

STC Unit: Organisms

Through long-term observation, students will learn that animals coexist with plants as well as with other animals. Students will begin to understand the diversity of life around them as they observe organisms, compare habitats and draw conclusion about organisms in general.

Sub-concept 1

Plants and animals are two kinds of organisms. Organisms are similar in some ways

Sub-concept 2

The new starting point in the life cycle of a plant is a seed

Sub-concept 3

Terrariums and aquariums may be used as models to examine the interactions between plants and animals in their natural environments.

Sub-concept 4

Humans, like other organisms, depend on, and have an impact on, their environment.

Sub-concept 5

Animals and plants in nature have evolved to form closely knit, interdependent systems.

Leveled Readers that support STC Unit: Organisms

Grade and Title		GR Level	Macmillan/McGraw-Hill Science: A Closer Look Leveled Reader Description
K	Small Plants Tall Plants	A	Introduces children to some similarities and differences among plants
K	What Kind of Animal Are You?	A	Helps children discover that they are mammals
K	All Kinds of Plants	B	Looks at many different types of plants and the colors, shapes and textures they come in
K	Plants Grow	B	Explores the special needs plants have in order to grow
K	Animals on the Move	B	Discusses some of the different ways in which animals move
K	Where Do Plants Live?	B	Discusses some of the different places in which plants live
K	At the Petting Zoo	C	Young boy describes the characteristics of the animals he sees at the petting zoo
K	Our Desert Home	C	Looks at the desert as a habitat for some types of plants and animals
K	Plant Parts	C	Illustrated look at the parts of plants
K	All About Animals	C	Explores the special body parts some animals have that enable them to live in their habitats
K	From Seed to Sunflower	C	Explores the growth of a sunflower from a seed
K	Animals Grow	D	Explores how animals change as they grow
1	In the Garden	B	Visit to a garden to introduce the concept of living and nonliving things
1	Watch It Grow	B	Explore the growth of a tomato plant from seed to vine
1	What People and Animals Need	B	Discusses the basic needs of people and animals
1	Pond Life	D	Explores the plant and animal life of a fresh-water pond environment
1	A World of Animals	E	Discusses animal body parts and their purposes
1	Good to Eat	E	Explores edible plant parts

Leveled Readers that support STC Unit: Organisms (continued)

	Grade and Title	GR Level	Macmillan/McGraw-Hill Science: A Closer Look Leveled Reader Description
1	The Tallest Tree	E	Tells how a seed becomes a tree and looks at the Earth's largest tree, the giant sequoia
1	What Would We Do Without Bees?	E	Discusses the role that bees play in nature, pollinating plants and producing honey
1	Amazing Animals	G	Explores the special body parts that enable animals to live in different places
1	Animal Homes	G	Give an introductory look at animals and their habitats
1	Plants Help Animals	G	Shows how animals depend on plants for food, shelter, and nesting
1	Parts of Plants	H	Names the various parts of a plant and the function of each
2	Animals in Danger	G	Explores how human actions can affect animals in the wild and what people can do to help protect wildlife
2	Animal Parents	H	Explores the relationship between animal parents and their offspring
2	Big Orange Pumpkins	H	Explains, step-by-step, how a small pumpkin seed becomes a big orange pumpkin
2	How People Use Plants	I	Explores how different types of products can be made from plants, including food, clothing, and shelter
2	From Seed to Tree	J	Gives step-by-step explanation of how an apple tree grows from a seed
2	Two Kinds of Forests	J	Explores how climate affects the plants and animals of a woodland forest and a tropical rain forest
2	Apple Trees	L	Explains the life cycle of an apple tree
2	From Tadpole to Frog	L	Explains the unique development of a frog from a tadpole
2	Saving Animals	M	Takes a look at why some animals became endangered and what people are doing to save them

STC Unit: Weather

Students chart changes in weather, recording daily weather observations, and use tools to measure changes. Students apply analytical skills to help categorize the recorded observations in different ways.

Sub-concept 1

Weather is characterized by features such as temperature, wind speed and direction, and precipitation.

Sub-concept 2

Weather may be quantified using tools such as thermometers, rain gauges, and wind speed and direction indicators.

Sub-concept 3

Water exists in solid, liquid, and vapor states. Clouds and fog are made up of droplets of water.

Sub-concept 4

Understanding the elements of weather helps us plan our daily lives.

Sub-concept 5

Humans can use their observations and records to understand and forecast the weather. Scientists who do this are called meteorologists.

Leveled Readers that support STC Unit: Weather

Grade and Title		GR Level	Macmillan/McGraw-Hill Science: A Closer Look Leveled Reader Description
K	Melting Snow	A	Provides a look at two states of matter - a solid and a liquid
K	Seasons	A	Provides an overview of typical weather during each of the four seasons
1	The Four Seasons	B	Gives a brief overview of the four seasons and the typical weather each brings
K	I Like Ice	B	Explores what happens to water when it is very cold and what happens to ice when it melts
K	What is the Weather?	B	Uses words and picture clues to explore different kinds of weather
K	Clouds	C	Explores how clouds change shape and color and the different types of weather that comes with them
K	What Will I Wear Today?	C	Explores the clothing choices people make for different kinds of weather during the seasons
K	A Favorite Season	D	Rhyming story about why some family members like different seasons
1	When the Weather Changes	E	Talks about the typical weather experienced during each of the four seasons
1	Measure the Weather	F	Introduces children to different weather conditions and the tools used to measure weather.
1	Ice Hotels	G	Introduces the properties of water by exploring ice hotels
1	Tell the Weather	G	Shows how meteorologists predict the weather using different tools
1	The Story of Water	G	Discusses the water cycle and two states of water - liquid and gas
2	Water for Life	G	Explains the water cycle
1	Wet and Dry Weather	H	Shows the effects of extreme weather such as floods and droughts
2	What do Clouds Tell Us?	J	Explores different type of clouds and the weather they help to predict
2	Tracking Weather	L	Explores weather and the tools used to describe and forecast the weather

STC Unit: Solids and Liquids

Students explore the characteristics and properties of solids and liquids as they work on critical thinking skills. Observations and explorations on color, shape, hardness, and buoyancy lead to creating sorting criteria. Experimentation with fluids includes mixing, pouring (fluidity of liquids), and exploring absorption capability of materials.

Sub-concept 1

Some properties of solids and liquids can be identified by careful observation with the senses alone.

Sub-concept 2

Some properties of solids and liquids can be identified only by testing.

Sub-concept 3

Liquids have unique properties that may be identified by the senses and testing.

Sub-concept 4

Solids and liquids have both similarities and differences.

Leveled Readers that support STC Unit: Solids and Liquids

Grade and Title		GR Level	Macmillan/McGraw-Hill <i>Science: A Closer Look</i> Leveled Reader Description
K	Soft or Hard?	A	Introduces one type of matter - solids - and the properties of hardness and softness
K	I Like Ice	B	Explores what happens to water when it is very cold and what happens to ice when it melts
K	Matter Changes	C	Explores the three states of water - solid, liquid, and gas
K	Working With Wood	E	Explores how wood can be changed into other objects
K	Working With Clay	G	Explores the process for making a pot from clay
1	Boats Float	B	Takes an introductory look at matter to define a solid, a liquid, and a gas
1	Let's Bake a Cake!	B	Looks at the baking process in order to explore how matter can change state
1	Solids, Liquids, and Gases	E	Explores solids, liquids and gases
1	Things Change	E	Discusses some of the ways in which matter can change
1	How Does Matter Change?	G	Explores how matter changes
2	Mix it Up	F	Explores mixtures and solutions
2	Gases Matter	H	Focuses on the importance of gases
2	Make a Pizza	J	Explores how matter can be changed through mixing and heating

STC Unit: The Life Cycle of Butterflies

Through long-term observation, students will learn about the life cycle of the Painted Lady butterfly. Students learn to care for another living thing as they observe and record the features and behaviors of the different stages of the insect life cycle

Sub-concept 1

Caterpillars represent one stage of a butterfly's life cycle.

Sub-concept 2

As part of its life cycle, the butterfly forms and emerges from a chrysalis.

Sub-concept 3

The structures of a butterfly provide the means for its essential life functions.

Sub-concept 4

Scientists use data on organisms' structures and life cycles to understand and classify living things.

Leveled Readers that support STC Unit: Life Cycle of the Butterfly

Grade and Title		GR Level	Macmillan/McGraw-Hill <i>Science: A Closer Look</i> Leveled Reader Description
2	Wait and See	J	Investigates three animals that hatch from eggs: caterpillars, tadpoles, and turtles
3	Animal Life Cycles	N	Examines the life cycle of four different kinds of animals: cats,

			ducks, butterflies, and salamanders
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STC Unit: Changes

Students investigate examples of changes that affect their daily lives by exploring changes in state of solids, liquids and gases. Focus is on water as it freezes, melts, evaporates and condenses. Students observe and experiment with changes over time and with those that occur immediately.

Sub-concept 1

Materials may change their properties or state.

Sub-concept 2

Changes in state result from changes in the external environment.

Sub-concept 3

Mixed materials may change as the result of chemical or physical interactions

Sub-concept 4

The chemical and physical properties of materials may be used to separate their mixtures.

Sub-concept 5

Chemical reactions can produce new materials.

Leveled Readers that support STC Unit: Changes

Grade and Title		GR Level	Macmillan/McGraw-Hill Science: A Closer Look Leveled Reader Description
1	Let's Bake a Cake!	B	Looks at the baking process in order to explore how matter can change state
1	Hot or Cold?	C	Explains different types of hot or cold weather and how to measure heat and cold
1	Solids, Liquids, and Gases	E	Explores solids, liquids and gases
1	Things Change	E	Discusses some of the ways in which matter can change
2	Mix it Up	F	Explores mixtures and solutions
2	Matter and Change	G	Discusses the three states of matter - solid, liquid, gas - and how temperature can change matter
2	Gases Matter	H	Focuses on the importance of gases
2	Make a Pizza	J	Explores how matter can be changed through mixing and heating
3	Mighty Metals	J	Examines the properties and uses of different metals
3	Glassmaking	L	Explores the three states of matter by examining glass and glassmaking
3	Chocolate	O	Explores the states of matter by examining the history and manufacture of chocolate

STC Unit: Soils

Students explore a variety of soils and soil components as they discover and identify the different properties of sand, clay, humus, and garden soil. They will apply this knowledge to a 'mystery' soil and try to discover its composition.

Sub-concept 1

Soils contain plants, animals, and their decayed remains, and other rock and mineral particles of varying sizes.

Sub-concept 2

Sand, clay, and humus are three basic components of soil and have unique properties.

These properties may be identified using simple tests.

Sub-concept 3

Plants gain their nutrition and moisture through root systems that penetrate the soil.

STC Unit: Soils (continued)

Sub-concept 4

Different soils absorb and retain water at different rates.

Sub-concept 5

All soils can be characterized by using simple tests.

Sub-concept 6

Soils are part of a system that integrates the organic world of plant growth and decay with the physical world of rocks, minerals, and hydrology.

Leveled Readers that support STC Unit: Soils

Grade and Title		GR Level	Macmillan/McGraw-Hill Science: A Closer Look Leveled Reader Description
1	Parts of Plants	H	Names the various parts of a plant and the function of each
2	Soil	H	Describes different layers of soil and the importance of soil to living things
2	Rocks and Minerals	K	Shows how rocks and soil are formed and how we use them

STC Unit: Plant Growth and Development

Students examine the life cycle of a plant while observing the plant structures, taking measurements, recording data and graphing results.

Sub-concept 1

Organisms go through distinct stages as part of a process known as the life cycle.

Sub-concept 2

Living things are interdependent; for example, plants depend on bees for pollination.

Sub-concept 3

Models can be used to identify the structures, functions, and behaviors of living organisms.

Sub-concept 4

Records, notes, and graphs help people understand how plants move through the life cycle and what factors affect their growth and development.

Leveled Readers that support STC Unit: Plant Growth and Development

Grade and Title		GR Level	Macmillan/McGraw-Hill Science: A Closer Look Leveled Reader Description
2	Big Orange Pumpkins	H	Explains, step-by-step, how a small pumpkin seed becomes a big orange pumpkin
2	From Seed to Tree	J	Gives step-by-step explanation of how an apple tree grows from a seed
2	Two Kinds of Forests	J	Explores how climate affects the plants and animals of a woodland forest and a tropical rain forest
2	Apple Trees	L	Explains the life cycle of an apple tree
3	Growing a Garden	I	Discusses different kinds of plants and how to grow them in a garden
3	Animal Life Cycles	N	Examines the life cycle of four different kinds of animals: cats, ducks, butterflies, and salamanders

3	Wetlands	O	Explores wetlands and their importance to the environment
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STC Unit: Rocks and Minerals

Students examine rocks to explore the properties and characteristics of different types of rocks. An introduction to minerals and their properties is also investigated.

Sub-concept 1

Rocks are formed by a variety of processes and are always changing.

Sub-concept 2

Rocks are aggregates of minerals.

Sub-concept 3

Minerals have distinctive properties that may be identified by testing.

Sub-concept 4

Every mineral is composed of only one substance, and that substance is the same throughout the mineral.

Sub-concept 5

The properties of rocks and minerals determine how they are used.

Leveled Readers that support STC Unit: Rocks and Minerals

Grade and Title		GR Level	Macmillan/McGraw-Hill Science: A Closer Look Leveled Reader Description
2	Rocks and Minerals	K	Explores how rocks and soil are formed and how we use them
2	Minerals	L	Explores a variety of minerals and their characteristics
3	Gems	N	Examines gemstones and explains how they are formed and why they are valuable
4	Diamonds	O	Examines the characteristics and uses of diamonds, explaining where and how they are formed, and why they are valuable
4	Rocks	Q	Explains how rocks form and the changes they undergo during the rock cycle
4	What Is Happening to the Beach?	Q	Explores the process of erosion, its effect upon beaches, and how science is working to solve the problem
4	Gold!	S	Explores the element gold, including its properties, use and value
4	The Grand Canyon	S	Takes a trip through the Grand Canyon, examining what scientists have learned about its formation

STC Unit: Sound

Students explore the characteristics of sound, the variables that affect it, and how well it is transmitted and received.

Sub-concept 1

Sound is a form of kinetic energy that may be generated by a variety of means.

Sound travels as kinetic waves through different media.

Sub-concept 2

The pitch of sound varies with the frequency of vibration of the generating mechanism.

Sub-concept 3

The volume, or loudness, of sound is dependent on the amplitude of the vibration.

Sub-concept 4

Humans can both hear and produce sound.

Sub-concept 5

Sound may be generated by a variety of types of instruments.

Leveled Readers that support STC Unit: Sound

Grade and Title		GR Level	Macmillan/McGraw-Hill Science: A Closer Look Leveled Reader Description
1	Dolphin Sounds	B	Explores how dolphins use sound (echolocation) to find food

Leveled Readers that support STC Unit: Sound (continued)

1	What Sounds Say	F	Explores sounds and the different things sounds can tell us
3	The Sounds of Music	L	Explores sound as movement and tells how various musical instruments produce sound
5	Sonar, Radar, and Lasers	W	Explains sonar, radar, and lasers, and cites examples of their many uses.

STC Unit: Animal Studies

Students observe different animals and compare and contrast them in terms of needs, habitats, adaptations and their behaviors. These comparisons lead them to understanding how humans can alter their environments to suit their needs.

Sub-concept 1

The nature of a habitat controls the kinds of organisms that may survive within it

Sub-concept 2

The structures and behaviors of an organism determine how it adapts to its environment.

Sub-concept 3

An organism's structures and behaviors are related to its environment.

Sub-concept 4

A combination of behaviors and structures, rather than any single characteristic, enables an animal to survive in a particular habitat.

Leveled Readers that support STC Unit: Animal Studies

Grade and Title		GR Level	Macmillan/McGraw-Hill Science: A Closer Look Leveled Reader Description
2	Only in Madagascar	O	Explores what is threatening Madagascar and why some of its plants and animals are endangered
3	Living Communities	J	Identifies ecosystems around the world and explores the living communities found in each
3	Seahorses	M	Learn how seahorses protect themselves and their babies
3	Coral Reefs	N	Explores the underwater community of coral reefs
3	Life at the Poles	N	Learn about the climates at the North and South Poles and the wildlife that survives there
3	Wetlands	O	Explores wetlands and their importance to the environment
3	Creatures of the Deep	P	Explore the animals that live in the deepest parts of the ocean
3	Predator and Prey	P	Explores the relationship between predators and prey in the balance of nature
4	Rain Forests, Coral Reefs and Deserts	L	Examines three ecosystems and the threats that people pose to them
4	Desert Animals and Plants	O	Discusses adaptations that enable animals and plants to survive in the desert
4	Caves: A World of Their Own	Q	Discusses different types of caves and the organisms that live in these habitats

4	Hidden Food Webs	Q	Explores food webs found underground, on the shore, and in the sea
4	What on Earth is a Platypus?	R	Records the process that enabled scientists to classify the platypus

Leveled Readers that support STC Unit: Animal Studies (continued)

4	Partners in Nature	S	Explores the symbiotic relationship of several animals
4	Animal Senses	T	Investigates how animals use their senses to explore the world around them and survive
4	How Can We Save Them? (aka Endangered Animals)	U	Explores issues that have put species in danger and tells what people can do to save them
5	Nature's Partners	P	Discusses the three types of symbiosis - mutualism, commensalism, and parasitism
5	Costa Rican Rain Forests	S	Explores Earth's oceans, their ecosystems, and their importance to life on Earth
5	Ocean Ecosystems	S	Explores ocean ecosystems and their impact on life on Earth
5	Life Goes On	U	Discusses sexual and asexual reproduction, linking the ways plants and animals reproduce to the environments in which they live
5	Animal Adaptations	V	Explores adaptations that enable animals to find food or a mate, to move, or to protect themselves
5	Earth's Oceans	W	Explores Earth's oceans, their ecosystems, and their importance to life on Earth

STC Unit: Land and Water

Students are exposed to the various aspects of Earth's land and water features. They explore weather, geology, environmental science and landscape engineering as they work with stream tables.

Sub-concept 1

Different elements of earth systems interact to characterize the land and water landscape.

Sub-concept 2

Water evaporates, rises, condenses, and falls to earth, where it collects in lakes, oceans, rivers, and soil and rocks, in a process known as the water cycle.

Sub-concept 3

Streams and rivers slowly reshape the earth's land surface by eroding and carrying soil and rock.

Sub-concept 4

The properties of soils and the flow characteristics of water determine the nature of erosion and deposition.

Sub-concept 5

The interactions among the elements of the earth and circulating water change the landscape.

Sub-concept 6

Humans interact with natural elements to effect changes in the landscape.

Leveled Readers that support STC Unit: Land and Water

Grade and Title		GR Level	Macmillan/McGraw-Hill Science: A Closer Look Leveled Reader Description
3	Amazing Earth	L	Explores Earth's special features - land, water, and air - that enable it to sustain life
3	How Earthquakes and Volcanoes Shape Earth	N	Describes the causes and effects of earthquakes and volcanoes
3	Water, Water, Everywhere	N	Uses water and the water cycle to discuss the three states of matter - solid, liquid, and gas

3	Volcano!	P	Examines volcanoes, how they form beneath the Earth's crust, and what happens when they erupt
4	Why Does it Rain?	L	Explains the water cycle and how rain forms

Leveled Readers that support STC Unit: Land and Water (continued)

4	Glaciers	O	Explores how Earth changes by investigating how glaciers form and why they are disappearing
4	What Is Happening to the Beach?	Q	Explores the process of erosion, its effect upon beaches, and how science is working to solve the problem
4	Barrier Islands	R	Explores the changes that take place on barrier islands
4	El Niño	S	Examines the causes of El Niño and its effects on weather and the environment
4	The Grand Canyon	S	Takes a trip through the Grand Canyon, examining what scientists have learned about its formation
5	Earth's Water	S	Examines the uses of water, as well as the water cycle, recycling, pollution, and conservation
5	Shake, Rattle, Explode!	U	Discusses the Ring of Fire and the volcanoes and earthquakes that occur there
5	The Water Cycle	U	Discusses the water cycle, sources of fresh water, and water conservation
5	Earth's Heat	W	Examines all the layers of Earth, from the surface crust to the inner core
6	Changes at Earth's Surface	V	Explores agents of change - water, ice, and wind - and how they affect Earth's surface

STC Unit: Electric Circuits

Students investigate the basic properties of electricity, explore circuits, and design wiring schemes.

Sub-concept 1

A complete circuit is required to light a lightbulb.

Sub-concept 2

Different devices and materials play special roles in a circuit.

Sub-concept 3

Electricity flowing through a circuit may produce heat and light.

Sub-concept 4

Different strategies can be used to troubleshoot circuits

Sub-concept 5

Electric circuits are used to design and build useful devices.

Leveled Readers that support STC Unit: Electric Circuits

Grade and Title		GR Level	Macmillan/McGraw-Hill Science: A Closer Look Leveled Reader Description
3	Electrical Inventions	P	Gives a brief introduction to inventions that came about through the study of electricity
4	Thomas Edison	O	Presents a brief overview of Thomas Edison's life and work
4	It's Electric!	Q	Explains how electricity is made, stored and delivered to homes
4	Michael Faraday	Q	Biographical sketch that focuses on his work with magnetism and electricity

4	The Discovery of Electricity	S	Learn about static and current electricity and the scientists who put electricity to work for us
5	Magnetism	P	Explores magnets, magnetic fields, and the relationship between magnetism and electricity

STC Unit: Motion and Design

Students investigate motion, force, and stored energy as they explore how toys work and build their own vehicles.

Sub-concept 1

The products of technological design must meet certain specifications, which are set forth in technical drawings.

Sub-concept 2

The position and motion of an object may be changed by a force, such as pushing or pulling.

Sub-concept 3

The forces acting on a vehicle include different forms of energy that act as driving and resisting forces.

Sub-concept 4

Technological designs and products may be evaluated in terms of their cost, as well as their scientific and technological efficiency.

Leveled Readers that support STC Unit: Motion and Design

Grade and Title		GR Level	Macmillan/McGraw-Hill Science: A Closer Look Leveled Reader Description
3	Machines that Build	P	Shows how simple machines (the level, the inclined plane, and the pulley) as well as compound machines make work easier
4	Machines	R	Tells how simple machines (inclined plane, level, wheel and axle, pulley, screw, and wedge) and compound machines make work easier
4	The Story of Alloys	R	Explores the history of alloys, their uses, and their effect on our lives
4	Maglev Trains	S	Examines how magnets are used to operate environmentally safe maglev trains
4	Lever in Our Lives	T	Explores the simplest of machines - the level - and how it is used in our lives
5	What is GPS?	Q	Defines GPS (Global Positioning System) and describes its many uses
5	Motion and Energy at Play	T	Explores the physics and forces that are used in three popular sports - bicycling, skateboarding, and in-line skating
5	Alloys: Metals in the Mix	U	Discusses how alloys are made
5	Plastics	V	Explores the history and development of one of the most versatile materials - plastics
5	Sonar, Radar, and Lasers	W	Explains sonar, radar, and lasers, and cites examples of their many uses
6	Skates, Bikes, and Rockets	S	Explores Newton's three laws of motion
6	Finding our Way	T	Explores the history of navigation, from landmarks, the Sun and stars, to modern navigational methods such as GPS
6	Earthquake Proof Buildings	V	Explores different devices that reduce earthquake damage to buildings
6	Microwaves and Cooking	V	Discusses how Percy Spencer's accidental discovery led to the invention of the microwave oven
6	How Do Toys Work?	W	Explores Sir Isaac Newton's three laws of motion to explain how toys work
6	Einstein, Newton and Gravity	X	Compares and contrasts the theories of gravity and space of Sir Isaac Newton and Albert Einstein

STC Unit: Microworlds

Students become familiar with various types of magnifiers in order to explore the world of microscopic organisms

Sub-concept 1

Observation gives us relevant information about an object. Magnifiers allow us to observe greater detail.

Sub-concept 2

A microscope is one type of magnifying tool. Each part of the microscope has a specific function.

Sub-concept 3

Magnification reveals the cellular structure of living organisms.

Leveled Readers that support STC Unit: Microworlds

Grade and Title		GR Level	Macmillan/McGraw-Hill Science: A Closer Look Leveled Reader Description
4	Scientists and Cells	L	Discusses how scientists discovered cells and why that discovery was important
4	A World of Microorganisms	S	Examines microorganisms found in the body, in food, in water, and in soil
5	Cells	S	Explores cells, the tools used to study them, and the importance of cell research
5	One-Celled Organisms	U	Discusses one-celled organisms and the kingdoms into which they are classified
5	Can Cells Grow Too Much?	V	Explores how cells grow and how uncontrolled cell growth can lead to cancer
6	Microorganisms	S	Explores microorganisms, comparing and contrasting bacteria and protists
6	The Story of DNA	S	Outlines the advances made in genetics since the time of Gregor Mendel to the cracking of the DNA code and its future applications
6	Discovering the Secrets of Cells	X	Explores cells, what they do and how they work, and how scientists study them
6	Bacteria and Viruses	Y	Provides a general overview of bacteria and builds on this knowledge to explore viruses
6	Hidden Life in a Pond	Y	Explores microorganisms by taking a look at the hidden life in a pond

STC Unit: Ecosystems

Students create their own terrestrial and aquatic ecosystems as they investigate the interrelationships of each type of ecosystem

Sub-concept 1

Model ecosystems may be used to learn more about the relationships that exist on earth.

Sub-concept 2

Organisms in ecosystems have dependent and independent relationships.

Sub-concept 3

Nature and human activity may affect an ecosystem in beneficial or harmful ways.

Sub-concept 4

People can develop solutions to mitigate the effects of pollutants.

Leveled Readers that support STC Unit: Ecosystems

Grade and Title		GR Level	Macmillan/McGraw-Hill Science: A Closer Look Leveled Reader Description
4	Rain Forests, Coral Reefs, and Deserts	L	Examines three ecosystems and the threats that people pose to them

Leveled Readers that support STC Unit: Ecosystems (continued)

4	Desert Animals and Plants	O	Discusses adaptations that enable animals and plants to survive in the desert
4	Caves: A World of Their Own	Q	Discusses different types of caves and the organisms that live in these habitats
4	Hidden Food Webs	Q	Explores food webs found underground, on the shore, and in the sea
4	What's New on Earth	R	A look at animals that have been newly discovered on Earth
4	What on Earth is a Platypus?	R	Records the process that enabled scientists to classify the platypus
4	Partners in Nature	S	Explores the symbiotic relationship of several animals
4	How Can We Save Them? (Endangered Animals)	U	Explores issues that have put species in danger and tells what people can do to save them
5	Nature's Partners	P	Discusses the three types of symbiosis - mutualism, commensalism, and parasitism
5	Costa Rican Rain Forests	S	Explores rainforests, their ecosystems, and their importance to life on Earth
5	Ocean Ecosystems	S	Explores ocean ecosystems and their impact on life on Earth
5	Mission: Green Earth	U	Explores problems associated with the use of nonrenewable energy sources and makes a case for the use of renewable energy sources
5	Life Goes On	U	Discusses sexual and asexual reproduction, linking the ways plants and animals reproduce to the environments in which they live
5	Air Pollution	V	Explores air pollution, its causes, and its effects on Earth and on all living things
5	Animal Adaptations	V	Explores adaptations that enable animals to find food or a mate, to move, or to protect themselves
5	Earth's Oceans	W	Explores Earth's oceans, their ecosystems, and their importance to life on Earth
6	Antarctica: Land of Snow and Ice	V	Explores Antarctica, one of the most fascinating ecosystems on Earth
6	Greenhouse Effect	V	Discusses the greenhouse effect and tells how natural events and human actions on Earth can affect it
6	Tracing the Food Web	V	Explores food webs and shows how plants and animals relate to one another in an ecosystem
6	Earth's Changing Climate	W	Focuses on climate, the factors that affect it, and how scientists study it
6	Building a Biome	X	Describes the unique Deserts Biome at the Indianapolis Zoo
6	Exploring the Ocean Depths	X	Explores the different zones of the ocean and the animal life that exists in each
6	Food Webs of the Desert and Ocean	X	Explores different habitats and the dangers each faces
6	Ecosystems	Y	Discusses several endangered ecosystems and suggests how they might be saved

6	Hidden Life in a Pond	Y	Explores microorganisms by taking a look at the hidden life in a pond
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STC Unit: Food Chemistry

Students test various foods for nutrients and explore how they impact their health.

Sub-concept 1

Foods provide a variety of nutrients.

Sub-concept 2

Chemical and physical tests may be used to determine whether a food contains starches, glucose, fats, or proteins.

Sub-concept 3

Nutrients are essential to human health.

Sub-concept 4

Food labels provide information on nutrients that the body needs to stay healthy.

Leveled Readers that support STC Unit: Food Chemistry

Grade and Title		GR Level	Macmillan/McGraw-Hill Science: A Closer Look Leveled Reader Description
4	Salt	S	Explores the importance of salt and its role throughout history
5	Mixtures and Solutions	Q	Explores the properties of heterogeneous mixtures, solutions (homogenous mixtures), colloids, and suspensions
6	Chemical Changes	X	Examines simple chemical reactions and changes
6	Foods that Feed the World	X	Compares and contrasts various staples crops around the world

STC Unit: Floating and Sinking

Through observations and experimentation, students develop an understanding of density, displacement, and weight in relation to buoyancy.

Sub-concept 1

Several factors affect the buoyancy of an object.

Sub-concept 2

Water pushes up on floating and sinking objects with a buoyant force. Because of this, objects appear to weigh less when submerged.

Sub-concept 3

The amount of liquid an object displaces is directly related to its volume.

Sub-concept 4

The buoyant force on an object varies with the density of the liquid in which it is submerged.

Sub-concept 5

Objects that weigh more than an equal volume of water sink; those that weigh less float.

Leveled Readers that support STC Unit: Floating and Sinking

Grade and Title		GR Level	Macmillan/McGraw-Hill Science: A Closer Look Leveled Reader Description
3	What Sinks and Floats	P	Examines how mass, volume, and density of an object determine whether it will sink or float

STC Unit: Technology of Paper

Students investigate the science of papermaking and explore the technological design process

Sub-concept 1

Observations provide information about the properties of materials.

Sub-concept 2

Testing may reveal information on the properties of materials.

Sub-concept 3

Knowledge of the properties of materials helps develop strategies for their use.

Sub-concept 4

Scientific and technological knowledge of the properties of materials may be used to design strategies for the manufacture of paper products.

Leveled Readers that support STC Unit: Technology of Paper

Grade and Title		GR Level	Macmillan/McGraw-Hill Science: A Closer Look Leveled Reader Description
4	What's the Matter?	R	Explores the art of sculpting and sculpture, noting the materials, or kinds of matter and tools used
5	Mixtures and Solutions	Q	Explores the properties of heterogeneous mixtures, solutions (homogenous mixtures), colloids, and suspensions
5	Mission: Green Earth	U	Explores problems associated with the use of nonrenewable energy sources and makes a case for the use of renewable energy sources
6	Chemical Changes	X	Examines simple chemical reactions and changes

STC Unit: Experiments with Plants

Students study the variables that affect plant growth and determine ways to manipulate the different variables.

Sub-concept 1

Experiments are designed to test a hypothesis.

Sub-concept 2

Experiments may be designed to identify the effects of external variables on the stages in the life cycle of a plant.

Sub-concept 3

Collecting, evaluating, and sharing data are parts of the conduct of a scientific experiment.

Sub-concept 4

Scientists conduct a variety of investigations to discover new information about variables that affect plant growth.

Leveled Readers that support STC Unit: Experiments with Plants

Grade and Title		GR Level	Macmillan/McGraw-Hill Science: A Closer Look Leveled Reader Description
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5	Plants	S	Learn about plants and their parts and what plants provide.
5	Life Goes On	U	Discusses sexual and asexual reproduction, linking the ways plants and animals reproduce to the environments in which they live
5	Can Cells Grow Too Much?	V	Explores how cells grow and how uncontrolled cell growth can lead to cancer
6	Building a Biome	X	Describes the unique Deserts Biome at the Indianapolis Zoo

STC Unit: Magnets and Motors

Students investigate the properties of magnets and the magnetic properties of electric motors

MAGNETS AND MOTORS

Sub-concept 1

Magnets have distinctive properties.

Sub-concept 2

Magnets have opposite poles that may be used to determine direction.

Sub-concept 3

Magnetism is one property derived by electricity flowing through a circuit, and may be used to make an electromagnet.

Sub-concept 4

The magnetic properties of an electromagnet may be used to make a motor and generate electricity.

Leveled Readers that support STC Unit: Magnets and Motors

Grade and Title		GR Level	Macmillan/McGraw-Hill Science: A Closer Look Leveled Reader Description
4	Michael Faraday	Q	Biographical sketch that focuses on his work with magnetism and electricity
4	Magnets Attract	O	Learn about magnets' basic principles and where they can be found
4	Machines	R	Tells how simple machines (inclined plane, level, wheel and axle, pulley, screw, and wedge) and compound machines make work easier
4	Maglev Trains	S	Examines how magnets are used to operate environmentally safe maglev trains
5	Magnetism	P	Explores magnets, magnetic fields, and the relationship between magnetism and electricity
6	How Do Toys Work?	W	Explores Sir Isaac Newton's three laws of motion to explain how toys work