Environment
5.2b Animals respond to change in their environment (e.g., perspiration, heart rate, breathing rate, eye blinking, shivering, and salivating).
Chapter 3, Lesson 1, Video C, SE page 49; KnowZone, SE pages 52-53; Lesson 2, Video C, SE page 57; Lesson 3, Video A, SE page 61; Video B, SE page 62; Video C, SE page 63

Standard 4: The Living Environment
5.2c Senses provide essential information (regarding danger, food, mates, etc.) to animals about their environments.
Chapter 1, Lesson 1, Video A, SE page 3; Lesson 2, Video C, SE page 11 **Chapter 2, Lesson 1, Video B, SE page 26**

Standard 4: The Living Environment
5.2d Some animals, including humans, move from place to place to meet their needs.
Chapter 2, Lesson 1, Video B, SE page 26 **Chapter 3, Lesson 1, Video C, SE page 49; KnowZone, SE pages 52-53**

Standard 4: The Living Environment
5.2e Particular animal characteristics are influenced by changing environmental conditions including: fat storage in winter, coat thickness in winter, camouflage, shedding of fur.
Chapter 1, Lesson 2, Video C, SE page 11

Standard 4: The Living Environment
5.2f Some animal behaviors are influenced by environmental conditions. These behaviors may include: nest building, hibernating, hunting, migrating, and communicating.
Chapter 3, Lesson 1, Video C, SE page 49; KnowZone, SE pages 52-53

Standard 4: The Living Environment
5.2g The health, growth, and development of organisms are affected by environmental conditions such as the availability of food, air, water, space, shelter, heat, and sunlight.
Chapter 2, Lesson 2, Video A, SE page 31; Lesson 3, Video C, SE page 41 **Chapter 3, Lesson 2, Video C, SE page 57; Lesson 3, Video A, SE page 61; Video B, SE page 62; Video C, SE page 63**

Standard 4: The Living Environment
5.3a Humans need a variety of healthy foods, exercise, and rest in order to grown and maintain good health.
See Level A: **Chapter 3, Lesson 1, Video A, SE page 47; Video B, SE page 48; Video C, SE page 49; Process Skill, SE page 51; KnowZone, SE pages 52-53**

Standard 4: The Living Environment
5.3b Good health habits include hand washing and personal cleanliness; avoiding harmful substances (including alcohol, tobacco, illicit drugs); eating a balanced diet; engaging in regular exercise.
See Level A: **Chapter 3, Lesson 1, Video A, SE page 47; Video B, SE page 48; Video C, SE page 49; Process Skill, SE page 51; KnowZone, SE pages 52-53**

Standard 4: The Living Environment
6.1a Green plants are producers because they provide the basic food supply for themselves and animals.
Chapter 1, Lesson 3, Video B, SE page 18 **Chapter 2, Lesson 2, Video A, SE page 31; Writing in Science, SE page 35; Process Skill, SE page 35; Lesson 3, Video A, SE page 39**

Standard 4: The Living Environment
6.1b All animals depend on plants. Some animals (predators) eat other animals (prey).
Chapter 2, Lesson 2, Video A, SE page 31; Video B, SE page 32; Video C, SE page 33; Writing in Science, SE page 35; Process Skill, SE page 35; Lesson 3, Video A, SE page 49; Video B, SE page 40

Standard 4: The Living Environment
6.1c Animals eat plants for food may in turn become food for other animals. This sequence is called a food chain.
Chapter 2, Lesson 2, Video B, SE page 32; Writing in Science, SE page 35; Process Skill, SE page 35; Lesson 3, Video A, SE page 49; Video B, SE page 40

Standard 4: The Living Environment
6.1d Decomposers are living things that play a vital role in recycling nutrients.
Chapter 12, Lesson 2, Video C, SE page 33; Writing in Science, SE page 35; Process Skill, SE page 35

Standard 4: The Living Environment
6.1e An organism's pattern of behavior is related to the nature of that organism's environment, including the kinds and numbers of other organisms present, the availability of food and other resources, and the physical characteristics of the environment.
Chapter 3, Lesson 1, Video A, SE page 47; Video B, SE page 48; Video C, SE page 49; Process Skill, SE page 51; KnowZone, SE pages 52-53; Lesson 3, Video A, SE page 61; Video B, SE page 62; Video C, SE page 63

Standard 4: The Living Environment
6.1f When the environment changes, some plants and animals survive and reproduce, and others die or move to new locations.
Chapter 1, Lesson 1, Video C, SE page 5 **Chapter 2, Lesson 1, Video B, SE page 26; Lesson 3, Video C, SE page 41; Process Skill, SE page 43** **Chapter 3, Lesson 2, Video C, SE page 57; Lesson 3, Video A, SE page 61; Video B, SE page 62; Video C, SE page 63; Math in Science, SE page 65**

Standard 4: The Living Environment
6.2a Plants manufacture food by utilizing air, water, and energy from the Sun.
Chapter 1, Lesson 3, Video B, SE page 18 **Chapter 2, Lesson 2, Video A, SE page 31; Lesson 3, Video A, SE page 39**

Standard 4: The Living Environment
6.2b The Sun's energy is transferred on Earth from plants to animals through the food chain.
Chapter 2, Lesson 2, Video A, SE page 31; Video B, SE page 32; Video C, SE page 33; Writing in Science, SE page 35; Process Skill, SE page 35; Lesson 3, Video A, SE page 39; Video B, SE page 40

Standard 4: The Living Environment
6.2c Heat energy from the Sun powers the water cycle.
Chapter 5, Lesson 1, Video A, SE page 91

Standard 4: The Living Environment
7.1a Humans depend on their natural and constructed environments.
Chapter 4, Lesson 3, Video C, SE page 83 **Chapter 5, Lesson 1, Video C, SE page 93**

Standard 4: The Living Environment
7.1b Over time humans have changed their environment by cultivating crops and raising animals, creating shelter, using energy, manufacturing goods, developing means of transportation, changing populations, and carrying out other activities.
Chapter 2, Lesson 1, Video B, SE page 26 **Chapter 3, Lesson 1, Video C, SE page 49; Lesson 2, Video C, SE page 57; Lesson 3, Video B, SE page 62; Video C, SE page 63**

Standard 4: The Living Environment
7.1c Humans, as individuals or communities, change environments in ways that can be either helpful or harmful for themselves and other organisms.
Chapter 1, Lesson 1, Video C, SE page 5 **Chapter 2, Lesson 1, Video B, SE page 26; Lesson 3, Video C, SE page 41; Process Skill, SE page 43** **Chapter 3, Lesson 1, Video C, SE page 49; Lesson 2, Video 2, SE page 57; Lesson 3, Video V, SE page 62; Video C, SE page 63**

SRA Snapshots Video Science™: Level C
correlation to
New York Science Core Curriculum
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

Standard 4: The Physical Setting
Key Idea 1: The Earth and celestial phenomena can be described by principles of relative motion and perspective.
Explain daily, monthly, and seasonal changes on Earth. 1.1a Earth's Sun is an average-sized star. The Sun is more than a million times greater in volume than Earth.
Chapter 6, Lesson 1, Video A, SE page 113

Standard 4: The Physical Setting
Key Idea 1: The Earth and celestial phenomena can be described by principles of relative motion and perspective.
Explain daily, monthly, and seasonal changes on Earth. 1.1b Other stars are like the Sun but are so far away that they look like points of light. Distances between stars are vast compared to distances within out solar system.
Chapter 6, Lesson 1, Video A, SE page 113

Standard 4: The Physical Setting
Key Idea 1: The Earth and celestial phenomena can be described by principles of relative motion and perspective.
Explain daily, monthly, and seasonal changes on Earth. 1.1c The Sun and the planets that revolve around it are the major bodies in the solar system. Other members include comets, moon, and asteroids. Earth's orbit is nearly circular.
Chapter 6, Lesson 1, Video A, SE page 113; Video B, SE page 114; Video C, SE page 115

Standard 4: The Physical Setting
Key Idea 1: The Earth and celestial phenomena can be described by principles of relative motion and perspective.
Explain daily, monthly, and seasonal changes on Earth. 1.1d Gravity is the force that keeps planets in orbit around the Sun and the Moon in orbit around the Earth.
Chapter 6, Lesson 1, Video B, SE page 114; LabTime Hands-On Activity 6, TRB pages 105-107, TG page 120

Standard 4: The Physical Setting
Key Idea 1: The Earth and celestial phenomena can be described by principles of relative motion and perspective.
Explain daily, monthly, and seasonal changes on Earth. 1.1e Most objects in the solar system have a regular and predictable motion. These motions explain such phenomena as a day, a year, phases of the Moon, eclipses, tides, meteor showers, and comets.
Chapter 6, Lesson 2, Video A, SE page 121; Video B, SE page 122; Video C, SE page 123 **Earth in Space, SE page 205**

Standard 4: The Physical Setting
Key Idea 1: The Earth and celestial phenomena can be described by principles of relative motion and perspective.
Explain daily, monthly, and seasonal changes on Earth. 1.1f The latitude/longitude coordinate system and our system and time are based on celestial observations.
Chapter 3, Lesson 2, Video A, SE page 53 **Chapter 9, Lesson 2, Video A, SE page 187**

Standard 4: The Physical Setting
Key Idea 1: The Earth and celestial phenomena can be described by principles of relative motion and perspective.
Explain daily, monthly, and seasonal changes on Earth. 1.1g Moons are seen by reflected light. Our Moon orbits Earth, while Earth orbits the Sun. The moon's phases are observed from Earth are the result of seeing different portions of the lighted area of the Moon's surface. The phases repeat in a cyclic pattern in about one month.
Chapter 6, Lesson 2, Video B, SE page 122; Video C, SE page 123

Standard 4: The Physical Setting
Key Idea 1: The Earth and celestial phenomena can be described by principles of relative motion and perspective.
Explain daily, monthly, and seasonal changes on Earth. 1.1h The apparent motions of the Sun, moon, planets, and stars across the sky can be explained by Earth's rotation and revolution. Earth's rotation causes the length of one day to be approximately 24 hours. This rotation also causes the Sun and Moon to appear to rise along the eastern horizon and to set along the western horizon. Earth's revolution around the Sun defines the length of the year as 365 ¼ days.
Chapter 6, Lesson 2, Video A, SE page 121

Standard 4: The Physical Setting
Key Idea 1: The Earth and celestial phenomena can be described by principles of relative motion and perspective.
Explain daily, monthly, and seasonal changes on Earth. 1.1i The tilt of Earth's axis of rotation and the revolution of Earth around the Sun cause seasons on earth. The length of daylight varies depending on latitude and season.
Chapter 6, Lesson 2, Video A, SE page 121 **Climate Zones, SE page 205**

Standard 4: The Physical Setting
Key Idea 1: The Earth and celestial phenomena can be described by principles of relative motion and perspective.
Explain daily, monthly, and seasonal changes on Earth. 1.1j The shape of Earth, the other planets, and stars is nearly spherical.
Chapter 6, Lesson 1, Video B, SE page 114

Standard 4: The Physical Setting
Key Idea 2: Many of the phenomena that we observe on Earth involve interactions among components or air, water, and land.
Explain how the atmosphere (air), hydrosphere (water), and lithosphere (land) interact, evolve, and change. 2.1a Nearly all the atmosphere is confined to a thin shell surrounding Earth. The atmosphere is a mixture of gases, including nitrogen and oxygen with small amounts of water vapor, carbon dioxide, and other trace gases. The atmosphere is stratified into layers, each having distinct properties. Nearly all weather occurs in the lowest layer of the atmosphere.
Chapter 4, Lesson 1, Video A, SE page 69 **Chapter 5, Lesson 1, Video A, SE page 91**

Standard 4: The Physical Setting
Key Idea 2: Many of the phenomena that we observe on Earth involve interactions among components or air, water, and land.
Explain how the atmosphere (air), hydrosphere (water), and lithosphere (land) interact, evolve, and change. 2.1b As altitude increases, air pressure decreases.
Chapter 5, Lesson 1, Video A, SE page 91

Standard 4: The Physical Setting
Key Idea 2: Many of the phenomena that we observe on Earth involve interactions among components or air, water, and land.
Explain how the atmosphere (air), hydrosphere (water), and lithosphere (land) interact, evolve, and change. 2.1c The rock at Earth's surface forms a nearly continuous shell around Earth called the lithosphere.
Chapter 4, Lesson 1, Video A, SE page 69; Video B, SE page 70 **Earth's Layers, SE page 204**

Standard 4: The Physical Setting
Key Idea 2: Many of the phenomena that we observe on Earth involve interactions among components or air, water, and land.
Explain how the atmosphere (air), hydrosphere (water), and lithosphere (land) interact, evolve, and change. 2.1d The majority of the lithosphere is covered by a relatively thin layer of water called the hydrosphere.
Chapter 4, Lesson 1, Video A, SE page 69

Standard 4: The Physical Setting
Key Idea 2: Many of the phenomena that we observe on Earth involve interactions among components or air, water, and land.
Explain how the atmosphere (air), hydrosphere (water), and lithosphere (land) interact, evolve, and change. 2.1e Rocks are composed of minerals. Only a few rock-forming minerals make up most of the rocks of Earth. Minerals are identified on the basis of physical properties such as streak, hardness, and reaction to acid.
Chapter 4, Lesson 4, Video A, SE page 83; Video B, SE page 84

Standard 4: The Physical Setting
Key Idea 2: Many of the phenomena that we observe on Earth involve interactions among components or air, water, and land.
Explain how the atmosphere (air), hydrosphere (water), and lithosphere (land) interact, evolve, and change. 2.1f Fossils are usually found in sedimentary rocks. Fossils can be used to study past climates and environments.
Chapter 2, Lesson 2, Video C, SE page 27 **Chapter 4, Lesson 3, Video A, SE page 83**

Standard 4: The Physical Setting
Key Idea 2: Many of the phenomena that we observe on Earth involve interactions among components or air, water, and land.
Explain how the atmosphere (air), hydrosphere (water), and lithosphere (land) interact, evolve, and change. 2.1g The dynamic processes that wear away Earth's surface include weathering and erosion.
Chapter 4, Lesson 2, Video A, SE page 77; Video B, SE page 78; LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84

Standard 4: The Physical Setting
Key Idea 2: Many of the phenomena that we observe on Earth involve interactions among components or air, water, and land.
Explain how the atmosphere (air), hydrosphere (water), and lithosphere (land) interact, evolve, and change. 2.1h The process of weathering breaks down rocks to form sediment. Soil consists of sediment, organic material, water, and air.
Chapter 4, Lesson 2, Video A, SE page 77; Lesson 2, Video C, SE page 85

Standard 4: The Physical Setting
Key Idea 2: Many of the phenomena that we observe on Earth involve interactions among components or air, water, and land.
Explain how the atmosphere (air), hydrosphere (water), and lithosphere (land) interact, evolve, and change. 2.1i Erosion is the transport of sediment. Gravity is the driving force behind erosion. Gravity can act directly or through agents such as moving water, wind, and glaciers.
Chapter 4, Lesson 2, Video A, SE page 77; Video B, SE page 78; Video C, SE page 79

Standard 4: The Physical Setting
Key Idea 2: Many of the phenomena that we observe on Earth involve interactions among components or air, water, and land.
Explain how the atmosphere (air), hydrosphere (water), and lithosphere (land) interact, evolve, and change. 2.1j Water circulates through the atmosphere, lithosphere, and hydrosphere in what is known as the water cycle.
Chapter 5, Lesson 2, Video A, SE page 97; Video B, SE page 98; Video C, SE page 99; Process Skill, SE page 101 The Water Cycle, SE page 204

Standard 4: The Physical Setting
Key Idea 2: Many of the phenomena that we observe on Earth involve interactions among components or air, water, and land.
Describe volcano and earthquake patterns, the rock cycle, and weather and climate changes. 2.2a The interior of Earth is hot. Heat flow and movement of material within Earth cause sections of Earth's crust to move. This may result in earthquakes, volcanic eruption, and the creation of mountains and ocean basins.
Chapter 4, Lesson 1, Video B, SE page 70; Video C, SE page 71; Process Skill, SE page 73; KnowZone, SE pages 74-75

Standard 4: The Physical Setting
Key Idea 2: Many of the phenomena that we observe on Earth involve interactions among components or air, water, and land.
Describe volcano and earthquake patterns, the rock cycle, and weather and climate changes. 2.2b Analysis of earthquake wave data (vibration disturbances) leads to the conclusion that there are layers within Earth. These layers—the crust, mantle, outer core, and inner core—have distinct properties.
Chapter 4, Lesson 1, Video B, SE page 70; Video C, SE page 71; KnowZone, Se pages 74-75

Standard 4: The Physical Setting
Key Idea 2: Many of the phenomena that we observe on Earth involve interactions among components or air, water, and land.
Describe volcano and earthquake patterns, the rock cycle, and weather and climate changes. 2.2c Folded, tilted, faulted, and displaced rock layers suggest past crustal movement.
Chapter 4, Lesson 1, Video B, SE page 70

Standard 4: The Physical Setting
Key Idea 2: Many of the phenomena that we observe on Earth involve interactions among components or air, water, and land.
Describe volcano and earthquake patterns, the rock cycle, and weather and climate changes. 2.2d Continents fitting together like puzzle parts and fossils correlations provided initial evidence that continents were once together.
Chapter 4, Lesson 1, Video B, SE page 70; Video C, SE page 71

Standard 4: The Physical Setting
Key Idea 2: Many of the phenomena that we observe on Earth involve interactions among components or air, water, and land.
Describe volcano and earthquake patterns, the rock cycle, and weather and climate changes. 2.2e The Theory of Plate Tectonics explains how the "solid" lithosphere consists to a series of plates that "float" on the partially molten section of the mantle. Convection cells within the mantle may be the driving force for the movement of the plates.
Chapter 4, Lesson 1, Video B, SE page 70; Video C, SE page 71; Process Skill, SE page 73

Standard 4: The Physical Setting
Key Idea 2: Many of the phenomena that we observe on Earth involve interactions among components or air, water, and land.
Describe volcano and earthquake patterns, the rock cycle, and weather and climate changes. 2.2f Plates may collide, move apart, or slide past one another. Most volcanic activity and mountain building occur at the boundaries of these plates, often resulting in earthquakes.
Chapter 4, Lesson 1, Video B, SE page 70; Video C, SE page 71; KnowZone, Se pages 74-75

Standard 4: The Physical Setting
Key Idea 2: Many of the phenomena that we observe on Earth involve interactions among components or air, water, and land.
Describe volcano and earthquake patterns, the rock cycle, and weather and climate changes. 2.2g Rocks are classified according to their method of formation. The three classes of rocks are sedimentary, metamorphic, and igneous. Most rocks show characteristics that give clues to their formation conditions.
Chapter 4, Lesson 3, Video A, SE page 83; Writing in Science, SE page 87

Standard 4: The Physical Setting
Key Idea 2: Many of the phenomena that we observe on Earth involve interactions among components or air, water, and land.
Describe volcano and earthquake patterns, the rock cycle, and weather and climate changes. 2.2h The rock cycle models show how types of rock or rock material may be transformed from one type to another.
Chapter 4, Lesson 3, Video C, SE page 83; Writing in Science, SE page 87 **See also Level B:** **Chapter 4, Lesson 2, Video C, SE page 77; LabTime Hands-On Activity 4, TRB pages 69-71, TG page 84**

Standard 4: The Physical Setting
Key Idea 2: Many of the phenomena that we observe on Earth involve interactions among components or air, water, and land.
Describe volcano and earthquake patterns, the rock cycle, and weather and climate changes. 2.2i Weather describes the conditions of the atmosphere at a given location for a short period of time.
Chapter 5, Lesson 3, video A, SE page 103; Video B, SE page 104; Video C, SE page 105; Process Skill, SE page 107

Standard 4: The Physical Setting
Key Idea 2: Many of the phenomena that we observe on Earth involve interactions among components or air, water, and land.
Describe volcano and earthquake patterns, the rock cycle, and weather and climate changes. 2.2j Climate is the characteristic weather that prevails from season to season and year to year.
Chapter 5, Lesson 3, Video C, SE page 105

Standard 4: The Physical Setting
Key Idea 2: Many of the phenomena that we observe on Earth involve interactions among components or air, water, and land.
Describe volcano and earthquake patterns, the rock cycle, and weather and climate changes. 2.2k The uneven heating of Earth's surface is the cause of weather.
Chapter 5, Lesson 1, Video B, SE page 92

Standard 4: The Physical Setting
Key Idea 2: Many of the phenomena that we observe on Earth involve interactions among components or air, water, and land.
Describe volcano and earthquake patterns, the rock cycle, and weather and climate changes. 2.2l Air masses form when air remains nearly stationary over a large section of Earth's surface and takes on the conditions of temperature and humidity from that location. Weather conditions at a location are determined by temperature, humidity, and pressure of air masses over that location.
Chapter 5, Lesson 3, Video A, SE page 103

Standard 4: The Physical Setting
Key Idea 2: Many of the phenomena that we observe on Earth involve interactions among components or air, water, and land.
Describe volcano and earthquake patterns, the rock cycle, and weather and climate changes. 2.2m Most local weather conditions changes are caused by movement of air masses.
Chapter 5, Lesson 3, Video A, SE page 103; Video B, SE page 104

Standard 4: The Physical Setting
Key Idea 2: Many of the phenomena that we observe on Earth involve interactions among components or air, water, and land.
Describe volcano and earthquake patterns, the rock cycle, and weather and climate changes. 2.2n The movement of air masses is determined by prevailing winds and upper air currents.
Chapter 5, Lesson 2, Video B, SE page 92; Lesson 3, Video A, SE page 103

Standard 4: The Physical Setting
Key Idea 2: Many of the phenomena that we observe on Earth involve interactions among components or air, water, and land.
Describe volcano and earthquake patterns, the rock cycle, and weather and climate changes. 2.2o Fronts are boundaries between air masses. Precipitation is likely to occur at these boundaries.
Chapter 5, Lesson 3, Video A, SE page 103

Standard 4: The Physical Setting
Key Idea 2: Many of the phenomena that we observe on Earth involve interactions among components or air, water, and land.
Describe volcano and earthquake patterns, the rock cycle, and weather and climate changes. 2.2p High-pressure systems generally bring fair weather. Low-pressure systems usually bring cloudy, unstable conditions. The movement of highs and lows is from west to east across the United States.
Chapter 5, Lesson 3, Video A, SE page 103

Standard 4: The Physical Setting
Key Idea 2: Many of the phenomena that we observe on Earth involve interactions among components or air, water, and land.
Describe volcano and earthquake patterns, the rock cycle, and weather and climate changes. 2.2q Hazardous weather conditions include thunderstorms, tornadoes, hurricanes, ice storms, and blizzards. Humans can prepare for and respond to these conditions if given sufficient warning.
Chapter 5, Lesson 3, Video A, SE page 103; KnowZone, SE pages 108-109

Standard 4: The Physical Setting
Key Idea 2: Many of the phenomena that we observe on Earth involve interactions among components or air, water, and land.
Describe volcano and earthquake patterns, the rock cycle, and weather and climate changes. 2.2r Substances enter the atmosphere naturally and from human activity. Some of these substances include dust from volcanic eruptions and greenhouse gases such as carbon dioxide, methane, and water vapor. These substances can affect weather, climate, and living things.
Chapter 3, Lesson 3, Video B, SE page 62; Video C, SE page 63 **Chapter 4, Lesson 2, video A, SE page 77** **Chapter 5, Lesson 1, Video C, SE page 93; Writing in Science, SE page 95; LabTime Hands-On Activity 5, TRB pages 87-89, TG page 102**

Standard 4: The Physical Setting
Key Idea 3: Matter is made up of particles whose properties determine the observable characteristics of matter and its reactivity.
Observe and describe properties of materials, such as density, conductivity, and solubility. 3.1a Substances have characteristic properties. Some of these properties include color, odor, phase at room temperature, density, solubility, heat and electrical conductivity, hardness, and boiling and freezing points.
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 2, Video C, SE page 165; KnowZone, SE pages 168-169**

Standard 4: The Physical Setting
Key Idea 3: Matter is made up of particles whose properties determine the observable characteristics of matter and its reactivity.
Observe and describe properties of materials, such as density, conductivity, and solubility. 3.1b Solubility can be affected by the nature of the solute and solvent, temperature, and pressure. The rate of solution can be affected by the size of the particles, stirring, temperature, and the amount of solute already dissolved.
Chapter 7, Lesson 1, Video C, SE page 137

Standard 4: The Physical Setting
Key Idea 3: Matter is made up of particles whose properties determine the observable characteristics of matter and its reactivity.
Observe and describe properties of materials, such as density, conductivity, and solubility. 3.1c The motion of particles helps to explain the phases (states) of matter as well as changes from one phase to another. The phase in which matter exists depends on the attractive forces among its particles.
Chapter 7, Lesson 1, Video B, SE page 136

Standard 4: The Physical Setting
Key Idea 3: Matter is made up of particles whose properties determine the observable characteristics of matter and its reactivity.
Observe and describe properties of materials, such as density, conductivity, and solubility. 3.1d Gases have neither a determined shape nor a definite volume. Gases assume the shape and volume of a closed container.
Chapter 7, Lesson 1, Video B, SE page 136

Standard 4: The Physical Setting
Key Idea 3: Matter is made up of particles whose properties determine the observable characteristics of matter and its reactivity.
Observe and describe properties of materials, such as density, conductivity, and solubility. 3.1e A liquid has definite volume, but takes the shapes of a container.
Chapter 7, Lesson 1, Video B, SE page 136; Process Skill, SE page 139

Standard 4: The Physical Setting
Key Idea 3: Matter is made up of particles whose properties determine the observable characteristics of matter and its reactivity.
Observe and describe properties of materials, such as density, conductivity, and solubility. 3.1f A solid has definite shape and volume. Particles resist change in position.
Chapter 7, Lesson 1, Video B, SE page 136; Process Skill, SE page 139

Standard 4: The Physical Setting
Key Idea 3: Matter is made up of particles whose properties determine the observable characteristics of matter and its reactivity.
Observe and describe properties of materials, such as density, conductivity, and solubility. 3.1g Characteristic properties can be used to identify different materials, and separate a mixture of substances into its components. For example, iron can be removed from a mixture by means of a magnet. An insoluble substance can be separated from a soluble substance by such processes as filtration, settling, and evaporation.
Chapter 7, Lesson 1, Video C, SE page 137; Process Skill, SE page 139

Standard 4: The Physical Setting
Key Idea 3: Matter is made up of particles whose properties determine the observable characteristics of matter and its reactivity.
Observe and describe properties of materials, such as density, conductivity, and solubility. 3.1h Density can be described as the amount of matter that is in a given amount of space. If two objects have equal volume, but one has more mass, the one with more mass is denser.
Chapter 7, Lesson 2, Video A, SE page 143

Standard 4: The Physical Setting
Key Idea 3: Matter is made up of particles whose properties determine the observable characteristics of matter and its reactivity.
Observe and describe properties of materials, such as density, conductivity, and solubility. 3.1i Buoyancy is determined by comparative densities.
Chapter 7, Lesson 2, Video A, SE page 143

Standard 4: The Physical Setting
Key Idea 3: Matter is made up of particles whose properties determine the observable characteristics of matter and its reactivity.
Distinguish between chemical and physical changes. 3.2a During a physical change a substance keeps its chemical composition and properties. Examples of physical changes include freezing, melting, condensation, boiling, evaporation, tearing, and crushing.
Chapter 7, Lesson 2, Video C, SE page 145

Standard 4: The Physical Setting
Key Idea 3: Matter is made up of particles whose properties determine the observable characteristics of matter and its reactivity.
Distinguish between chemical and physical changes. 3.2b Mixtures are physical combinations of materials and can be separated by physical means.
Chapter 7, Lesson 1, Video C, SE page 137; Process Skill, SE page 139

Standard 4: The Physical Setting
Key Idea 3: Matter is made up of particles whose properties determine the observable characteristics of matter and its reactivity.
Distinguish between chemical and physical changes. 3.2c During a chemical change, substances react in characteristic ways to form new substances with different physical and chemical properties. Examples of chemical changes include burning of wood, cooking of an egg, rusting of iron, and souring of milk.
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; LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138

Standard 4: The Physical Setting
Key Idea 3: Matter is made up of particles whose properties determine the observable characteristics of matter and its reactivity.
Distinguish between chemical and physical changes. 3.2d Substances are often placed in categories if they react in similar ways. Examples include metals, nonmetals, and noble gases.
Chapter 7, KnowZone, SE pages 140-141

Standard 4: The Physical Setting
Key Idea 3: Matter is made up of particles whose properties determine the observable characteristics of matter and its reactivity.
Distinguish between chemical and physical changes. 3.2e The Law of Conservation of Mass states that during an ordinary chemical reaction matter cannot be created or destroyed. In chemical reactions, the total mass of the reactants equals the total mass of the products.
Chapter 7, Lesson 3, Video A, SE page 149; Video B, SE page 150

Standard 4: The Physical Setting
Key Idea 3: Matter is made up of particles whose properties determine the observable characteristics of matter and its reactivity.
Develop mental models to explain common chemical reactions and changes in states of matter. 3.3a All matter is made up of atoms. Atoms are far too small to see with a light microscope.
Chapter 7, Lesson 1, Video A, SE page 135

Standard 4: The Physical Setting
Key Idea 3: Matter is made up of particles whose properties determine the observable characteristics of matter and its reactivity.
Develop mental models to explain common chemical reactions and changes in states of matter. 3.3b Atoms and molecules are perpetually in motion. The greater the temperature, the greater the motion.
Chapter 7, Lesson 1, Video A, SE page 135 **Chapter 8, Lesson 2, Video C, SE page 165**

Standard 4: The Physical Setting
Key Idea 3: Matter is made up of particles whose properties determine the observable characteristics of matter and its reactivity.
Develop mental models to explain common chemical reactions and changes in states of matter. 3.3c Atoms may join together in well-defined molecules or may be arranged in regular geometric patterns.
Chapter 7, Lesson 1, Video A, SE page 135

Standard 4: The Physical Setting
Key Idea 3: Matter is made up of particles whose properties determine the observable characteristics of matter and its reactivity.
Develop mental models to explain common chemical reactions and changes in states of matter. 3.3d Interactions among atoms and/or molecules result in chemical reactions.
Chapter 7, Lesson 3, Video A, SE page 149; Video B, SE page 150; Video C, SE page 151

Standard 4: The Physical Setting
Key Idea 3: Matter is made up of particles whose properties determine the observable characteristics of matter and its reactivity.
Develop mental models to explain common chemical reactions and changes in states of matter. 3.3e The atoms of any one element are different from the atoms of other elements.
Chapter 7, Lesson 1, Video A, SE page 135; KnowZone, SE pages 140-141

Standard 4: The Physical Setting
Key Idea 3: Matter is made up of particles whose properties determine the observable characteristics of matter and its reactivity.
Develop mental models to explain common chemical reactions and changes in states of matter. 3.3f There are more than 100 elements. Elements combine in a multitude of ways to produce compounds that account for all living and nonliving substances. Few elements are found in their pure form.
Chapter 7, Lesson 1, Video A, SE page 135; KnowZone, SE pages 140-141; LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138

Standard 4: The Physical Setting
Key Idea 3: Matter is made up of particles whose properties determine the observable characteristics of matter and its reactivity.
Develop mental models to explain common chemical reactions and changes in states of matter. 3.3g The periodic table is one useful model for classifying elements. The periodic table can be used to predict properties of elements (metals, nonmetals, noble gases).
Chapter 7, KnowZone, SE pages 140-141; LabTime Hands-On Activity 7, TRB pages 123-125, TG page 138

Standard 4: The Physical Setting
Key Idea 4: Energy exists in many forms, and when these forms change energy is conserved.
Describe the sources and identify the transformations of energy observed in everyday life. 4.1a The Sun is a major source of energy for Earth. Other sources of energy include nuclear and geothermal energy.
Chapter 8, Lesson 1, Video A, SE page 157; Lesson 3, Video C, SE page 173

Standard 4: The Physical Setting
Key Idea 4: Energy exists in many forms, and when these forms change energy is conserved.
Describe the sources and identify the transformations of energy observed in everyday life. 4.1b Fossil fuels contain stored solar energy and are considered nonrenewable resources. They are a major source of energy in the United States. Solar energy, wind, moving water, and biomass are some examples of renewable energy resources.
Chapter 4, Lesson 3, Video C, SE page 85 **Chapter 8, Lesson 1, Video C, SE page 159; Lesson 3, video C, SE page 173**

Standard 4: The Physical Setting
Key Idea 4: Energy exists in many forms, and when these forms change energy is conserved.
Describe the sources and identify the transformations of energy observed in everyday life. 4.1c Most activities in everyday life involve one form of energy being transformed into another. For example, the chemical energy in gasoline is transformed into mechanical energy in an automobile engine. Energy, in the form of heat, is almost always one of the products of energy transformations.
Chapter 8, Lesson 1, Video A, SE page 157; Writing in Science, SE page 161; Lesson 3, Video A, SE page 171; Video B, SE page 172; Video C, SE page 173

Standard 4: The Physical Setting
Key Idea 4: Energy exists in many forms, and when these forms change energy is conserved.
Describe the sources and identify the transformations of energy observed in everyday life. 4.1d Different forms of energy include heat, light, electrical, mechanical, sound, nuclear, and chemical. Energy is transformed in many ways.
Chapter 8, Lesson 1, Video A, SE page 157; Lesson 2, Video A, SE page 163

Standard 4: The Physical Setting
Key Idea 4: Energy exists in many forms, and when these forms change energy is conserved.
Describe the sources and identify the transformations of energy observed in everyday life. 4.1e Energy can be considered to be either kinetic energy, which is the energy of motion, or potential energy, which depends on relation position.
Chapter 8, Lesson 1, Video B, SE page 158; Process Skill, SE page 161; LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156

Standard 4: The Physical Setting
Key Idea 4: Energy exists in many forms, and when these forms change energy is conserved.
Observe and describe heating and cooling events. 4.2a Heat moves in predictable ways, flowing from warmer objects to cooler ones, until both reach the same temperature.
Chapter 8, Lesson 2, Video A, SE page 163; Video B, SE page 164; Process Skill, SE page 167

Standard 4: The Physical Setting
Key Idea 4: Energy exists in many forms, and when these forms change energy is conserved.
Observe and describe heating and cooling events. 4.2b Heat can be transferred through matter by the collisions of atoms and/or molecules (conduction) or through space (radiation). In a liquid or gas, currents will facilitate the transfer of heat (convection).
Chapter 8, Lesson 2, Video B, SE page 164; Process Skill, SE page 167

Standard 4: The Physical Setting
Key Idea 4: Energy exists in many forms, and when these forms change energy is conserved.
Observe and describe heating and cooling events. 4.2c During a phase change, heat energy is absorbed or released. Energy is absorbed when a solid changes to a liquid and when a liquids changes to a gas. Energy is released when a gas changes to a liquid and when a liquid changes to a solid.
Chapter 7, Lesson 1, Video B, SE page 136

Standard 4: The Physical Setting
Key Idea 4: Energy exists in many forms, and when these forms change energy is conserved.
Observe and describe heating and cooling events. 4.2d Most substances expand when heated and contract when cooled. Water is an exception, expanding when changing to ice.
Chapter 7, Lesson 1, Video B, SE page 136

Standard 4: The Physical Setting
Key Idea 4: Energy exists in many forms, and when these forms change energy is conserved.
Observe and describe heating and cooling events. 4.2e Temperature affects the solubility of some substances in water.
This concept is not covered at this level.

Standard 4: The Physical Setting
Key Idea 4: Energy exists in many forms, and when these forms change energy is conserved.
Observe and describe energy changes as related to chemical reactions. 4.3a In chemical reactions, energy is transferred into or out of a system. Light, electricity, or mechanical motion may be involved in such transfers in addition to heat.
Chapter 7, Lesson 3, Video A, SE page 149; Video B, SE page 150; Video C, SE page 151

Standard 4: The Physical Setting
Key Idea 4: Energy exists in many forms, and when these forms change energy is conserved.
Observe and describe the properties of sound, light, magnetism, and electricity. 4.4a Different forms of electromagnetic energy have different wavelengths. Some examples of electromagnetic energy are microwaves, infrared light, visible light, ultraviolet light, X-rays, and gamma rays.
See Level B: **Chapter 9, Lesson 2, Video B, SE page 185; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**

Standard 4: The Physical Setting
Key Idea 4: Energy exists in many forms, and when these forms change energy is conserved.
Observe and describe the properties of sound, light, magnetism, and electricity. 4.4b Light passes through some materials, sometimes refracting in the process. Materials absorb and reflect light, and may transmit light. To see an object, light from that object, emitted by or reflected from it, must enter the eye.
See Level B: **Chapter 8, Lesson 2, Video A, SE page 163; Video B, SE page 164; Video C, SE page 165; Process Skill, SE page 167**

Standard 4: The Physical Setting
Key Idea 4: Energy exists in many forms, and when these forms change energy is conserved.
Observe and describe the properties of sound, light, magnetism, and electricity. 4.4c Vibrations in materials set up wave-like disturbances that spread away from the source. Sound waves are an example. Vibrational waves move at different speeds in different materials. Sound cannot travel in a vacuum.
See Level B: **Chapter 8, Lesson 2, Video A, SE page 163; Video B, SE page 164; Video C, SE page 165; Process Skill, SE page 167; LabTime Hands-On Activity 8, TRB pages 141-143, TG page 156**

Standard 4: The Physical Setting
Key Idea 4: Energy exists in many forms, and when these forms change energy is conserved.
Observe and describe the properties of sound, light, magnetism, and electricity. 4.4d Electrical energy can be produced from a variety of energy sources and can be transformed into almost any other form of energy.
Chapter 8, Lesson 3, Video B, SE page 172

Standard 4: The Physical Setting
Key Idea 4: Energy exists in many forms, and when these forms change energy is conserved.
Observe and describe the properties of sound, light, magnetism, and electricity. 4.4e Electrical circuits provide a means of transferring electrical energy.
Chapter 8, Lesson 3, Video A, SE page 171

Standard 4: The Physical Setting
Key Idea 4: Energy exists in many forms, and when these forms change energy is conserved.
Observe and describe the properties of sound, light, magnetism, and electricity. 4.4f Without touching them, material that have been electrically charged attracts uncharged materials, and may either attract or repel other charged material.
See Level B: **Chapter 9, Lesson 1, Video A, SE page 179; Video B, SE page 189**

Standard 4: The Physical Setting
Key Idea 4: Energy exists in many forms, and when these forms change energy is conserved.
Observe and describe the properties of sound, light, magnetism, and electricity. 4.4g Without direct contact, a magnet attracts certain materials and either attracts or repels other magnets. The attractive force of a magnet is greatest at its poles.
See Level A: **Chapter 7, Lesson 2, Video A, SE page 143; Video B, SE page 144; Video C, SE page 145; Process Skill, SE page 147** **See also Level B:** **Chapter 9, Lesson 2, Video A, SE page 185**

Standard 4: The Physical Setting
Key Idea 4: Energy exists in many forms, and when these forms change energy is conserved.
Describe situations that support the principle of conservation of energy. 4.5a Energy cannot be created or destroyed, but only changed from one form into another.
Chapter 8, Lesson 1, Video C, SE page 159

Standard 4: The Physical Setting
Key Idea 4: Energy exists in many forms, and when these forms change energy is conserved.
Describe situations that support the principle of conservation of energy. 4.5b Energy can change from one form to another, although in the process some energy is always converted to heat. Some systems transform energy with less loss of heat than others.
Chapter 8, Lesson 1, Video C, SE page 159

Standard 4: The Physical Setting
Key Idea 5: Energy and matter interact through forces that result in changes in motion.
Describe different patterns of motion of objects. 5.1a The motion of an object is always judged with respect to some other object or point. The idea of absolute motion or rest is misleading.
Chapter 9, Lesson 1, Video A, SE page 179

Standard 4: The Physical Setting
Key Idea 5: Energy and matter interact through forces that result in changes in motion.
Describe different patterns of motion of objects. 5.1 The motion of an object can be described by its position, direction of motion, and speed.
Chapter 9, Lesson 1, Video A< SE page 179; Lesson 2, Video A, SE page 187; Video B, SE page 188; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174

Standard 4: The Physical Setting
Key Idea 5: Energy and matter interact through forces that result in changes in motion.
Describe different patterns of motion of objects. 5.1c An object's motion is the result of the combined effect of all forces acting on the object. A moving object that is not subjected to a force will continue to move at a constant speed in a straight line. An object at rest will remain at rest.
Chapter 9, Lesson 3, Video A, SE page 193; Video B, SE page 194; Video C, SE page 195; Writing in Science, SE page 197; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174

Standard 4: The Physical Setting
Key Idea 5: Energy and matter interact through forces that result in changes in motion.
Describe different patterns of motion of objects. 5.1d Force is directly related to an object's mass and acceleration. The greater the force, the greater the change in motion.
Chapter 9, Lesson 3, Video B, SE page 194

Standard 4: The Physical Setting
Key Idea 5: Energy and matter interact through forces that result in changes in motion.
Describe different patterns of motion of objects. 5.1e For every action there is an equal and opposite reaction.
Chapter 9, Lesson 3, Video C, SE page 195; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174

Standard 4: The Physical Setting
Key Idea 5: Energy and matter interact through forces that result in changes in motion.
Observe, describe, and compare effects of forces (gravity, electric current, and magnetism) on the motion of objects. 5.2a Every object exerts gravitational force on every other object. Gravitational force depends on how much mass the objects have and how far apart they are. Gravity is one of the forces acting on orbiting objects and projectiles.
Chapter 9, Lesson 1, Video B, SE page 180

Standard 4: The Physical Setting
Key Idea 5: Energy and matter interact through forces that result in changes in motion.
Observe, describe, and compare effects of forces (gravity, electric current, and magnetism) on the motion of objects. 5.2b Electric currents and magnets can exert a force on each other.
Level C: Chapter 8, Lesson 3, Video B, SE page 172 **See Level B:** **Chapter 9, Lesson 2, Video A, SE page 185; Video B, SE page 186; Video C, SE page 187; LabTime Hands-On Activity 9, TRB pages 159-161, TG page 174**

Standard 4: The Physical Setting
Key Idea 5: Energy and matter interact through forces that result in changes in motion.
Observe, describe, and compare effects of forces (gravity, electric current, and magnetism) on the motion of objects. 5.2c Machines transfer mechanical energy from one object to another.
See Level A: **Chapter 7, 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**

Standard 4: The Physical Setting
Key Idea 5: Energy and matter interact through forces that result in changes in motion.
Observe, describe, and compare effects of forces (gravity, electric current, and magnetism) on the motion of objects. 5.2d Friction is a force that opposes motion.
Chapter 9, Lesson 1, Video C, SE page 181

Standard 4: The Physical Setting
Key Idea 5: Energy and matter interact through forces that result in changes in motion.
Observe, describe, and compare effects of forces (gravity, electric current, and magnetism) on the motion of objects. 5.2e A machine can be made more efficient by reducing friction. Some common ways of reducing friction include lubricating or waxing surfaces.

Chapter 9, Lesson 1, Video C, SE page 181

Standard 4: The Physical Setting
Key Idea 5: Energy and matter interact through forces that result in changes in motion.
Observe, describe, and compare effects of forces (gravity, electric current, and magnetism) on the motion of objects. 5.2f Machines can change the direction or amount of force, or the distance or speed of force required to do work.
See Level A: **Chapter 7, 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**

Standard 4: The Physical Setting
Key Idea 5: Energy and matter interact through forces that result in changes in motion.
Observe, describe, and compare effects of forces (gravity, electric current, and magnetism) on the motion of objects. 5.2g Simple machines include a lever, a pulley, a wheel and axle, and an inclined plane. A complex machine uses a combination of interacting simple machines, e.g., a bicycle.
See Level A: **Chapter 7, 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**

Standard 4: The Living Environment
Key Idea 1: Living things are both similar to and different from each other and from nonliving things.
Compare and contrast the parts of plants, animals, and one-celled organisms. 1.1a Living things are composed of cells. Cells provide structure and carry on major functions to sustain life. Cells are usually microscopic in size.
Chapter 1, Lesson 1, Video A, SE page 3; Video B, SE page 4; Process Skill, SE page 7

Standard 4: The Living Environment
Key Idea 1: Living things are both similar to and different from each other and from nonliving things.
Compare and contrast the parts of plants, animals, and one-celled organisms. 1.1b The way in which cells function is similar in all living things. Cells grow and divide, providing more cells. Cells take in nutrients, which they use to provide energy for the work that cells so and to make the materials that a cell or an organism needs.
Chapter 1, Lesson 1, Video C, SE page 5; Lesson 2, Video A, SE page 9; Video B, SE page 10; Video C, SE page 11; Process Skill, SE page 13

Standard 4: The Living Environment
Key Idea 1: Living things are both similar to and different from each other and from nonliving things.
Compare and contrast the parts of plants, animals, and one-celled organisms. 1.1c Most cells have cell membranes, genetic material, and cytoplasm. Some cells have a cell wall and/or chloroplasts. Many cells have a nucleus.
Chapter 1, Lesson 1, Video C, SE page 5; Lesson 2, Video A, SE page 9; Process Skill, SE page 13; Lesson 3, Process Skill, SE page 19; LabTime Hands-On Activity 1, TRB pages 15-17, TG page 30

Standard 4: The Living Environment
Key Idea 1: Living things are both similar to and different from each other and from nonliving things.
Compare and contrast the parts of plants, animals, and one-celled organisms. 1.1d Some organisms are single cells; others, including humans, are multicellular.

Chapter 1, Lesson 1, Video A, SE page 3; Lesson 3, Video A, SE page 15; Video B, SE page 16; Video C, SE page 17

Standard 4: The Living Environment
Key Idea 1: Living things are both similar to and different from each other and from nonliving things.
Compare and contrast the parts of plants, animals, and one-celled organisms. 1.1e Cells are organized for more effective functioning in multicellular organisms. Levels of organization for structure and function of a multicellular organism include cells, tissues, organs, and organ systems.
Chapter 1, Lesson 2, Video A, SE page 9; Video B, SE page 10; Video C, SE page 11; Lesson 3, Video B, SE page 16; Video C, SE page 17

Standard 4: The Living Environment
Key Idea 1: Living things are both similar to and different from each other and from nonliving things.
Compare and contrast the parts of plants, animals, and one-celled organisms. 1.1f Many plants have roots, stems, leaves, and reproductive structures. These organized groups of tissues are responsible for a plant's life activities.
See Level B: **Chapter 1, Lesson 3, Video A, SE page 17; Video B, SE page 18; Video C, SE page 19; Process Skill, SE page 21**

Standard 4: The Living Environment
Key Idea 1: Living things are both similar to and different from each other and from nonliving things.
Compare and contrast the parts of plants, animals, and one-celled organisms. 1.1g Multicellular organisms often have similar organs and specialized systems for carrying out major life activities.
Chapter 1, Lesson 3, Video B, SE page 16; Video C, SE page 17

Standard 4: The Living Environment
Key Idea 1: Living things are both similar to and different from each other and from nonliving things.
Compare and contrast the parts of plants, animals, and one-celled organisms. 1.1h Living things are classified by shared characteristics on the cellular and organism level. In classifying organisms, biologists consider details of internal and external structures. Biological classification systems are arranged from general (kingdom) to specific (species).
Chapter 2, Lesson 1, Video A, SE page 25; Video B, SE page 26

Standard 4: The Living Environment
Key Idea 1: Living things are both similar to and different from each other and from nonliving things.
Explain the functioning of the major human organ systems and their interactions. 1.2a Each system is composed of organs and tissues which perform specific functions and interact with each other, e.g., digestion, gas exchange, excretion, circulation, locomotion, control, coordination, reproduction, and protection from disease.
Chapter 1, Lesson 2, Video C, SE page 11; Lesson 3, Video B, SE page 16; Video C, SE page 17

Standard 4: The Living Environment
Key Idea 1: Living things are both similar to and different from each other and from nonliving things.
Explain the functioning of the major human organ systems and their interactions. 1.2b Tissues, organs, and organ systems help to provide all cells with nutrients, oxygen, and waste removal.
Chapter 1, Lesson 2, Video C, SE page 11; Lesson 3, Video B, SE page 16; Video C, SE page 17

Standard 4: The Living Environment
Key Idea 1: Living things are both similar to and different from each other and from nonliving things.
Explain the functioning of the major human organ systems and their interactions. 1.2c The digestive system consists of organs that are responsible for the mechanical and chemical breakdown of food. The breakdown process results in molecules that can be absorbed and transported to cells.
Chapter 1, Lesson 3, Video C, SE page 17

Standard 4: The Living Environment
Key Idea 1: Living things are both similar to and different from each other and from nonliving things.
Explain the functioning of the major human organ systems and their interactions. 1.2d During respiration, cells use oxygen to release the energy stored in food. The respiratory system supplies oxygen and removes carbon dioxide (gas exchange).
Chapter 1, Lesson 3, Video C, SE page 17

Standard 4: The Living Environment
Key Idea 1: Living things are both similar to and different from each other and from nonliving things.
Explain the functioning of the major human organ systems and their interactions. 1.2e The excretory system functions in the disposal of dissolved waste molecules, the elimination of liquid and gaseous wastes, and the removal of excess heat energy.
Chapter 1, Lesson 3, Video C, SE page 17

Standard 4: The Living Environment
Key Idea 1: Living things are both similar to and different from each other and from nonliving things.
Explain the functioning of the major human organ systems and their interactions. 1.2f The circulatory system moves substances to and from cells, where they are needed or produced, responding to changing demands.
Chapter 1, Lesson 3, Video C, SE page 17

Standard 4: The Living Environment
Key Idea 1: Living things are both similar to and different from each other and from nonliving things.
Explain the functioning of the major human organ systems and their interactions. 1.2g Locomotion, necessary to escape danger, obtain food and shelter, and reproduce, is accomplished by the interaction of the skeletal and muscular systems, and coordinated by the nervous system.
Chapter 1, Lesson 3, Video C, SE page 17

Standard 4: The Living Environment
Key Idea 1: Living things are both similar to and different from each other and from nonliving things.
Explain the functioning of the major human organ systems and their interactions. 1.2h The nervous and endocrine systems interact to control and coordinate the body's responses to changes in the environment, and to regulate growth, development, and reproduction. Hormones are chemicals produced by the endocrine system; hormones regulate many body functions.
Chapter 1, Lesson 3, Video C, SE page 17

Standard 4: The Living Environment
Key Idea 1: Living things are both similar to and different from each other and from nonliving things.
Explain the functioning of the major human organ systems and their interactions. 1.2i The male and female reproductive systems are responsible for producing sex cells necessary for the production of offspring.
This concept is not covered at this level.

Standard 4: The Living Environment
Key Idea 1: Living things are both similar to and different from each other and from nonliving things.
Explain the functioning of the major human organ systems and their interactions. 1.2j Disease breaks down the structures or functions of an organism. Some diseases are the result of failures of the system. Other diseases are the result of damage by infection from other organisms (germ theory). Specialized cells protect the body from infectious disease. The chemicals they produce identify and destroy microbes that enter the body.

Chapter 3, Lesson 2, Video C, SE page 57

Standard 4: The Living Environment
Key Idea 2: Organisms inherit genetic information in a variety of ways that result in continuity of structure and function between parents and offspring.
Describe sexual and asexual mechanisms for passing genetic materials from generation to generation. 2.1a Heredity information is contained in genes. Genes are composed of DNA that makes up the chromosomes of cells.
This concept is not covered at this level.

Standard 4: The Living Environment
Key Idea 2: Organisms inherit genetic information in a variety of ways that result in continuity of structure and function between parents and offspring.
Describe sexual and asexual mechanisms for passing genetic materials from generation to generation. 2.1b Each gene carries a single unit of information. A single inherited trait of an individual can be determined by one pair or by many pairs of genes. A human cell contains thousands of different genes.
This concept is not covered at this level.

Standard 4: The Living Environment
Key Idea 2: Organisms inherit genetic information in a variety of ways that result in continuity of structure and function between parents and offspring.
Describe sexual and asexual mechanisms for passing genetic materials from generation to generation. 2.1c Each human cell contains a copy of all the genes needed to produce a human being.
This concept is not covered at this level.

Standard 4: The Living Environment
Key Idea 2: Organisms inherit genetic information in a variety of ways that result in continuity of structure and function between parents and offspring.
Describe sexual and asexual mechanisms for passing genetic materials from generation to generation. 2.1d In asexual reproduction, all the genes come from a single parent. Asexually produced offspring are genetically identical to the parent.
This concept is not covered at this level.

Standard 4: The Living Environment
Key Idea 2: Organisms inherit genetic information in a variety of ways that result in continuity of structure and function between parents and offspring.
Describe sexual and asexual mechanisms for passing genetic materials from generation to generation. 2.1e In sexual reproduction typically half of the genes come from each parent. Sexually produced offspring are not identical to either parent.
This concept is not covered at this level.

Standard 4: The Living Environment
Key Idea 2: Organisms inherit genetic information in a variety of ways that result in continuity of structure and function between parents and offspring.
Describe simple mechanisms related to the in heritance of some physical traits in offspring. 2.2a In all organisms, genetic traits are passed on from generation to generation.
This concept is not covered at this level.

Standard 4: The Living Environment
Key Idea 2: Organisms inherit genetic information in a variety of ways that result in continuity of structure and function between parents and offspring.
Describe simple mechanisms related to the in heritance of some physical traits in offspring. 2.2b Some genes are dominant and some are recessive. Some traits are inherited by mechanisms other than dominance and recessiveness.
This concept is not covered at this level.

Standard 4: The Living Environment
Key Idea 2: Organisms inherit genetic information in a variety of ways that result in continuity of structure and function between parents and offspring.
Describe simple mechanisms related to the in heritance of some physical traits in offspring. 2.2c The probability of traits being expressed can be determined using models of genetic inheritance. Some models of prediction are pedigree charts and Punnett squares.
This concept is not covered at this level.

Standard 4: The Living Environment
Key Idea 3: Individual organisms and species change over time.
Describe sources of variation in organisms and their structures and relate the variations to survival. 3.1a The processes of sexual reproduction and mutation have given rise to a variety of traits within a species.
This concept is not covered at this level.

Standard 4: The Living Environment
Key Idea 3: Individual organisms and species change over time.
Describe sources of variation in organisms and their structures and relate the variations to survival. 3.1b Changes in environmental conditions can affect the survival of individual organisms with a particular trait. Small differences between parents and offspring can accumulate in successive generations so that descendants are very different from their ancestors. Individual organisms with certain traits are more likely to survive and have offspring than individuals without those traits.
Chapter 2, Lesson 2, Video A, SE page 31; Video B, SE page 32

Standard 4: The Living Environment
Key Idea 3: Individual organisms and species change over time.
Describe sources of variation in organisms and their structures and relate the variations to survival. 3.1c Human activities such as selective breeding and advances in genetic engineering may affect the variations of species.
This concept is not covered at this level.

Standard 4: The Living Environment
Key Idea 3: Individual organisms and species change over time.
Describe factors responsible for competition within species and the significance of that competition. 3.2a In all environments, organisms with similar needs may compete with another for resources.
Chapter 3, Lesson 1, Video B, SE page 48

Standard 4: The Living Environment
Key Idea 3: Individual organisms and species change over time.
Describe factors responsible for competition within species and the significance of that competition. 3.2b Extinction of a species occurs when the environment changes and the adaptive characteristics of a species are insufficient to permit its survival. Extinction of species is common. Fossils are evidence that a great variety of species existed in the past.
Chapter 2, Lesson 1, Video C, SE page 27 **Chapter 4, Lesson 3, Video A, SE page 83**

Standard 4: The Living Environment
Key Idea 3: Individual organisms and species change over time.
Describe factors responsible for competition within species and the significance of that competition. 3.2c Many thousands of layers of sedimentary rock provide evidence for the long history of Earth and for the long history of changing lifeforms whose remains are found in the rocks. Recently deposited rock layers are more likely to contain fossils resembling existing species.
Chapter 2, Lesson 2, Video C, SE page 27 **Chapter 4. Lesson 2, Video A, SE page 83**

Standard 4: The Living Environment
Key Idea 3: Individual organisms and species change over time.
Describe factors responsible for competition within species and the significance of that competition. 3.2d Although the time needed for change in a species is usually great, some species of insects and bacteria have undergone significant change in just a few years.
This concept is not covered at this level.

Standard 4: The Living Environment
Key Idea 4: The continuity of life is sustained through reproduction and development.
Observe and describe the variations in reproductive patterns of organisms, including asexual and sexual reproduction. 4.1a Some organisms reproduce asexually. Other organisms reproduce sexually. Some organisms can reproduce both sexually and asexually.
This concept is not covered at this level.

Standard 4: The Living Environment
Key Idea 4: The continuity of life is sustained through reproduction and development.
Observe and describe the variations in reproductive patterns of organisms, including asexual and sexual reproduction. 4.1b There are many methods of asexually reproduction, including division of a cell into two cells, or separation of part of an animal or plant from the parent, resulting in the growth of another individual.
This concept is not covered at this level.

Standard 4: The Living Environment
Key Idea 4: The continuity of life is sustained through reproduction and development.
Observe and describe the variations in reproductive patterns of organisms, including asexual and sexual reproduction. 4.1c Methods of sexual reproduction depend upon the species. All methods involve the merging of sex cells to begin the development of a new individual. In many species, including plants and humans, eggs and sperm are produced.
This concept is not covered at this level.

Standard 4: The Living Environment
Key Idea 4: The continuity of life is sustained through reproduction and development.
Observe and describe the variations in reproductive patterns of organisms, including asexual and sexual reproduction. 4.1d Fertilization and/or development in organisms may be internal or external.
This concept is not covered at this level.

Standard 4: The Living Environment
Key Idea 4: The continuity of life is sustained through reproduction and development.
Explain the role of sperm and egg cells in sexual reproduction. 4.2a The male sex cell is the sperm. The female sex cell is the egg. The fertilization of an egg by a sperm results in a fertilized egg.
This concept is not covered at this level.

Standard 4: The Living Environment
Key Idea 4: The continuity of life is sustained through reproduction and development.
Explain the role of sperm and egg cells in sexual reproduction. 4.2b In sexual reproduction, sperm and egg each carry one-half of the genetic information for the new individual. Therefore, the fertilized egg contains genetic information from each parent.
This concept is not covered at this level.

Standard 4: The Living Environment
Key Idea 4: The continuity of life is sustained through reproduction and development.
Observe and describe developmental patterns in selected plants and animals (e.g., insects, frogs, humans, seed-bearing plants). 4.3a Multicellular organisms exhibit complex changes in development, which begin after fertilization. The fertilized egg undergoes numerous cellular divisions that will result in a multicellular organism, with each cell having identical genetic information.
This concept is not covered at this level.

Standard 4: The Living Environment
Key Idea 4: The continuity of life is sustained through reproduction and development.
Observe and describe developmental patterns in selected plants and animals (e.g., insects, frogs, humans, seed-bearing plants). 4.3b In humans, the fertilized egg grows into tissue which develops into organs and organ systems before birth.
This concept is not covered at this level.

Standard 4: The Living Environment
Key Idea 4: The continuity of life is sustained through reproduction and development.
Observe and describe developmental patterns in selected plants and animals (e.g., insects, frogs, humans, seed-bearing plants). 4.3c Various body structures and functions change as an organism goes through its life cycle.
Chapter 2, Lesson 2, Video A, SE page 31; KnowZone, SE pages 36-37

Standard 4: The Living Environment
Key Idea 4: The continuity of life is sustained through reproduction and development.
Observe and describe developmental patterns in selected plants and animals (e.g., insects, frogs, humans, seed-bearing plants). 4.3d Patterns of development vary among animals. In some species the young resemble the adult, while in others they do not. Some insects and amphibians undergo metamorphosis as they mature.
Chapter 2, Lesson 2, Video A, SE page 31; KnowZone, SE pages 36-37

Standard 4: The Living Environment
Key Idea 4: The continuity of life is sustained through reproduction and development.
Observe and describe developmental patterns in selected plants and animals (e.g., insects, frogs, humans, seed-bearing plants). 4.3e Patterns of development vary among plants. In seed-bearing plants, seeds contain stored food for early development. Their later development into adulthood is characterized by varying patterns of growth from species to species.
See Level B: **Lesson 3, Video C, SE page 19**

Standard 4: The Living Environment
Key Idea 4: The continuity of life is sustained through reproduction and development.
Observe and describe developmental patterns in selected plants and animals (e.g., insects, frogs, humans, seed-bearing plants). 4.3f As an individual organism ages, various body structures and functions change.
Chapter 2, Lesson 2, Video A, SE page 31

Standard 4: The Living Environment
Key Idea 4: The continuity of life is sustained through reproduction and development.
Observe and describe cell division at the microscopic level of its macroscopic effects. 4.4a In multicellular organisms, cell division is responsible for growth, maintenance, and repair. In some one-celled organisms, cell division is a method of asexual reproduction.
This concept is not covered at this level.

Standard 4: The Living Environment
Key Idea 4: The continuity of life is sustained through reproduction and development.
Observe and describe cell division at the microscopic level of its macroscopic effects. 4.4b In one type of cell division, chromosomes are duplicated and then separated into two identical and complete sets to be passed to each of the two resulting cells. In this type of cell division, the heredity information is identical in all the cells that result.
This concept is not covered at this level.

Standard 4: The Living Environment
Key Idea 4: The continuity of life is sustained through reproduction and development.
Observe and describe cell division at the microscopic level of its macroscopic effects. 4.4c Another type of cell division accounts for the production of egg and sperm cells in sexually reproducing organisms. The egg and sperm resulting from this type of cell division contain one-half of the hereditary information.
This concept is not covered at this level.

Standard 4: The Living Environment
Key Idea 4: The continuity of life is sustained through reproduction and development.
Observe and describe cell division at the microscopic level of its macroscopic effects. 4.4d Cancers are a result of abnormal cell division.
This concept is not covered at this level.

Standard 4: The Living Environment
Key Idea 5: Organisms maintain a dynamic equilibrium that sustains life.
Compare the ways a variety of living specimens carry out basic life functions and maintain dynamic equilibrium. 5.1a Animals and plants have a great variety of body plans and internal structures that contribute to their ability to maintain a balanced condition.
Chapter 3, LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66

Standard 4: The Living Environment
Key Idea 5: Organisms maintain a dynamic equilibrium that sustains life.
Compare the ways a variety of living specimens carry out basic life functions and maintain dynamic equilibrium. 5.1b An organism's overall body plan and its environment determine the way that the organism carries out the life processes.
Chapter 3, LabTime Hands-On Activity 3, TRB pages 51-53, TG page 66

Standard 4: The Living Environment
Key Idea 5: Organisms maintain a dynamic equilibrium that sustains life.
Compare the ways a variety of living specimens carry out basic life functions and maintain dynamic equilibrium. 5.1c All organisms require energy to survive. The amount of energy needed and the method for obtaining this energy vary among cells. Some cells use oxygen to release the energy stored in food.
Chapter 1, , Lesson 1, Video B, SE page 4; Video C, SE page 5; Lesson 2, Video A, SE page 9

Standard 4: The Living Environment
Key Idea 5: Organisms maintain a dynamic equilibrium that sustains life.
Compare the ways a variety of living specimens carry out basic life functions and maintain dynamic equilibrium. 5.1d The methods for obtaining nutrients vary among organisms. Producers, such as green plants, use light energy to make their food. Consumers, such as animals, take in energy-rich foods.
See Level B: **Chapter 2, Lesson 2, Video A, SE page 31; Video B, SE page 32; Video C, SE page 33; Process Skills, SE page 35; Lesson 3, Video A, SE page 39**

Standard 4: The Living Environment
Key Idea 5: Organisms maintain a dynamic equilibrium that sustains life.
Compare the ways a variety of living specimens carry out basic life functions and maintain dynamic equilibrium. 5.1e Herbivores obtain energy from plants. Carnivores obtain energy from animals. Omnivores obtain energy from both plants and animals. Decomposers, such as bacteria and fungi, obtain energy by consuming wastes and/or dead organisms.
See Level B: **Chapter 2, Lesson 3, Video A, SE page 39**

Standard 4: The Living Environment
Key Idea 5: Organisms maintain a dynamic equilibrium that sustains life.
Compare the ways a variety of living specimens carry out basic life functions and maintain dynamic equilibrium. 5.1f Regulation of an organism's internal environment involves sensing the internal environment and changing physiological activities to keep conditions within the range required for survival. Regulation includes a variety of nervous and hormonal feedback systems.
Chapter 2, LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48

Standard 4: The Living Environment
Key Idea 5: Organisms maintain a dynamic equilibrium that sustains life.
Compare the ways a variety of living specimens carry out basic life functions and maintain dynamic equilibrium. 5.1g The survival of an organism depends in its ability to sense and respond to its external environment.
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

Standard 4: The Living Environment
Key Idea 5: Organisms maintain a dynamic equilibrium that sustains life.
Demonstrate the importance of major nutrients, vitamins, and minerals in maintaining health and promoting growth, and explain the need for input of energy for living organisms. 5.2a Food provides molecules that serve as food and building material for all organisms. All living things, including plants, must release energy from their food, using it to carry on their life processes.
Chapter 1, Lesson 1, Video C, SE page 5; Lesson 2, Video A, SE page 9

Standard 4: The Living Environment
Key Idea 5: Organisms maintain a dynamic equilibrium that sustains life.
Demonstrate the importance of major nutrients, vitamins, and minerals in maintaining health and promoting growth, and explain the need for input of energy for living organisms. 5.2b Foods contain a variety of substances, which include carbohydrates, fats, vitamins, proteins, minerals, and water. Each substance is vital to the survival of the organism.
See Level A: **Chapter 3, Lesson 1, Video C, SE page 49; Process Skill, SE page 51**

Standard 4: The Living Environment
Key Idea 5: Organisms maintain a dynamic equilibrium that sustains life.
Demonstrate the importance of major nutrients, vitamins, and minerals in maintaining health and promoting growth, and explain the need for input of energy for living organisms. 5.2c Metabolism is the sum of all chemical reactions in an organism. Metabolism can be influenced by hormones, exercise, diet, and aging.
See Level A: **Chapter 3, Lesson 1, Video C, SE page 49; Process Skill, SE page 51**

Standard 4: The Living Environment
Key Idea 5: Organisms maintain a dynamic equilibrium that sustains life.
Demonstrate the importance of major nutrients, vitamins, and minerals in maintaining health and promoting growth, and explain the need for input of energy for living organisms. 5.2d Energy in foods is measured in Calories. The total caloric value of each type of food varies. The number of Calories a person requires varies from person to person.
See Level A: **Chapter 3, Lesson 1, Video C, SE page 49; Process Skill, SE page 51**

Standard 4: The Living Environment
Key Idea 5: Organisms maintain a dynamic equilibrium that sustains life.
Demonstrate the importance of major nutrients, vitamins, and minerals in maintaining health and promoting growth, and explain the need for input of energy for living organisms. 5.2e In order to maintain a balanced state, all organisms have a minimum daily intake of each type of nutrient based on species, size, age, sex, activity, etc. An imbalance in any of the nutrients may result in weight gain, weight loss, or a diseased state.
See Level A: **Chapter 3, Lesson 1, Video C, SE page 49; Process Skill, SE page 51**

Standard 4: The Living Environment
Key Idea 5: Organisms maintain a dynamic equilibrium that sustains life.
Demonstrate the importance of major nutrients, vitamins, and minerals in maintaining health and promoting growth, and explain the need for input of energy for living organisms. 5.2f Contraction of infectious disease, and personal habits such as use of toxic substances and some dietary habits, may interfere with one's dynamic equilibrium. During pregnancy these conditions may also affect the development of the child. Some effects of these conditions are immediate; others may not appear for many years.
This concept is not covered at this level.

Standard 4: The Living Environment
Key Idea 6: Plants and animals depend on each other and their physical environment.
Describe the flow of energy and matter through food chains and food webs. 6.1a Energy flows through ecosystems in one direction, usually from the Sun, through producers to consumers and then to decomposers. This process may be visualized with food chains or energy pyramids.
See Level B: **Chapter 2, 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** **Energy Transfer, SE page 203**

Standard 4: The Living Environment
Key Idea 6: Plants and animals depend on each other and their physical environment.
Describe the flow of energy and matter through food chains and food webs. 6.1b Food webs identify feeding relationships among producers, consumers, and decomposers in an ecosystem.
Level C: **Chapter 2, Lesson 3, Video B, SE page 40; Video C, SE page 41** **Energy Transfer, SE page 203** **See also Level B:** **Chapter 2, 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**

Standard 4: The Living Environment
Key Idea 6: Plants and animals depend on each other and their physical environment.
Describe the flow of energy and matter through food chains and food webs. 6.1c Matter is transferred from one organism to another and between organisms and their physical environment. Water, nitrogen, carbon dioxide, and oxygen are examples of substances cycled between the living and nonliving environment.
Chapter 3, Lesson 1, Video C, SE page 49 **Chapter 5, Lesson 2, Video B, SE page 98**

Standard 4: The Living Environment
Key Idea 6: Plants and animals depend on each other and their physical environment.
Provide evidence that green plants make food and explain the significance of this process to other organisms. 6.2a Photosynthesis is carried on by green plants and other organisms containing chlorophyll. In this process, the Sun's energy is converted into and stored in chemical energy in the form of sugar. The quantity of sugar molecules increases in green plants during photosynthesis in the presence of sunlight.
See Level B: **Chapter 2, Lesson 2, Video A, SE page 31; LabTime Hands-On Activity 2, TRB pages 33-35, TG page 48**

Standard 4: The Living Environment
Key Idea 6: Plants and animals depend on each other and their physical environment.
Provide evidence that green plants make food and explain the significance of this process to other organisms. 6.2b The major source of atmospheric oxygen is photosynthesis. Carbon dioxide is removed from the atmosphere and oxygen is released during photosynthesis.
Chapter 3, Lesson 1, Video C, SE page 49

Standard 4: The Living Environment
Key Idea 6: Plants and animals depend on each other and their physical environment.
Provide evidence that green plants make food and explain the significance of this process to other organisms. 6.2c Green plants are the producers of food which is used directly or indirectly by consumers.
Chapter 3, Lesson 1, Video C, SE page 49

Standard 4: The Living Environment
Key Idea 7: Human decisions and activities have had a profound impact on the physical and living environment.
Describe how living things, including humans, depend on the living and nonliving environment for their survival. 7.1a A population consists of all individuals of a species that are found together at a given place and time. Populations living in one place form a community. The community and the physical factors with which it interacts compose an ecosystem.
Chapter 3, Lesson 1, Video A, SE page 47

Standard 4: The Living Environment
Key Idea 7: Human decisions and activities have had a profound impact on the physical and living environment.
Describe how living things, including humans, depend on the living and nonliving environment for their survival. 7.1b Given adequate resources and no disease or predators, populations (including humans) increase. Lack of resources, habitat destruction, and other factors such as predation and climate limit the growth of certain populations in the ecosystem.
Chapter 3, Lesson 1, Video B, SE page 48; Process Skill, SE page 51

Standard 4: The Living Environment
Key Idea 7: Human decisions and activities have had a profound impact on the physical and living environment.
Describe how living things, including humans, depend on the living and nonliving environment for their survival. 7.1c In all environments, organisms interact with one another in many ways. Relationships among organisms may be competitive, harmful, or beneficial. Some species have adapted to be dependent upon each other with the result that neither could survive without the other.
Chapter 2, Lesson 3, Video A, SE page 39; Video B, SE page 40; Video C, SE page 41; Process Skill, SE page 43 **Chapter 3, Lesson 1, Video B, SE page 48; Video C, SE page 49**

Standard 4: The Living Environment
Key Idea 7: Human decisions and activities have had a profound impact on the physical and living environment.
Describe how living things, including humans, depend on the living and nonliving environment for their survival. 7.1d Some microorganisms are essential to the survival of other living things.
Chapter 1, KnowZone, SE pages 20-21

Standard 4: The Living Environment
Key Idea 7: Human decisions and activities have had a profound impact on the physical and living environment.
Describe how living things, including humans, depend on the living and nonliving environment for their survival. 7.1e The environment may contain dangerous levels of substances (pollutants) that are harmful to organisms. Therefore, the good health of environments and individuals requires the monitoring of soil, air, and water, and taking steps to keep them safe.
Chapter 3, Lesson 3, Video B, SE page 62 **Chapter 5, Lesson 1, Video C, SE page 93; Lesson 2, Video C, SE page 99** **Chapter 7, Lesson 3, Video B, SE page 150** **Chapter 8, Lesson C, Video C, SE page 159**

Standard 4: The Living Environment
Key Idea 7: Human decisions and activities have had a profound impact on the physical and living environment.
Describe the effects of environmental changes on humans and other populations. 7.2a In ecosystems, balance is the result of interactions between community members and their environments.
Chapter 3, Lesson 1, Video C, SE page 49

Standard 4: The Living Environment
Key Idea 7: Human decisions and activities have had a profound impact on the physical and living environment.
Describe the effects of environmental changes on humans and other populations. 7.2b The environment may be altered through the activities of organisms. Alterations are sometimes abrupt. Some species may replace others over time, resulting in long-term changes (ecological succession).
Chapter 3, Lesson 3, Video A, SE page 61; Video B, SE page 62

Standard 4: The Living Environment
Key Idea 7: Human decisions and activities have had a profound impact on the physical and living environment.
Describe the effects of environmental changes on humans and other populations. 7.2c Overpopulation by any species impacts the environment due to the increased use of resources. Human activities can brings about environmental degradation through resource acquisition, urban growth, land-use decisions, waste disposal, etc.
Chapter 2, Lesson 2, Video C, SE page 27 **Chapter 3, Lesson 1, Video B, SE page 48; Process Skill, SE page 51; Lesson 3, Video B, SE page 62** **Chapter 5, Lesson 1, Video C, SE page 93; Lesson 2, Video C, SE page 99** **Chapter 7, Lesson 3, Video B, SE page 150** **Chapter 8, Lesson 1, Video C, SE page 159**

Standard 4: The Living Environment
Key Idea 7: Human decisions and activities have had a profound impact on the physical and living environment.
Describe the effects of environmental changes on humans and other populations. 7.2d Since the Industrial Revolution, human activities have resulted in major pollution of air, water, and soil. Pollution has cumulative ecological effects such as acid rain, global warming, or ozone depletion. The survival or living things on our planet depends on the conservation and protection of Earth's resources.
Chapter 3, Lesson 3, Video B, SE page 62; Video C, SE page 63 **Chapter 5, Lesson 1, Video C, SE page 93; Lesson 2, Video C, SE page 99** **Chapter 7, Lesson 3, Video B, SE page 150** **Chapter 8, Lesson 1, Video C, SE page 159; Lesson 3, Video C, SE page 173**