FL Grade 4 Science

Course Pacing Guide

UNIT | Earth Materials *(2 weeks)*
- **1.1 | Rocks** *(3days)*
- **1.2 | Rock Dating** *(1 day)*
- **1.3 | Minerals** *(3 days)*
- **1.4 | Mineral Resources** *(3 days)*
- **1.5 | Erosion and Deposition** *(4 days)*

UNIT | Ecosystems *(3 weeks)*
- **2.1 | Parts of Ecosystems** *(4 days)*
- **2.2 | Interactions in Ecosystems** *(4days)*
- **2.3 | Long-Term Changes in Ecosystems** *(1 days)*
- **2.4 | Short-Term Changes in Ecosystems** *(2 days)*
- **2.5 | Human Effects on Ecosystems** *(4 days)*

UNIT | Energy *(3 weeks)*
- **3.1 | Forms of Energy** *(4 days)*
- **3.2 | Thermal Energy** *(3 days)*
- **3.3 | Temperature** *(3 days)*
- **3.4 | Heat Transfer** *(3 days)*
- **3.5 | Energy in Systems** *(2 days)*

UNIT | Exploring Space *(2 weeks)*
- **4.1 | The Cycle of Day and Night** *(3 days)*
- **4.2 | Moon Phases** *(3 days)*
- **4.3 | The Seasons** *(3 day)*
- **4.4 | Space Travel** *(1 day)*

UNIT | Life Cycles *(3 weeks)*
- **5.1 | Organism Needs** *(0.5 days)*
- **5.2 | Food and Oxygen** *(2.5 days)*
- **5.3 | Habitat Characteristics** *(1 day)*
- **5.4 | Plant Life Cycles** *(6 days)*
- **5.5 | Plant Reproduction** *(2 days)*
- **5.6 | Animal Life Cycles** *(4 days)*
- **5.7 | Decomposition** *(3 days)*

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Course Pacing Guide

UNIT | Motion *(1.5 weeks)*
- **6.1 | Describing Motion** *(4 days)*
- **6.2 | Speed Distance and Time** *(3 days)*

UNIT | Natural Resources *(1.5 weeks)*
- **7.1 | Value of Renewable Resources** *(4 days)*
- **7.2 | Fossil Fuels** *(2 days)*
- **7.3 | Sunlight** *(2 days)*

UNIT | Traits and Inheritance *(1.5 weeks)*
- **8.1 | Similarities of Parents and Offspring** *(3 days)*
- **8.2 | Learning** *(3 days)*

UNIT | Properties of Matter *(2 weeks)*
- **9.1 | Measuring Matter** *(1 days)*
- **9.2 | Size and Shape** *(3 days)*
- **9.3 | Mass and Weight** *(1 days)*
- **9.4 | Magnets** *(4 days)*
- **9.5 | Materials for a Purpose** *(1 days)*

UNIT | Body Systems *(1.5 weeks)*
- **10.1 | Muscles and Bones** *(3 days)*
- **10.2 | Circulation and Respiration** *(3 days)*
- **10.3 | Digestion and Excretion** *(2 days)*

UNIT | Sound *(1 week)*
- **11.1 | Sound Waves** *(1 day)*
- **11.2 | Volume** *(1 day)*
- **11.3 | Pitch** *(2 days)*

FL Grade 4 Science

Course Pacing Guide

UNIT: Earth Materials	Unit Assessment

1.1 Rocks

Recommended Timeframe: (3 Days)

Benchmarks:

SC.4.E.6.1 - Identify the three categories of rocks: igneous, (formed from molten rock); sedimentary (pieces of other rocks and fossilized organisms); and metamorphic (formed from heat and pressure). (Cognitive Complexity/Depth of Knowledge Rating: Low)

Key Resources:

Engage: Hands-On Activity: Sorting Rocks (SC.4.E.6.1)

Explore: How Are Rocks Different from and Similar to Each Other? How Do Scientists Classify Rocks? How Do Rocks Form? (CIT, Videos and TEI) (SC.4.E.6.1)

Explore More Resources: Rocks (Exploration) (SC.4.E.6.1)

Explain: Explaining Rocks (CIT, TEI) (SC.4.E.6.1)

Hands-On Activities & Hands-On Labs:

Sorting Rocks

Rocks Assessment

Key Vocabulary:

crystal, sedimentary rock, mantle, erosion, cycle, ore, liquid, lava, pressure, density, sediment, rock layer, landform, granite, bedrock, boulder, erupt, rock cycle, mineral, metamorphic rock, igneous rock, molten, solid , calcium, magma, matter, limestone

FL Grade 4 Science

Course Pacing Guide

UNIT: Earth Materials | **Unit Assessment**

1.2 Rock Dating

Recommended Timeframe: (1 Day)

Benchmarks:

SC.4.E.6.1 - Identify the three categories of rocks: igneous, (formed from molten rock); sedimentary (pieces of other rocks and fossilized organisms); and metamorphic (formed from heat and pressure). (Cognitive Complexity/Depth of Knowledge Rating: Low)

Key Resources:

Explore: How Are Igneous, Sedimentary and Metamorphic Rocks Similar and Different in Their Formation? (CIT & TEI)
(SC.4.E.6.1)

Hands-On Activities & Hands-On Labs:

Rock Dating Assessment

Key Vocabulary:

sediment, prehistoric, rock layer, coal, rock cycle, geology, landform, fossil, sedimentary rock, bedrock, volcano, weathering, erosion, analyze, igneous rock, earthquake, metamorphic rock, fault

FL Grade 4 Science

Course Pacing Guide

UNIT: Earth Materials | **Unit Assessment**

1.3 Minerals

Recommended Timeframe: (3 Days)

Benchmarks:

SC.C.4.E.6.2 - Identify the physical properties of common earth-forming minerals, including hardness, color, luster, cleavage, and streak color, and recognize the role of minerals in the formation of rocks. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

SC.4.E.6.3 - Recognize that humans need resources found on Earth and that these are either renewable or nonrenewable. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

SC.4.E.6.5 - Investigate how technology and tools help to extend the ability of humans to observe very small things and very large things. (Cognitive Complexity/Depth of Knowledge Rating: High)

Key Resources:

Engage: Exploring One of Earth's Treasures: Minerals (CIT, video, images, TEI)) (SC C.4.E.6.2)

Explore: What is a Mineral and How Are Minerals Formed (CIT)

Explore: How Do Scientists Identify and Classify Minerals? (CIT & video) (SC C.4.E.6.2)

Explore More Resources: Minerals (Exploration)

Explore: What is the Relationship Between Rocks and Minerals (CIT) (SC C.4.E.6.2)

Explore More Resources: Minerals: The Building Blocks of Rocks (Reading Passage) (SC.C.4.E.6.2)

Explain: Explaining Minerals (CIT & TEI) (SC.C.4.E.6.2)

Explore: How Can Tools Help to Observe Small Details in Minerals? (CIT) (SC.4.E.6.5)

Elaborate: Project: They Are Your Main Minerals (STEM Project Starter) (SC.4.E.6.3)

Hands-On Activities & Hands-On Labs

Minerals Summative Concept Assessment

Key Vocabulary:

synthetic, minerals, crystal, cleavage, salt, luster, ore, streak, granite, pure substance,microscope, magnet, optical, chemical, resource, mineral, molecule, hardness, natural resources, igneous rock, abiotic, earth materials, calcium, magma, matter, metal, magnify

FL Grade 4 Science

Course Pacing Guide

UNIT: Earth Materials | **Unit Assessment**

1.4 Mineral Resources

Recommended Timeframe: (3 Days)

Benchmarks:

SC.4.E.6.3 - Recognize that humans need resources found on Earth and that these are either renewable or nonrenewable. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

SC.4.E.6.6 - Identify resources available in Florida (water, phosphate, oil, limestone, silicon, wind, and solar energy). (Cognitive Complexity/Depth of Knowledge Rating: Low)

Key Resources:

Engage: Renewables and Non-renewables (video)
(SC.4.E.6.3)
Explore: How Do Minerals Help Improve Our Daily Lives? & How Does Recycling Minerals Benefit Society? (CIT and TEI)
(SC.4.E.6.3)
Explore More Resources: Mineral Resources (Exploration)
(SC.4.E.6.3)
Explain: Explaining Mineral Resources (CIT & TEI)
(SC.4.E.6.3)
Elaborate: Project: Recycling in Your Community (STEM Project Starter)
(SC.4.E.6.3)

Hands-On Activities & Hands-On Labs
Mineral Resources: Minerals in Everyday Life

Mineral Resources Assessment

Key Vocabulary:

minerals, crystal, sedimentary rock, cleavage, luster, crust, ore, renewable resource, element, geology, mixture, magnetite, mineral, metamorphic rock, hardness, natural resources, igneous rock, hardness, atom, compound, earth materials, nonrenewable, metal, limestone

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Course Pacing Guide

UNIT: Earth Materials | **Unit Assessment**

1.5 Erosion and Deposition

Recommended Timeframe: (4 Days)

Benchmarks:

SC.4.E.6.4 - Describe the basic differences between physical weathering (breaking down of rock by wind, water, ice, temperature change, and plants) and erosion (movement of rock by gravity, wind, water, and ice). (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

Key Resources:

Engage: Introduction Erosion and Deposition (Video)
(SC.4.E.6.4)
Explore: What is Weathering, and What Causes It? (CIT & videos)
(SC.4.E.6.4)
Explore: What Is Erosion and How Does It Happen? (CIT and video)
(SC.4.E.6.4)
Explore More Resources: Erosion – Here Today, Gone Tomorrow (Virtual Lab)
(SC.4.E.6.4)
Explore: What Is Deposition, and Why Does It Happen? (CIT, image and TEI)
(SC.4.E.6.4)
Explain: Explaining Erosion and Deposition (CIT & TEI)
(SC.4.E.6.4)

Hands-On Activities & Hands-On Labs:
Erosion, Deposition and Weathering

Erosion and Deposition Assessment

Key Vocabulary:
valley, sedimentary rock, erosion, hurricane, surface, glacier, mountain, sediment, landform, dune, geology, weathering (physical), soil, freeze, deposit, delta, interact, rock cycle, flood, water, river, matter, feature, canyon

FL Grade 4 Science

Course Pacing Guide

UNIT: Ecosystems | **Unit Assessment**

2.1 Parts of Ecosystems

Recommended Timeframe: (4 Days)

Benchmarks:

SC.4.L.17.4 - Recognize ways plants and animals, including humans, can impact the environment. (Cognitive Complexity/Depth of Knowledge Rating: High)

Key Resources:

Explore: What Makes Up a Balanced or Healthy Ecosystem? (CIT &video)
(SC.4.L.17.4)
Explore: How Are the Parts of an Ecosystem Interdependent? (CIT)
(SC.4.L.17.4)
Explore: What Can Happen If an Ecosystem Becomes Unbalanced? (CIT, video)
(SC.4.L.17.4)
Explore: The Balance of Ecosystems (Reading Passage)
(SC.4.L.17.4)
Explore More Resources: Pond-er This (Virtual lab)
(SC.4.L.17.4)
Explain: Explaining Ecosystems (CIT and TEI)
(SC.4.L.17.4)

Hands-On Activities & Hands-On Labs:

In a Food Web
Modeling the Flow of Energy and Matter in an Ecosystem

Parts of Ecosystems Assessment

Key Vocabulary:

prey, ecosystem, population, decomposer, tropical, food web, food chain, system, consumer, energy (organisms), model, predator, biodiversity, swamp, biological diversity, nutrients, mountain, interact, habitat, coral reef , natural, abiotic, sun, water, biotic, environment, rain forest, producer, carbon dioxide, niche, community

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Course Pacing Guide

UNIT: Ecosystems | **Unit Assessment**

2.2 Interactions in Ecosystems

Recommended Timeframe: (4 Days)

Benchmarks:

SC.4.L.17.2 - Explain that animals, including humans, cannot make their own food and that when animals eat plants or other animals, the energy stored in the food source is passed to them. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

SC.4.L.17.3 - Trace the flow of energy from the Sun as it is transferred along the food chain through the producers to the consumers. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

SC.4.L.17.4 - Recognize ways plants and animals, including humans, can impact the environment. (Cognitive Complexity/Depth of Knowledge Rating: High)

Key Resources:

Explore: How Do Living Things Depend on Nonliving Things to Survive in an Ecosystem? (CIT, video, TEI)
(SC.4.L.17.2, SC.4.L.17.3)

Explore: How Do Living Things Interact with Other Living Things in the Same Ecosystem? (CIT, video & TEI)
(SC.4.L.17.2, SC.4.L.17.3)

Explore: How Can the Disappearance of One Species Affect Other Species in an Ecosystem? (CIT)
(SC.4.L.17.4)

Explore: How Do Changes Caused by Humans Affect Organisms in an Ecosystem? (CIT, videos & TEI)
(SC.4.L.17.4)

Explain: Explaining Interactions in Ecosystems (CIT and TEI)
(SC.4.L.17.2, SC.4.L.17.3, SC.4.L.17.4)

Elaborate: Project: Hazards at Home (STEM Project Starter)
(SC.4.L.17.4)

Hands-On Activities & Hands-On Labs:

Hazards at Home

Interactions in Ecosystems Assessment

Key Vocabulary:

prey, ecosystem, consumer, food web, decompose, food chain, survive, energy (organisms),model, predator, biodiversity, decay, biological diversity, organism, nutrients, environment, natural, pollute, species, wetland, recycle, producer, light, carbon dioxide, community

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Course Pacing Guide

UNIT: Ecosystems	Unit Assessment

2.3 Long-Term Changes in Ecosystems

Recommended Timeframe: (1 Day)

Benchmarks:

SC.4.L.17.4 - Recognize ways plants and animals, including humans, can impact the environment. (Cognitive Complexity/Depth of Knowledge Rating: High)

Key Resources:

Elaborate: Project: Analyzing Carbon Dioxide Emissions (STEM Project Starter) (SC.4.L.17.4)

Explain: Explaining Long-Term Changes in Ecosystems (CIT and TEI)

Hands-On Activities & Hands-On Labs:

Long-Term Changes in Ecosystems: Summative Assessment

Key Vocabulary:

species, extinct, ecosystem, tropical, habitat, camouflage, fossil, paleontologist, adaptation, temperate, evidence, biological diversity, natural, pollute, water

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Course Pacing Guide

UNIT: Ecosystems	Unit Assessment

2.4 Short-Term Changes in Ecosystems

Recommended Timeframe: (2 Days)

Benchmarks:

SC.4.L.17.4 - Recognize ways plants and animals, including humans, can impact the environment. (Cognitive Complexity/Depth of Knowledge Rating: High)

Key Resources:

Engage: Changes People Cause (TEI)
(SC.4.L.17.4)
Explore: How Do Humans Cause Short-Term Changes to Ecosystems? (CIT, videos)
(SC.4.L.17.4)
Elaborate: Project: Designing Tools for an Ecosystem Clean-up (STEM Project Starter)
(SC.4.L.17.4)

Hands-On Activities & Hands-On Labs:

Hands-On Activity: Acid Rain

Short-Term Changes in Ecosystems Assessment

Key Vocabulary:

lava, environment, ecosystem, population, temperature (weather), period, season, earthquake, tsunami, flood, organism, hurricane, tornado, cycle, deposit, deforestation, pollute, precipitation, water

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Course Pacing Guide

UNIT: Ecosystems | **Unit Assessment**

2.5 Human Effects on Ecosystems

Recommended Timeframe: (4 Days)

Benchmarks:

SC.4.L.17.4 - Recognize ways plants and animals, including humans, can impact the environment. (Cognitive Complexity/Depth of Knowledge Rating: High)

Key Resources:

Engage: How Do Humans Affect the Ecosystem? What Do You Already Know About Human Effects on Ecosystems? (CIT, video, TEIs)
(SC.4.L.17.4)

Explore: How Do Human Activities Negatively Affect Ecosystems? (CIT, videos & TEI)
(SC.4.L.17.4)

Explore: How Are Humans Connected to Changes in Ecosystems? (CIT & TEIs)
(SC.4.L.17.4)

Explain: Explaining Human Effects on Ecosystems (CIT & TEI)
(SC.4.L.17.4)

Elaborate: STEM in Action (CIT, videos and TEI)
(SC.4.L.17.4)

Hands-On Activities & Hands-On Labs:

It's All Downstream

Human Effects on Ecosystems Assessment

Key Vocabulary:

ecosystem, population, freshwater, food web, fossil fuels, estuary, food chain, renewable resource, endangered species, extinct, grassland, biodiversity, swamp, coal, animal, plant, habitat, climate, biological diversity, pollute, tundra, species, microorganism, wetland, recycle, environment, rain forest, carbon dioxide, niche, groundwater, community

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Course Pacing Guide

UNIT: Energy | **Unit Assessment**

3.1 Forms of Energy

Recommended Timeframe: (4 Days)

Benchmarks:

SC.4.P.10.1 - Observe and describe some basic forms of energy, including light, heat, sound, electrical, and the energy of motion. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

SC.4.P.10.4 - Describe how moving water and air are sources of energy and can be used to move things. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

Key Resources:

Engage: What is Energy? (CIT, videos, TEIs)
(SC.4.P.10.1)
Explore: What Is Energy, and What Are Some Different Types of Energy? (CIT)
(SC.4.P.10.1)
Explore More Resources: Forms of Energy (Exploration)
(SC.4.P.10.1)
Explore: What Types of Energy Can and Cannot Be Sensed? (CIT)
(SC.4.P.10.1)
Explore: What Is the Difference between Potential and Kinetic Energy? (CIT & TEI)
(SC.4.P.10.1, SC.4.P.10.1)
Explore: How Can the Energy of Wind and Water Be Used? (CIT & TEI)
(SC.4.P.10.4)
Explain: Explaining Energy (CIT & TEI)
(SC.4.P.10.1, SC.4.P.10.1)

Hands-On Activities & Hands-On Labs:
Forms of Energy

Energy Assessment

Key Vocabulary:
work, wavelength, fossil fuels, chemical energy, radiation, gravity, nuclear energy, energy (organisms), sound wave, mechanical energy, sound, electric, energy, solar energy, transmit, energy (physical), radiant energy, fuel, kinetic energy, potential energy, gas, nucleus, power, molecule, conservation of energy, light, heat

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Course Pacing Guide

UNIT: Energy | **Unit Assessment**

3.2 Thermal Energy

Recommended Timeframe: (3 Days)

Benchmarks:

SC.4.P.11.1 - Recognize that heat flows from a hot object to a cold object and that heat flow may cause materials to change temperature. (Cognitive Complexity/Depth of Knowledge Rating: Low)

Key Resources:

Engage: How Do You Use Thermal Energy? (CIT, videos and TEIs)
(SC.4.P.11.1)
Explore: How Does Thermal Energy Affect the Particles That Make Up Matter? (CIT)
(SC.4.P.11.1)
Explore: How Can Thermal Energy Be Transferred? (CIT & TEI)
(SC.4.P.11.1)
Explain: Explaining Thermal Energy (CIT and TEI)
(SC.4.P.11.1)
Elaborate: Project: Keeping Things Cool (STEM Project Starter)
(SC.4.P.11.1)

Hands-On Activities & Hands-On Labs:
Thermal Energy Transfer

Thermal Energy Assessment

Key Vocabulary:
conduct, chemical energy, burn, insulate, radiation, motion, surface, nuclear energy, steam, energy, solar energy, transmit, degree, energy (physical), boil, radiant energy, chemical reaction, fuel, warm, friction, atom, convection, matter, convection (heat), light, heat, temperature (general), thermal energy

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Course Pacing Guide

UNIT: Energy | **Unit Assessment**

3.3 Temperature

Recommended Timeframe: (3 Days)

Benchmarks:

SC.4.P.11.1 - Recognize that heat flows from a hot object to a cold object and that heat flow may cause materials to change temperature. (Cognitive Complexity/Depth of Knowledge Rating: Low)

SC.4.P.8.2 - Identify properties and common uses of water in each of its states. (Cognitive Complexity/Depth of Knowledge Rating: Low)

Key Resources:

Engage: Investigating Temperature (CIT, videos and TEIs)
(SC.4.P.11.1)
Explore: How is Thermal Energy Measured? (CIT)
(SC.4.P.11.1)
Explore: What Happens When Ice Cubes and Warm Water Are Mixed Together, and Why Does This Happen? (CIT, video & TEI)
(SC.4.P.11.1)
Explain: Explaining Temperature (CIT & TEI)
(SC.4.P.11.1)

Hands-On Activities & Hands-On Labs:
Heating Ice

Temperature Assessment

Key Vocabulary:
thermostat, Celsius, boiling point, thermal energy, energy, measure, thermometer (weather),degree, Fahrenheit, warm, heat, temperature (general), temperature (weather), metric system

FL Grade 4 Science

Course Pacing Guide

UNIT: Energy	Unit Assessment

3.4 Heat Transfer

Recommended Timeframe: (3 Days)

Benchmarks:

SC.4.P.11.2 - Identify common materials that conduct heat well or poorly. (Cognitive Complexity/Depth of Knowledge Rating: Low)

Key Resources:

Explore: Why Would You Categorize an Object as a Conductor or an Insulator? (CIT & TEI) (SC.4.P.11.2)

Explore More Resources: Heat in the Move (Exploration) (SC.4.P.11.2)

Explain: Explaining Heat Transfer (CIT & TEI) (SC.4.P.11.2)

Elaborate: Project: Home Insulation (STEM Project Starter) (SC.4.P.11.2)

Hands-On Activities & Hands-On Labs:

Heat Transfer Assessment

Key Vocabulary:

radiant energy, conduct, infrared, transfer, warm, energy, convection (heat), transmit, metal, insulate, radiation, heat, temperature (general), conductor, thermal energy, convection (weather)

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Course Pacing Guide

UNIT: Energy	Unit Assessment

3.5 Energy in Systems

Recommended Timeframe: (2 Days)

Benchmarks:

SC.4.P.10.2 - Investigate and describe that energy has the ability to cause motion or create change. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

SC.4.P.10.4 - Describe how moving water and air are sources of energy and can be used to move things. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

Key Resources:

Explore: How Do Living Things and Machines Use Chemical Energy? (CIT) (SC.4.P.10.2)

Explore: More Resources: Energy in Systems (Exploration) (SC.4.P.10.2)

Explore: How Can the Energy of Moving Water and Air Be Used to Make Things Move? (CIT, videos and TEI) (SC.4.P.10.4)

Hands-On Activities & Hands-On Labs:

Energy in Systems

Key Vocabulary:

ecosystem, decomposer, consumer, fossil fuels, chemical energy, radiation, food chain, energy transfer, water cycle, energy (organisms), mechanical energy, energy, solar energy, transmit, energy (physical), chemical, conservation of energy, kinetic energy, river, system,power, atom, species, photosynthesis , producer, heat, hydroelectric power, digestive system

FL Grade 4 Science

Course Pacing Guide

UNIT: Exploring Space | **Unit Assessment**

4.1 The Cycle of Day and Night

Recommended Timeframe: (3 Days)

Benchmarks:

SC.4.E.5.1 - Observe that the patterns of stars in the sky stay the same although they appear to shift across the sky nightly, and different stars can be seen in different seasons. (Cognitive Complexity/Depth of Knowledge Rating: High)

SC.4.E.5.3 - Recognize that Earth revolves around the Sun in a year and rotates on its axis in a 24-hour day. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

SC.4.E.5.4 - Relate that the rotation of Earth (day and night) and apparent movements of the Sun, Moon, and stars are connected. (Cognitive Complexity/Depth of Knowledge Rating: High)

Key Resources:

Engage: Explaining Day and Night (CIT, videos & TEIs)
(SC.4.E.5.3)
Explore: How Does Earth's Rotation Affect the Cycle of Day and Night? (CIT, video & TEI)
(SC.4.E.5.3, SC.4.E.5.4)
Explore: Why Do Some Parts of Earth Experience Daytime When Other Parts of Earth Experience Nighttime? (CIT)
Explore More Resources: The Cycle of Day and Night (Exploration)
Explore: How Does Earth's Rotation Affect the Way We View the Planets, the Sun, and the Stars around Us? (CIT, video & TEI)
(SC.4.E.5.1, SC.4.E.5.3, SC.4.E.5.4)
Explain: Explaining Day and Night (CIT & TEI)
Elaborate: Project: How Do Shadows Move Over the Course of a Day? (STEM Project Starter)

Hands-On Activities & Hands-On Labs:
Investigating Shadows Over the Course of a Day

The Cycle of Day and Night Assessment

Key Vocabulary:
season, planet, axis, radiation, orbit, light, position, rotate, phase, revolve, energy (physical),cycle, sundial, period, sun

FL Grade 4 Science

Course Pacing Guide

UNIT: Exploring Space | **Unit Assessment**

4.2 Moon Phases

Recommended Timeframe: (3 Days)

Benchmarks:

SC.4.E.5.1 - Observe that the patterns of stars in the sky stay the same although they appear to shift across the sky nightly, and different stars can be seen in different seasons. (Cognitive Complexity/Depth of Knowledge Rating: High)

SC.4.E.5.2 - Describe the changes in the observable shape of the moon over the course of about a month. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

SC.4.E.5.3 - Recognize that Earth revolves around the Sun in a year and rotates on its axis in a 24-hour day. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

SC.4.E.5.4 - Relate that the rotation of Earth (day and night) and apparent movements of the Sun, Moon, and stars are connected. (Cognitive Complexity/Depth of Knowledge Rating: High)

SC.4.E.6.5 - Investigate how technology and tools help to extend the ability of humans to observe very small things and very large things. (Cognitive Complexity/Depth of Knowledge Rating: High)

Key Resources:

Engage: Wondering about Moon Phases (CIT, video, TEIs)
(SC.4.E.5.2)
Explore: Why Does the Moon's Appearance Change in Predictable Ways over Time? (CIT)
(SC.4.E.5.2)
Explore More Resources: Cycles in the Sky (Fun-damental)
(SC.4.E.5.1, SC.4.E.5.2, SC.4.E.5.3, SC.4.E.5.4)
Explain: Explaining Phases of the Moon (CIT & TEI)
(SC.4.E.5.2)
Elaborate: Technology and Moon Phases (STEM in Action)
(SC.4.E.5.5)

Hands-On Activities & Hands-On Labs:
Sun, Earth and Moon

Phases of the Moon Assessment

Key Vocabulary:
lava, lunar, predict, period, telescope, crater, radiation, reflect, magnify, diameter, position, volcano, rotate, phase, meteorite, light, gravity, moon, mountain, orbit

FL Grade 4 Science

Course Pacing Guide

UNIT: Exploring Space | **Unit Assessment**

4.3 The Seasons

Recommended Timeframe: (3 Days)

Benchmarks:

SC.4.E.5.1 - Observe that the patterns of stars in the sky stay the same although they appear to shift across the sky nightly, and different stars can be seen in different seasons. (Cognitive Complexity/Depth of Knowledge Rating: High)

SC.4.E.5.3 - Recognize that Earth revolves around the Sun in a year and rotates on its axis in a 24-hour day. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

Key Resources:

Explore: How Does Earth Move in Relation to the Sun? (CIT)
(SC.4.E.5.3)
Explore: What Evidence Shows That the Sun's Path through the Sky Is Predictable or Unpredictable? (CIT)
(SC.4.E.5.3)
Explore More Resources: When's the Shadow There? (Virtual Lab)
(SC.4.E.5.3)
Explore: Why Are Different Constellations Visible at Different Seasons of the Year? (CIT)
(SC.4.E.5.1)
Explore More Resources: Constellations (Exploration)
(SC.4.E.5.1)

Hands-On Activities & Hands-On Labs:

The Changing Constellations

The Seasons Assessment

Key Vocabulary:

season, tropical, orbit, radiation, planet, predict, period, equator, position, energy (physical), annual, hemisphere, radiant energy, constellation, rotate, sun, water, polar, axis, temperature (weather), revolve, air, Arctic, latitude

FL Grade 4 Science

Course Pacing Guide

UNIT: Exploring Space	Unit Assessment

4.4 Space Travel

Recommended Timeframe: (1 day)

Benchmarks:

SC.4.E.5.5 - Investigate and report the effects of space research and exploration on the economy and culture of Florida. (Cognitive Complexity/Depth of Knowledge Rating: High)

SC.4.E.6.5 - Investigate how technology and tools help to extend the ability of humans to observe very small things and very large things. (Cognitive Complexity/Depth of Knowledge Rating: High)

Key Resources:

Explore: How Does Technology Help Humans Extend Their Understanding of Space? (CIT and video)
(SC.4.E.6.5)

Hands-On Activities & Hands-On Labs:

Space Travel Assessment

Key Vocabulary:

space, astronaut, thrust, satellite, orbit, astronomy, launch, planet, moon, light year, universe, hypothesis

FL Grade 4 Science

Course Pacing Guide

UNIT: Life Cycles	Unit Assessment

5.1 Organism Needs

Recommended Timeframe: (0.5 Days)

Benchmarks:

SC.4.L.17.2 - Explain that animals, including humans, cannot make their own food and that when animals eat plants or other animals, the energy stored in the food source is passed to them. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

Key Resources:

Engage: What Do You Already Know about Organism Needs? (TEI)
(SC.4.L.17.2)

Hands-On Activities & Hands-On Labs:

Organism Needs Assessment

Key Vocabulary:

range, food chain, survive, energy (organisms), habitat, soil, organism, nutrients,offspring, variation, adaptation, shelter, marine, characteristic, water, reproduce, photosynthesis , oxygen, trait, migration, rain forest, light, carbon dioxide, instinct, hibernate, air

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Course Pacing Guide

UNIT: Life Cycles | **Unit Assessment**

5.2 Food and Oxygen

Recommended Timeframe: (2.5 Days)

Benchmarks:

SC.4.L.17.2 - Explain that animals, including humans, cannot make their own food and that when animals eat plants or other animals, the energy stored in the food source is passed to them. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

SC.5.L.14.2 - Compare and contrast the function of organs and other physical structures of plants and animals, including humans, for example: some animals have skeletons for support -- some with internal skeletons others with exoskeletons -- while some plants have stems for support. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

Key Resources:

Engage: Combining Food and Oxygen so You Can Walk, Run, and Play (CIT & TEIs) (SC.4.L.17.2, SC.5.L.14.2)

Explore: How Do Animals Get the Energy They Need to Live? (CIT, video) (SC.4.L.17.2)

Explore: Food Chains (video) (SC.4.L.17.2)

Explore: How Do Animals Get the Oxygen They Need to Live? (CIT & TEI) (SC.5.L.14.2)

Explain: Explaining Food and Oxygen (CIT & TEI)

Elaborate: Project: Herbivores, Carnivores, and Omnivores (STEM Project Starter) (SC.4.L.17.2)

Hands-On Activities & Hands-On Labs:

Hands-On Activity: Creating and Comparing Food Chains

Food and Oxygen Assessment

Key Vocabulary:

prey, herbivore, consumer, animal, food web, food chain, circulatory system, minerals, energy (organisms), carnivore, predator, characteristic, instinct, scavenger, nutrients, protein, behavior, adaptation, respiratory system, natural resources, gills, water, photosynthesis , oxygen, producer, carbon dioxide, air, omnivore

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Course Pacing Guide

UNIT: Life Cycles	Unit Assessment

5.3 Habitat Characteristics

Recommended Timeframe: (1 Days)

Benchmarks:

SC.4.L.17.1 - Compare the seasonal changes in Florida plants and animals to those in other regions of the country. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

Key Resources:

Explore: How Does an Animal's Structure or Behavior Help It to Survive in its Habitat? (CIT) (SC.4.L.17.1)

Elaborate: Project: Comparing Habitats (STEM Project Starter) (SC.4.L.17.1)

Hands-On Activities & Hands-On Labs:

Hands-On Activity: Animal Habitat

Habitat Characteristics

Key Vocabulary:

range, skin, adult, desert, system, survive, habitat, grassland, soil, organism, environment, adaptation, marine, water, river, migration, matter, rain forest, producer, light, hibernate, air, Arctic

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Course Pacing Guide

UNIT: Life Cycles | **Unit Assessment**

5.4 Plant Life Cycles

Recommended Timeframe: (6 Days)

Benchmarks:

SC.4.L.16.1 - Identify processes of sexual reproduction in flowering plants, including pollination, fertilization (seed production), seed dispersal, and germination. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

SC.4.L.16.4 - Compare and contrast the major stages in the life cycles of Florida plants and animals, such as those that undergo incomplete and complete metamorphosis, and flowering and nonflowering seed-bearing plants. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

Key Resources:

Engage: What Is a Plant Life Cycle? (CIT, video & TEIs)
(SC.4.L.16.1)
Elaborate: Project: Germination and Plant Growth (STEM Project Starter)
(SC.4.L.16.1)
Explore: What Are the Stages of the Life Cycle of a Plant? (CIT, videos & TEI)
(SC.4.L.16.1)
Explore: Life Cycle Stages (Exploration)
(SC.4.L.16.1)
Explore: Why Do Plants Need Seeds or Spores? (CIT & video)
(SC.4.L.16.1)
Explore: How Do Plants Change and Grow Throughout Their Life Cycle? (CIT and TEI)
(SC.4.L.16.1)
Explain: Explaining Plant Life Cycles (CIT and TEI)
(SC.4.L.16.1)

Hands-On Activities & Hands-On Labs:
Germination and Plant Growth

Plant Life-Cycles Assessment

Key Vocabulary:
seedling, pollen , reproduce, photosynthesis , pollination, fern, mature, germination, decay, decompose, life cycle, cone , sprout, moss, seed, spore, plant, fertilize, conifer , cycle, sperm cell

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Course Pacing Guide

UNIT: Life Cycles	Unit Assessment

5.5 Plant Reproduction

Recommended Timeframe: (2 Days)

Benchmarks:
SC.3.L.14.1 - Describe structures in plants and their roles in food production, support, water and nutrient transport, and reproduction. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

Key Resources:
Explore: How Do Plants Reproduce (CIT)
(SC.3.L.14.1)
Explore: How Do Plants Reproduce (video)
(SC.3.L.14.1)
Explore: How Do Reproductive Structures and Processes Differ among Plants? (CIT & TEI)
(SC.3.L.14.1)
Explore More Resources: Flowering and Reproduction (Exploration)
(SC.3.L.14.1)
Explain: Explaining Plant Reproduction (CIT & TEI)
(SC.3.L.14.1)

Hands-On Activities & Hands-On Labs:
Reproductive Parts of a Flowering Plant

Plant Reproduction Assessment

Key Vocabulary:
pollination, root, stem, seed, pistil, habitat, fruit, flowering plant, plant, male, germination, fern, biome, cell, moss, gene, stigma, pollen , reproduce, flower, stamen, cone , spore, conifer , female

FL Grade 4 Science

Course Pacing Guide

UNIT: Life Cycles | **Unit Assessment**

5.6 Animal Life Cycles

Recommended Timeframe: (4 Days)

Benchmarks:

SC.2.L.16.1 - Observe and describe major stages in the life cycles of plants and animals, including beans and butterflies. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

SC.4.L.16.4 - Compare and contrast the major stages in the life cycles of Florida plants and animals, such as those that undergo incomplete and complete metamorphosis, and flowering and nonflowering seed-bearing plants. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

Key Resources:

Explore: What Are the Stages of the Life Cycle of an Animal? (CIT and video)
(SC.2.L.16.1, SC.4.L.16.4)

Explore: How Do Some Animals Change in Appearance throughout Their Life Cycle? (CIT and TEI)
(SC.2.L.16.1, SC.4.L.16.4)

Explore More Resources: Animal Life Cycle: Butterflies (video)
(SC.2.L.16.1)

Explore More Resources: Growth and Metamorphosis (Reading Passage)
(SC.2.L.16.1)

Explain: Explaining Animal Life Cycles (CIT & TEI)
(SC.2.L.16.1, SC.4.L.16.4)

Hands-On Activities & Hands-On Labs:

Life Cycle Mobiles

Animal Life Cycles

Key Vocabulary:

mammal, egg, larva, pistil, generation, amphibian, cycle, metamorphosis, reptile, mature, life cycle, organism, seedling, offspring, growth, nymph, gene, fertilize, vertebrate, disease, pollen , reproduce, flower, cone , predator, pupa

FL Grade 4 Science

Course Pacing Guide

UNIT: Life Cycles	Unit Assessment

5.7 Decomposition

Recommended Timeframe: (3 Days)

Benchmarks:

SC.4.L.17.2 - Explain that animals, including humans, cannot make their own food and that when animals eat plants or other animals, the energy stored in the food source is passed to them. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

SC.4.L.17.3 - Trace the flow of energy from the Sun as it is transferred along the food chain through the producers to the consumers. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

SC.4.P.9.1 - Identify some familiar changes in materials that result in other materials with different characteristics, such as decaying animal or plant matter, burning, rusting, and cooking. (Cognitive Complexity/Depth of Knowledge Rating: Low)

Key Resources:

Engage: What is Going on in Your Garbage? (CIT, videos and TEIs)
(SC.4.L.17.2, SC.4.L.17.3, SC.4.P.9.1)

Explore: How Do Producers, Consumers, and Decomposers Interact in the Environment? (CIT & TEI)
(SC.4.L.17.2, SC.4.L.17.3)

Explore: How Do Decomposers Contribute to Recycling in an Environment? (CIT & TEI)

Explore: Decomposition (Exploration)
(SC.4.L.17.2, SC.4.L.17.3, SC.4.P.9.1)

Explain: Explaining Decomposition (CIT & TEI)

Elaborate: Project: Decomposition (STEM Project Starter)

Hands-On Activities & Hands-On Labs:

Making a Compost Pile

Decomposition Assessment

Key Vocabulary:

solid , microorganism, decomposer, consumer, recycle, food web, humus, decay, decompose, matter, food chain, producer, carbon dioxide, cycle, nutrients, water

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Course Pacing Guide

UNIT: Motion	Unit Assessment

6.1 Describing Motion

Recommended Timeframe: (4 Days)

Benchmarks:

SC.4.P.12.1 - Recognize that an object in motion always changes its position and may change its direction. (Cognitive Complexity/Depth of Knowledge Rating: Low)

SC.4.P.12.2 - Investigate and describe that the speed of an object is determined by the distance it travels in a unit of time and that objects can move at different speeds. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

Key Resources:

Engage: How Would You Describe Your Motion on a Roller Coaster? (CIT, videos and TEIs)
Explore: How Do We Know an Object Is in Motion? (CIT & TEI)
(SC.4.P.12.1)
Explore: How Do We Measure Speed of Motion? (CIT & TEI)
(SC.4.P.12.2)
Explore: Describing Motion (Exploration)
(SC.4.P.12.1, SC.4.P.12.2)
Explore: Measuring Speed (Hands On Activity)
(SC.4.P.12.2)
Explain: Explaining Describing Motion (CIT & TEI)

Hands-On Activities & Hands-On Labs:
Measuring Speed

Describing Motion Assessment

Key Vocabulary:
pendulum, speed, inertia, force, friction, measure, matter, position, gravity, motion

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Course Pacing Guide

UNIT: Motion	Unit Assessment

6.2 Speed, Distance, & Time

Recommended Timeframe: (3 Days)

Benchmarks:

SC.4.P.12.2 - Investigate and describe that the speed of an object is determined by the distance it travels in a unit of time and that objects can move at different speeds. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

Key Resources:

Explore: How Does Speed Relate to the Time It Takes an Object to Travel a Set Distance? (CIT & TEI)
(SC.4.P.12.2)

Explore More Resources: Changing the Speed of Motion (Virtual Lab)
(SC.4.P.12.2)

Explore: How Does Speed Relate to the Distance an Object Travels in a Set Time? (CIT & TEI)
(SC.4.P.12.2)

Explain: Explaining Speed, Distance and Time (CIT & TEI)
(SC.4.P.12.2)

Elaborate: Project: Measuring Speed (STEM Project Starter)
(SC.4.P.12.2)

Hands-On Activities & Hands-On Labs:
The Slow Race

Speed, Distance, & Time Assessment

Key Vocabulary:
variable, metric system, motion, speed

FL Grade 4 Science

Course Pacing Guide

UNIT: Natural Resources | **Unit Assessment**

7.1 Value of Renewable Resources

Recommended Timeframe: (4 Days)

Benchmarks:

SC.4.E.6.3 - Recognize that humans need resources found on Earth and that these are either renewable or nonrenewable. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

SC.4.E.6.6 - Identify resources available in Florida (water, phosphate, oil, limestone, silicon, wind, and solar energy). (Cognitive Complexity/Depth of Knowledge Rating: Low)

Key Resources:

Engage: How Do We Use Natural Resources? (CIT, video)
(SC.4.E6.3)

Engage: What Do You Already Know about the Value of Renewable Resources? (CIT, TEIs)
(SC.4.E6.3)

Explore: What Is the Difference Between Renewable and Nonrenewable Resources? (CIT and videos)
(SC.4.E6.3)

Explore: What Are Examples of Renewable and Nonrenewable Resources? (CIT)
(SC.4.E6.3)

Explore: Value of Renewable Resources (Exploration)
(SC.4.E6.3)

Explore: Why Are Renewable Resources Important to Us? (CIT and TEI)
(SC.4.E6.3)

Explore: How and Why Should We Conserve Renewable Resources? (CIT, video, TEI)
(SC.4.E6.3)

Explain: Explaining Value of Renewable Resources (CIT and TEI)
(SC.4.E6.3)

Elaborate: Project: Making the Best of Our Natural Resources: What Resources Are Found in My State? (STEM Project Starter)
(SC.4.E6.3, SC.4.E.6.6)

Hands-On Activities & Hands-On Labs:

Value of Natural Resources Assessment

Key Vocabulary:

natural gas, earth materials, fuel, recycle, resource, energy, sustainable, fossil fuels, matter, coal, solar energy, energy (physical), carbon dioxide, nonrenewable, natural resources, renewable resource

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Course Pacing Guide

UNIT: Natural Resources	Unit Assessment

7.2 Fossil Fuels

Recommended Timeframe: (2 Days)

Benchmarks:
C.4.E.6.3 - Recognize that humans need resources found on Earth and that these are either renewable or nonrenewable. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)
SC.4.E.6.6 - Identify resources available in Florida (water, phosphate, oil, limestone, silicon, wind, and solar energy). (Cognitive Complexity/Depth of Knowledge Rating: Low)

Key Resources:
Explore: Why Are Some Resources Considered Nonrenewable? (CIT & video)
(C.4.E.6.3)
Explore: Energy Resources (video)
(C.4.E.6.3)
Explore: Why Is It Important to Conserve Fossil Fuels? (CIT, video & TEI)
(C.4.E.6.3)
Explain: Explaining Fossil Fuels (CIT & TEI)
(C.4.E.6.3)

Hands-On Activities & Hands-On Labs:
Fossil Fuels: Where Does the Energy Come From?

Fossil Fuels Assessment

Key Vocabulary:
natural gas, earth materials, fuel, resource, fossil, solar energy, nonrenewable, coal, burn, gas, fossil fuels, energy (physical), plant, carbon dioxide, power, natural resources, compress

FL Grade 4 Science

Course Pacing Guide

UNIT: Natural Resources	Unit Assessment

7.3 Sunlight

Recommended Timeframe: (2 Days)

Benchmarks:

SC.4.E.6.3 - Recognize that humans need resources found on Earth and that these are either renewable or nonrenewable. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

Key Resources:

Engage: How Does Sunlight Power Us? (CIT, videos, TEI)
(SC.4.E.6.3)
Explore: How Do Humans Capture and Use Solar Energy? (CIT video & TEI)
(SC.4.E.6.3)
Explain: Explaining Sunlight (CIT & TEI)
(SC.4.E.6.3)

Hands-On Activities & Hands-On Labs:

Make a Solar Car

Sunlight Assessment

Key Vocabulary:

radiant energy, natural gas, generator, plant, radiation, resource, energy,engineer, spectrum, solar energy, pollution, energy (physical), natural resources, light, heat, photosynthesis , power, sundial, renewable resource, sun

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Course Pacing Guide

UNIT: Traits and Inheritance	Unit Assessment

8.1 Similarities of Parents and Offspring

Recommended Timeframe: (3 Days)

Benchmarks:

SC.4.L.16.2 - Explain that although characteristics of plants and animals are inherited, some characteristics can be affected by the environment. (Cognitive Complexity/Depth of Knowledge Rating: High)

Key Resources:

Engage: Exploring the Similarities between Parents and Offspring (CIT, video & TEIs) (SC.4.L.16.2)

Explore: What Distinguishes Inherited from Acquired Traits? (CIT, videos & TEI) (SC.4.L.16.2)

Explore: What Explains the Similarities and Differences between Parents and Their Offspring? (CIT & video) (SC.4.L.16.2)

Explain: Explaining Similarities of Parents and Offspring (CIT & TEI) (SC.4.L.16.2)

Hands-On Activities & Hands-On Labs: Comparing Traits

Similarities of Parents and Offspring Assessment

Key Vocabulary:

reproduce, trait, transfer, generation, inherit, feature, life cycle, gene, heredity, female

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Course Pacing Guide

UNIT: Traits and Inheritance	Unit Assessment

8.2 Learning

Recommended Timeframe: (3 Days)

Benchmarks:

SC.4.L.16.2 - Explain that although characteristics of plants and animals are inherited, some characteristics can be affected by the environment. (Cognitive Complexity/Depth of Knowledge Rating: High)

SC.4.L.16.3 - Recognize that animal behaviors may be shaped by heredity and learning. (Cognitive Complexity/Depth of Knowledge Rating: High)

Key Resources:

Engage: How Do They Know That? (CIT, video & TEIs)
(SC.4.L.16.3)

Explore: What Is the Difference between Inherited and Learned Behaviors? (CIT & TEI)
(SC.4.L.16.2, SC.4.L.16.3)

Explore: How Can Animal Behavior Be Influenced by Inheritance and the Environment? (CIT & TEI)
(SC.4.L.16.2, SC.4.L.16.3)

Explore More Resources: Instinctive and Learned Behavior (video)
(SC.4.L.16.2, SC.4.L.16.3)

Explain: Explaining Learning (CIT & TEI)
(SC.4.L.16.2, SC.4.L.16.3)

Hands-On Activities & Hands-On Labs:

Learning Assessment

Key Vocabulary:

behavior, stimulus, response, instinct, environment, trait, react, inherit, heredity, instinct, organism, nerve

FL Grade 4 Science

Course Pacing Guide

UNIT: Properties of Matter	Unit Assessment

9.1 Measuring Matter

Recommended Timeframe: (1 Day)

Benchmarks:

SC.4.P.8.1 - Measure and compare objects and materials based on their physical properties including: mass, shape, volume, color, hardness, texture, odor, taste, attraction to magnets. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

Key Resources:

Engage: How Can You Learn More about Matter? (CIT, video &TEIs) (SC.4.P.8.1)

Explore: What Is Matter: (SC.4.P.8.1)

Hands-On Activities & Hands-On Labs:

Measuring Matter Assessment

Key Vocabulary:

scale, volume (matter), liquid, density, mass, measure, gas, state of matter, length, property, metric system, substance, structure, temperature (general), circumference, atom, solid , weight, matter, diameter, detect, metric system, data

FL Grade 4 Science

Course Pacing Guide

UNIT: Properties of Matter	Unit Assessment

9.2 Size and Shape

Recommended Timeframe: (3 Days)

Benchmarks:

SC.4.P.8.1 - Measure and compare objects and materials based on their physical properties including: mass, shape, volume, color, hardness, texture, odor, taste, attraction to magnets. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

SC.4.P.8.2 - Identify properties and common uses of water in each of its states. (Cognitive Complexity/Depth of Knowledge Rating: Low)

Key Resources:

Explore: How Are the Sizes of Solids Measured? (CIT)
(SC.4.P.8.1)

Explore: Size and Shape of Solids? (Hands-On Activity)
(SC.4.P.8.1)

Explore: How Are the Amounts of Liquids Measured? (CIT video & TEI)
(SC.4.P.8.1)

Explore: How Does Water's Size and Shape Compare between Its Solid Form, Liquid Form, and Gas Form? (CIT & video)
(SC.4.P.8.2)

Explore: How Do the Sizes and Shapes of Water in Its Different Forms Affect How We Can Use It? (CIT, video & TEI)
(SC.4.P.8.2)

Explain: Explaining Size and Shape (CIT & TEI)
SC.4.P.8.1

Hands-On Activities & Hands-On Labs: Size and Shape of Solids

Size and Shape Assessment

Key Vocabulary:

solid , substance, metric system, volume (sound), structure, particle, volume (matter), matter, water vapor, beaker, fluid, classify, diameter, freeze, circumference, length, liquid, atom

FL Grade 4 Science

Course Pacing Guide

UNIT: Properties of Matter	Unit Assessment

9.3 Mass and Weight

Recommended Timeframe: (1 Day)

Benchmarks:

- Measure and compare objects and materials based on their physical properties including: mass, shape, volume, color, hardness, texture, odor, taste, attraction to magnets. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

Key Resources:

Explore: What Shared Properties Define Matter? (CIT)
(SC.4.P.8.1)

Hands-On Activities & Hands-On Labs: Comparing Mass

Mass and Weight Assessment

Key Vocabulary:

solid , weight, metric system, scale, substance, conservation of mass, volume (matter), mass, vacuum, measure, classify, balance, kilogram, gravity, detect,system, matter, metric system, water

FL Grade 4 Science

Course Pacing Guide

UNIT: Properties of Matter	Unit Assessment

9.4 Magnets

Recommended Timeframe: (4 Days)

Benchmarks:

SC.4.P.8.1 - Measure and compare objects and materials based on their physical properties including: mass, shape, volume, color, hardness, texture, odor, taste, attraction to magnets. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

SC.4.P.8.4 - Investigate and describe that magnets can attract magnetic materials and attract and repel other magnets. (Cognitive Complexity/Depth of Knowledge Rating: High)

Key Resources:

Engage: What Are Magnets Used For? (CIT, video & TEI)
(SC.4.P.8.1, SC.4.P.8.4)

Explore: How Are Magnets Different from Other Materials? (CIT, video & TEI)
(SC.4.P.8.1, SC.4.P.8.4)

Explore More Resources: Magnetic Poles (Hands-On Activity)
(SC.4.P.8.4)

Explore: What Happens When Magnetic Poles Interact? (CIT and video)
(SC.4.P.8.4)

Explore: The Attraction is Mutual (Exploration)
(SC.4.P.8.4)

Explore: Why Are Some Materials Attracted to Magnets While Others Are Not? (CIT & TEI)
(SC.4.P.8.1)

Explain: Explaining Magnets (CIT and TEI)
(SC.4.P.8.1, SC.4.P.8.4)

Elaborate: Project: Magnets and Recycling (STEM Project Starter)
(SC.4.P.8.1, SC.4.P.8.4)

Hands-On Activities & Hands-On Labs: Magnetic Poles

Magnets Assessment

Key Vocabulary:

attract, magnetite, magnetic, force, electromagnet, magnet, repel, pole, magnetic field

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Course Pacing Guide

UNIT: Properties of Matter	Unit Assessment

9.5 Materials for a Purpose

Recommended Timeframe: (1 Day)

Benchmarks:

SC.4.P.9.1 - Identify some familiar changes in materials that result in other materials with different characteristics, such as decaying animal or plant matter, burning, rusting, and cooking. (Cognitive Complexity/Depth of Knowledge Rating: Low)

Key Resources:

Explore: How Do Natural and Human-Made Materials Compare? (CIT & video) (SC.4.P.9.1)

Elaborate: Project: Controlling Material Changes (STEM Project Starter) (SC.4.P.9.1)

Hands-On Activities & Hands-On Labs:

What Is Oobleck?

Materials for a Purpose Assessment

Key Vocabulary:

plan, property, design, engineering, engineer, flexibility, structure, recycle, raw materials, strength, synthetic, function

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Course Pacing Guide

UNIT: Body Systems	Unit Assessment

10.1 Muscles and Bones

Recommended Timeframe: (3 Days)

Benchmarks:

HE.4.C.1.5 - Identify the human body parts and organs that work together to form healthy body systems.

SC.5.L.14.1 - Identify the organs in the human body and describe their functions, including the skin, brain, heart, lungs, stomach, liver, intestines, pancreas, muscles and skeleton, reproductive organs, kidneys, bladder, and sensory organs. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

SC.5.L.14.2 - Compare and contrast the function of organs and other physical structures of plants and animals, including humans, for example: some animals have skeletons for support -- some with internal skeletons others with exoskeletons -- while some plants have stems for support. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

Key Resources:

Engage: About Muscles and Bones (CIT, video, TEIs)
(HE.4.C.1.5, SC.5.L.14.1, SC.5.L.14.2)

Explore: How Do the Muscular and Skeletal Systems Work Together to Move and to Protect the Body? (CIT &TEI)
(HE.4.C.1.5, SC.5.L.14.1)

Explore More Resources: Bones and Muscles Working Together (Reading Passage)
(HE.4.C.1.5, SC.5.L.14.1, SC.5.L.14.2)

Explore: How Do the Ways in Which Muscles and Bones Attach Promote Motion? (CIT, TEI)
(HE.4.C.1.5, SC.5.L.14.1, SC.5.L.14.2)

Explain: Explaining Muscles and Bones (CIT & TEI)
(HE.4.C.1.5, SC.5.L.14.1, SC.5.L.14.2)

Elaborate: Projects: A Look at Muscles (STEM Project Starter)
(HE.4.C.1.5, SC.5.L.14.1, SC.5.L.14.2)

Hands-On Activities & Hands-On Labs:
Model Arm

Muscles and Bones Assessment

Key Vocabulary:
spine, work, organ, connective tissue , skeleton, muscle , rib, joint , cartilage ,function, tendon, vertebrae, reflex, protein

FL Grade 4 Science

Course Pacing Guide

UNIT: Body Systems | **Unit Assessment**

10.2 Circulation and Respiration

Recommended Timeframe: (3 Days)

Benchmarks:

HE.4.C.1.5 - Identify the human body parts and organs that work together to form healthy body systems.

SC.5.L.14.1 - Identify the organs in the human body and describe their functions, including the skin, brain, heart, lungs, stomach, liver, intestines, pancreas, muscles and skeleton, reproductive organs, kidneys, bladder, and sensory organs. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

SC.5.L.14.2 - Compare and contrast the function of organs and other physical structures of plants and animals, including humans, for example: some animals have skeletons for support -- some with internal skeletons others with exoskeletons -- while some plants have stems for support. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

Key Resources:

Engage: What Does Our Body Need to Keep Breathing? (CIT, videos & TEIs)
(HE.4.C.1.5, SC.5.L.14.1, SC.5.L.14.2)

Explore: What Are the Structures of the Circulatory System, and How Do They Function to Keep the Body Healthy? (CIT)
(HE.4.C.1.5, SC.5.L.14.1, SC.5.L.14.2)

Explore More Resources: Cardiovascular System (Exploration)
(HE.4.C.1.5, SC.5.L.14.1, SC.5.L.14.2)

Explore: What Are the Structures of the Respiratory System, and How Do They Function to Keep the Body Healthy? (CIT, video & TEI)
(HE.4.C.1.5, SC.5.L.14.1, SC.5.L.14.2)

Explore More Resources: Respiratory System (Exploration)
(HE.4.C.1.5, SC.5.L.14.1, SC.5.L.14.2)

Explore: How Do the Respiratory and Circulatory Systems Work Together? (CIT, video & TEI)
(HE.4.C.1.5, SC.5.L.14.1, SC.5.L.14.2)

Explain: Explaining Circulation & Respiration (CIT & TEI)
(HE.4.C.1.5, SC.5.L.14.1, SC.5.L.14.2)

Hands-On Activities & Hands-On Labs:

Circulation and Respiration Assessment

Key Vocabulary:

circulate , respiratory system, valve, cell membrane, circulatory system, vein (human body), respiration, heart, nutrients, artery , ventricle, transfer, tissue, trachea, fluid, pulse, pulmonary artery, autonomic, gills, oxygen, blood vessels, red blood cell, carbon dioxide, air, function

FL Grade 4 Science

Course Pacing Guide

UNIT: Body Systems	Unit Assessment

10.3 Digestion and Excretion

Recommended Timeframe: (2 Days)

Benchmarks:

HE.4.C.1.5 - Identify the human body parts and organs that work together to form healthy body systems.

SC.5.L.14.1 - Identify the organs in the human body and describe their functions, including the skin, brain, heart, lungs, stomach, liver, intestines, pancreas, muscles and skeleton, reproductive organs, kidneys, bladder, and sensory organs. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

SC.5.L.14.2 - Compare and contrast the function of organs and other physical structures of plants and animals, including humans, for example: some animals have skeletons for support -- some with internal skeletons others with exoskeletons -- while some plants have stems for support. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

Key Resources:

Engage: Moving through the Body: Digestion and Excretion (CIT, video & TEIs)
(HE.4.C.1.5, SC.5.L.14.1, SC.5.L.14.2)

Explore: How Do Our Bodies Digest and Process Food? (CIT, video, TEI)
(HE.4.C.1.5, SC.5.L.14.1, SC.5.L.14.2)

Explore More Resources: Digestion and Excretion (Reading Passage)
(HE.4.C.1.5, SC.5.L.14.1, SC.5.L.14.2)

Explore: Digestion and Excretion (Exploration)
(HE.4.C.1.5, SC.5.L.14.1, SC.5.L.14.2)

Explain: Explaining Digestion and Excretion (CIT & TEI)
(HE.4.C.1.5, SC.5.L.14.1, SC.5.L.14.2)

Hands-On Activities & Hands-On Labs:

Digestion and Excretion Assessment

Key Vocabulary:

absorb, gland , anus, stomach, liver , skin, tongue, intestine , digestion , bladder ,mouth, abdomen, esophagus , excretory system , nutrients, digestive system, function, kidney

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Course Pacing Guide

UNIT: Sound	Unit Assessment

11.1 Sound Waves

Recommended Timeframe: (1 Day)

Benchmarks:

SC.4.P.10.3 - Investigate and explain that sound is produced by vibrating objects and that pitch depends on how fast or slow the object vibrates. (Cognitive Complexity/Depth of Knowledge Rating: High)

Key Resources:

Engage: Exploring the Importance of Sound (CIT, video & TEIs) (SC.4.P.10.3)

Explore: Model a Sound Wave (Hands-On Activity) (SC.4.P.10.3)

Hands-On Activities & Hands-On Labs:

Model a Sound Wave

Sound Waves Assessment

Key Vocabulary:

echo, vocal, sound, wavelength, volume (sound), substance, pitch, conduct, transmit, wave, crest, vacuum, vibration, energy (physical), sound wave, particle

FL Grade 4 Science

Course Pacing Guide

UNIT: Sound	Unit Assessment

11.2 Volume

Recommended Timeframe: (1 Day)

Benchmarks:

SC.4.P.10.3 - Investigate and explain that sound is produced by vibrating objects and that pitch depends on how fast or slow the object vibrates. (Cognitive Complexity/Depth of Knowledge Rating: High)

Key Resources:

Explore: How Can We Describe Sound? (CIT, video & TEI)
(SC.4.P.10.3)

Hands-On Activities & Hands-On Labs:

Volume Assessment

Key Vocabulary:

sound, crest, volume (sound), sound wave, vibration, energy (physical), pitch

FL Grade 4 Science

Course Pacing Guide

UNIT: Sound	Unit Assessment

11.3 Pitch

Recommended Timeframe: (2 Days)

Benchmarks:

SC.4.P.10.3 - Investigate and explain that sound is produced by vibrating objects and that pitch depends on how fast or slow the object vibrates. (Cognitive Complexity/Depth of Knowledge Rating: High)

Key Resources:

Explore: How Are Sound Frequency and Sound Pitch Related? (CIT, video & TEI) (SC.4.P.10.3)

Explore: How Does Sound Pitch Differ from Volume? (CIT, video & TEI) (SC.4.P.10.3)

Explain: Explaining Pitch (CIT & TEI) (SC.4.P.10.3)

Hands-On Activities & Hands-On Labs:

Pitch Perfect

Pitch Assessment

Key Vocabulary:

sound, volume (sound), crest, frequency, sound wave, vibration, energy (physical), pitch