

UNIT | The Solar System and Beyond (3 weeks)

- 1.1 | Planets in Our Solar System (3 days)**
- 1.2 | Inner and Outer Planets (4 days)**
- 1.3 | Non-Planetary Objects (3 days)**
- 1.4 | Galaxies (2 days)**

UNIT | The Human Body (4 weeks)

- 2.1 | Muscular System (4 days)**
- 2.2 | Skeletal System (3 days)**
- 2.3 | Respiratory System (3 days)**
- 2.4 | Cardiovascular System (4 days)**
- 2.5 | Digestive System (2 days)**
- 2.6 | Excretory System (2 days)**
- 2.7 | Nervous System (2 days)**

UNIT | Electricity and Energy (3 weeks)

- 3.1 | About Electricity (4 days)**
- 3.2 | Electric Circuits (5 days)**
- 3.3 | Magnets and Electricity (1 day)**
- 3.4 | Changing the Form of Energy (5 days)**

UNIT | Water and Weather (3.5 weeks)

- 4.1 | About Weather (5 days)**
- 4.2 | Water Cycle (5 days)**
- 4.3 | Water in the Atmosphere (0.5 days)**
- 4.4 | Weather Patterns (1.5 days)**
- 4.5 | About Climate (2 days)**
- 4.6 | Types of Climates (5 days)**
- 4.7 | Protection from Severe Weather (4 days)**

UNIT | Survival and Interdependence (2.5 weeks)

- 5.1 | Animal Reproduction (4 days)**
- 5.2 | Adaptation (4 days)**
- 5.3 | Survival (4 days)**

UNIT | Force & Motion *(2.5 weeks)*

6.1 | About Force *(6 days)*

6.2 | Changing the Speed of Motion *(4 days)*

6.3 | Changing Direction *(3 days)*

UNIT | Mixing it Up *(3.5 weeks)*

7.1 | Review of Matter *(3 days)*

7.2 | Atoms *(3 days)*

7.3 | Mixtures *(3 days)*

7.3 | Solutions *(6 days)*

7.3 | Chemical Changes *(3 days)*

UNIT: The Solar System and Beyond

[Unit Assessment](#)

1.1 Planets in Our Solar System

Recommended Timeframe: (3 Days)

Benchmarks:

SC.5.E.5.2 - Recognize the major common characteristics of all planets and compare/contrast the properties of inner and outer planets. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

SC.5.E.5.3 - Distinguish among the following objects of the Solar System -- Sun, planets, moons, asteroids, comets -- and identify Earth's position in it. (Cognitive Complexity/Depth of Knowledge Rating: High)

Key Resources:

Engage: [Wondering about Planets in Our Solar System](#) (CIT, TEI & video)
(SC.5.E.5.2)

Explore: [What Is the Solar System Made Of?](#) (CIT & video)
(SC.5.E.5.3)

Explore: [How Are the Objects in the Solar System Arranged?](#) (CIT, video & TEI)
(SC.5.E.5.2, SC.5.E.5.3)

Explore More Resources: [Planets in Our Solar System](#) (Exploration)
(SC.5.E.5.2, SC.5.E.5.3)

Explain: [Explain Planets in the Solar System](#) (CIT & TEI)
(SC.5.E.5.2, SC.5.E.5.3)

Elaborate: [Project: Space Probes](#) (STEM Project Starter)
(SC.5.E.5.2)

Hands-On Activities & Hands-On Labs:

[Modeling the Solar System](#)

[Planets in Our Solar System Assessment](#)

Key Vocabulary:

[star](#), [radiant energy](#), [solar system](#), [Kuiper Belt](#), [orbit](#), [planetoid](#), [radiation](#), [system](#), [asteroid](#), [planet](#), [predict](#), [satellite](#), [crater](#), [equator](#), [transmit](#), [position](#), [pole](#), [Venus](#), [meteoroid](#), [space](#), [meteor](#), [light](#), [comet](#), [rotate](#), [circumference](#), [sun](#), [telescope](#), [diameter](#), [meteorite](#), [revolve](#)

UNIT: The Solar System and Beyond

Unit Assessment

1.2 Inner and Outer Planets

Recommended Timeframe: (4 Days)

Benchmarks:

SC.5.E.5.2 - Recognize the major common characteristics of all planets and compare/contrast the properties of inner and outer planets. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

SC.5.E.5.3 - Distinguish among the following objects of the Solar System -- Sun, planets, moons, asteroids, comets -- and identify Earth's position in it. (Cognitive Complexity/Depth of Knowledge Rating: High)

Key Resources:

Engage: [How Are the Inner Planets Different from the Outer Planets?](#) (CIT, video and TEIs) (SC.5.E.5.2)

Explore: [How Do Scientists Classify the Different Planets in Our Solar System?](#) (CIT) (SC.5.E.5.2, SC.5.E.5.3)

Explore: [Inner and Outer Planets](#) (video) (SC.5.E.5.2)

Explore: [How Are Planets in Our Solar System Similar, and How Are They Different?](#) (CIT, video, TEI) (SC.5.E.5.2)

Explore: [Why Are There Differences in the Planets Across Our Solar System?](#) (CIT, videos & TEI) (SC.5.E.5.2)

Explain: [Explaining Inner and Outer Planets](#) (CIT & TEI) (SC.5.E.5.2)

Elaborate: [Project: Scale the Planets](#) STEM Project Starter (SC.5.E.5.2)

Hands-On Activities & Hands-On Labs:

[Inner and Outer Planets Assessment](#)

Key Vocabulary:

[space](#), [astronaut](#), [solar system](#), [planet](#), [Kuiper Belt](#), [orbit](#), [atmosphere](#), [nebulae](#), [astronomy](#), [position](#), [planetoid](#), [Earth](#), [moon](#), [asteroid](#), [Venus](#)

UNIT: The Solar System and Beyond

Unit Assessment

1.3 Non-Planetary Objects

Recommended Timeframe: (3 Days)

Benchmarks:

SC.5.E.5.3 - Distinguish among the following objects of the Solar System -- Sun, planets, moons, asteroids, comets -- and identify Earth's position in it. (Cognitive Complexity/Depth of Knowledge Rating: High)

Key Resources:

Engage: [How Are Non-Planetary Objects Different from Planets?](#) (CIT, videos & TEIs)

(SC.5.E.5.3)

Explore: [What Kinds of Objects Are in Earth's Solar System?](#) (CIT)

(SC.5.E.5.3)

Explore More Resources: [Asteroids and Meteoroids](#) (videos)

(SC.5.E.5.3)

Explain: [Explaining Non-Planetary Objects](#) (CIT and TEI)

(SC.5.E.5.3)

Elaborate: [Project: Presenting Comets](#) (STEM Project Starter)

(SC.5.E.5.3)

Hands-On Activities &
Hands-On Labs:

[Make a Comet](#)

[Non-Planetary Objects
Assessment](#)

Key Vocabulary:

[star](#), [meteor](#), [planet](#), [Kuiper Belt](#), [moon](#), [galaxy](#), [comet](#), [cirrus cloud](#), [planetoid](#), [meteorite](#), [meteoroid](#), [dwarf planet](#), [asteroid](#), [astronomy](#), [cloud](#)

UNIT: The Solar System and Beyond

[Unit Assessment](#)

1.4 Galaxies

Recommended Timeframe: (2 Days)

Benchmarks:

SC.5.E.5.1 - Recognize that a galaxy consists of gas, dust, and many stars, including any objects orbiting the stars. Identify our home galaxy as the Milky Way. (Cognitive Complexity/Depth of Knowledge Rating: Low)

Key Resources:

Engage: [Imagining Galaxies](#) (CIT, video & TEI)

(SC.5.E.5.1)

Explore: [How Can We Describe Galaxies?](#) (CIT & video)

(SC.5.E.5.1)

Explore: [How Do We Know Our Solar System Is Located in a Galaxy?](#) (CIT & TEI)

(SC.5.E.5.1)

Explain: [Explaining Galaxies](#) (CIT & TEI)

(SC.5.E.5.1)

Elaborate: [Project: Our Galactic Home](#) (STEM Project Starter)

(SC.5.E.5.1)

Hands-On Activities &
Hands-On Labs:

[Galaxies Assessment](#)

Key Vocabulary:

[space](#), [star](#), [solar](#)

[system](#), [constellation](#),

[hydrogen](#), [galaxy](#), [light](#)

[year](#), [position](#),

[gravity](#), [universe](#), [astronomy](#)

UNIT: Human Body

[Unit Assessment](#)

2.1 Muscular System

Recommended Timeframe: (4 Days)

Benchmarks:

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)

Key Resources:

- Engage: [Building a Body](#) (Fun-Damental)
(SC.5.L.14.1)
- Engage: [What Do You Already Know about the Muscular System?](#) (TEIs)
(SC.5.L.14.1)
- Explore: [Real World Science: The Muscular System](#) (video)
(SC.5.L.14.1)
- Explore: [How Do Muscles Help Our Bodies Function?](#) (CIT & TEI)
(SC.5.L.14.1)
- Explore: [Different Types of Muscles](#) (Reading Passage)
(SC.5.L.14.1)
- Explore: [Muscular System](#) (Exploration)
(SC.5.L.14.1)
- Explain: [Explaining Muscular System](#) (CIT & TEI)
(SC.5.L.14.1)

Hands-On Activities &

Hands-On Labs:

[Moving Muscles](#)

[Muscular System Assessment](#)

Key Vocabulary:

[anatomy](#), [multicellular](#), [system](#), [skeleton](#), [abdomen](#), [muscle](#), [pupil](#), [muscular system](#), [relax](#), [heart](#), [biceps](#), [function](#), [tendon](#), [system](#), [kidney](#), [digestive system](#), [reflex](#), [protein](#)

UNIT: Human Body

[Unit Assessment](#)

2.2 Skeletal System

Recommended Timeframe: (3 Days)

Benchmarks:

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)

Key Resources:

Engage: [Why Do We Need Bones](#) (CIT, video & TEI)

(SC.5.L.14.1, SC.5.L.14.2)

Explore: [What Are the Structures of the Skeletal System, and How Do They Function to Support Survival?](#) (CIT)

(SC.5.L.14.1, SC.5.L.14.2)

Explore: [Skeletal System](#) (Exploration)

(SC.5.L.14.1, SC.5.L.14.2)

Explain: [Explaining Skeletal System](#) (CIT & TEI)

(SC.5.L.14.1, SC.5.L.14.2)

Elaborate: [Project: Model a Joint](#) (STEM Project Starter)

(SC.5.L.14.2)

Hands-On Activities &

Hands-On Labs:

[Joints of the Body](#)

[Skeletal System Assessment](#)

Key Vocabulary:

[spine](#), [anatomy](#), [skull](#), [skeleton](#), [calcium](#), [muscle](#), [bone](#), [bone marrow](#), [backbone](#), [structure](#), [rib](#), [cartilage](#), [joint](#), [tendon](#), [organ](#), [system](#), [vertebrae](#), [system](#), [function](#), [multicellular](#)

UNIT: Human Body

Unit Assessment

2.3 Respiratory System

Recommended Timeframe: (3 Days)

Benchmarks:

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)

Key Resources:

Explore: [How Does the Respiratory System Help the Body?](#) (CIT, videos)

(SC.5.L.14.1)

Explore More Resources: [Respiratory System](#) (Exploration)

(SC.5.L.14.1)

Explore: [How Do the Structures of the Respiratory System Function to Move Air into, through, and Out of the Body?](#) (CIT & video)

(SC.5.L.14.1)

Explore: [How Do Lungs Work?](#) (CIT & TEI)

(SC.5.L.14.1)

Explain: [Explaining the Respiratory System](#) (CIT & TEI)

(SC.5.L.14.1)

Elaborate: [Project: The Respiratory System](#) (STEM Project Starter)

(SC.5.L.14.1)

Hands-On Activities &

Hands-On Labs:

[Measuring Lung Capacity](#)

[Respiratory System Assessment](#)

Key Vocabulary:

[energy \(organisms\)](#),
[vocal](#), [oxygen](#),
[fuel](#), [tissue](#), [multicellular](#),
[trachea](#), [red blood](#)
[cell](#), [respiration](#), [lungs](#),
[capillary](#), [respiratory](#)
[system](#), [carbon dioxide](#),
[circulatory system](#),
[system](#), [air](#), [autonomic](#),
[function](#), [expand](#)

UNIT: Human Body

Unit Assessment

2.4 Cardiovascular System

Recommended Timeframe: (4 Days)

Benchmarks:

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: [Listen to Your Heart](#) (CIT, video & TEIs)

(SC.5.L.14.1)

Explore: [Why Does the Respiratory System Need the Cardiovascular System?](#) (CIT, video and TEI) (SC.5.L.14.1)

Explore: [How Does the Heart Drive the Cardiovascular System?](#) (CIT, video)

(SC.5.L.14.1)

Explore: [The Beat Goes On](#) (Exploration)

(SC.5.L.14.1)

Explore: [Blood Vessels](#) (video)

(SC.5.L.14.1)

Explore: [Cardiovascular System](#) (Exploration)

(SC.5.L.14.1)

Explain: [Explaining the Cardiovascular System](#) (CIT & TEI)

(SC.5.L.14.1)

Elaborate: [Heart Hubbub](#) (STEM Project Starter)

(SC.5.L.14.1)

Hands-On Activities & Hands-On Labs:

[Heart Hubbub](#)

[Cardiovascular System Assessment](#)

Key Vocabulary:

[circulate](#), [expand](#), [valve](#), [cell membrane](#), [circulatory system](#), [ventricle](#), [system](#), [autonomic](#), [cardiovascular system](#), [vein \(human body\)](#), [multicellular](#), [heart](#), [artery](#), [blood](#), [pulse](#), [pulmonary artery](#), [system](#), [anatomy](#), [cell](#), [oxygen](#), [blood vessels](#), [red blood cell](#), [bone marrow](#), [capillary](#), [carbon dioxide](#), [air](#), [function](#), [aorta](#)

UNIT: Human Body

Unit Assessment

2.5 Digestive System

Recommended Timeframe: (2 Days)

Benchmarks:

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)

Key Resources:

Explore: [What Is the Role of Digestion in the Body?](#) (CIT, video & TEI)

(SC.5.L.14.1)

Explore: [What Are the Structures and Functions of the Organs in the Digestive System?](#) (CIT & TEI)

(SC.5.L.14.1)

Explore: [How Does Food Move through the Digestive System?](#) (Exploration)

(SC.5.L.14.1)

Explain: [Explaining Digestive System](#) (CIT and TEI)

(SC.5.L.14.1)

Hands-On Activities &
Hands-On Labs:

[Digestive System Assessment](#)

Key Vocabulary:

[tongue](#), [system](#), [energy](#) ([organisms](#)), [digestion](#), [gland](#), [stomach](#), [multicellular](#), [saliva](#), [nutrients](#), [protein](#), [absorb](#), [liver](#), [muscle](#), [taste](#), [mouth](#), [system](#), [anatomy](#), [anus](#), [sugar](#), [abdomen](#), [intestine](#), [esophagus](#), [digestive system](#), [function](#)

UNIT: Human Body

Unit Assessment

2.6 Excretory System

Recommended Timeframe: (2 Days)

Benchmarks:

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:

Explore: [How Does the Excretory System Help the Body?](#) (CIT, TEI)

(SC.5.L.14.1)

Explore: [The Excretory System](#) (video)

(SC.5.L.14.1)

Explore: [How Do the Structures of the Excretory System Work Together to Accomplish Excretion?](#) (CIT & TEI)

(SC.5.L.14.1)

Explain: [Explaining the Excretory System](#) (CIT & TEI)

(SC.5.L.14.1)

Hands-On Activities &
Hands-On Labs:

[Carbon Dioxide Waste](#)

[Excretory System Assessment](#)

Key Vocabulary:

[absorb](#), [system](#), [anus](#), [skin](#),
[filter](#), [multicellular](#), [kidney](#),
[anatomy](#), [intestine](#), [lungs](#), [nitrogen](#),
[bladder](#), [salt](#), [carbon dioxide](#), [system](#), [nutrients](#),
[excretory system](#), [function](#), [protein](#)

UNIT: Human Body

[Unit Assessment](#)

2.7 Nervous System

Recommended Timeframe: (2 Days)

Benchmarks:

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)

Key Resources:

Engage: [Getting to Know the Nervous System](#) (CIT, Exploration, TEIs)
(SC.5.L.14.1)

Explore: [How Does the Main Organ of the Nervous System Function, and Why Is It Important?](#) (CIT, video)

(SC.5.L.14.1)

Explore: [How Do the Parts of the Nervous System Work Together?](#) (CIT, TEI, video)

(SC.5.L.14.1)

Explain: [Explaining Nervous System](#) (CIT & TEI)

(SC.5.L.14.1)

Hands-On Activities &
Hands-On Labs:

[Nervous System Assessment](#)

Key Vocabulary:

[response](#), [react](#), [spinal cord](#), [senses](#), [system](#), [environment](#), [stimulus](#), [multicellular](#), [reflex](#), [cerebellum](#), [nutrients](#), [spine](#), [nervous system](#), [neuron](#), [communicate](#), [autonomic](#), [nerve](#), [anatomy](#), [brain](#), [ear](#), [cornea](#), [cerebrum](#), [function](#), [retina](#)

UNIT: Electricity and Energy

Unit Assessment

3.1 About Electricity

Recommended Timeframe: (4 Days)

Benchmarks:

SC.5.P.10.1 - Investigate and describe some basic forms of energy, including light, heat, sound, electrical, chemical, and mechanical. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

SC.5.P.10.3 - Investigate and explain that an electrically-charged object can attract an uncharged object and can either attract or repel another charged object without any contact between the objects.

SC.5.P.10.4 - Investigate and explain that electrical energy can be transformed into heat, light, and sound energy, as well as the energy of motion. (Cognitive Complexity/Depth of Knowledge Rating: High)

Key Resources:

Engage: [Generate Ideas about Electricity](#) (CIT, video & TEIs)

(SC.5.P.10.1, SC.5.P.10.4)

Explore: [What Is Electricity?](#) (CIT & videos)

(SC.5.P.10.1, SC.5.P.10.4)

Explore: [How Is Electricity Produced and Stored?](#) (CIT & video)

Explore: [Creating Static](#) (Hands-On Activity)

(SC.5.P.10.3)

Explore: [How Are Static Electricity and Current Electricity Different?](#) (CIT and TEI only)

Explain: [Explaining About Electricity](#) (CIT & TEI)

(SC.5.P.10.1, SC.5.P.10.3, SC.5.P.10.4)

Hands-On Activities &
Hands-On Labs:

[About Electricity Assessment](#)

Key Vocabulary:

[electron](#), [mechanical energy](#), [proton](#), [battery](#), [hydroelectric power](#), [electric](#), [stored energy](#), [neutron](#), [positive charge](#), [energy \(physical\)](#), [current](#), [static electricity](#), [electrical system](#), [heat](#), [lightning](#), [conductor](#), [atom](#), [particle](#), [negative charge](#)

UNIT: Electricity and Energy

[Unit Assessment](#)

3.2 Electric Circuits

Recommended Timeframe: (5 Days)

Benchmarks:

SC.5.P.11.1 - Investigate and illustrate the fact that the flow of electricity requires a closed circuit (a complete loop). (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

SC.5.P.11.2 - Identify and classify materials that conduct electricity and materials that do not. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

SC.5.P.10.4 - Investigate and explain that electrical energy can be transformed into heat, light, and sound energy, as well as the energy of motion. (Cognitive Complexity/Depth of Knowledge Rating: High)

Key Resources:

Engage: [How Does Electricity Work?](#) (CIT, videos and TEIs)

(SC.5.P.11.1, SC.5.P.11.2)

Explore: [What Is a Circuit?](#) (CIT, video and TEI)

(SC.5.P.11.1, SC.5.P.11.2)

Explore More Resources: [Create a Circuit](#) (Hands-On Activity)

(SC.5.P.11.1, SC.5.P.11.2, SC.5.P.10.4)

Explore: [How Can We Control the Flow of Electricity in a Circuit?](#) (CIT, videos & TEI)

(SC.5.P.11.1, SC.5.P.11.2)

Explore: [Why Are Electric Circuits Valuable to People?](#) (CIT & TEI)

(SC.5.P.10.4)

Explore: [How Do Series Circuits and Parallel Circuits Compare?](#) (CIT & TEI)

(SC.5.P.11.1)

Explain: [Explaining Electric Circuits](#) (CIT and TEI)

(SC.5.P.11.1, SC.5.P.11.2)

Hands-On Activities &
Hands-On Labs:

[Create a Circuit](#)

[Electric Circuits Assessment](#)

Key Vocabulary:

[conduct](#), [current](#), [static](#)

[electricity](#), [insulate](#), [stored](#)

[energy](#), [mechanical energy](#),

[filament](#), [electric energy](#),

[negative charge](#),

[series circuit](#), [transmit](#), [energy](#)

[\(physical\)](#), [electron](#), [control](#),

[battery](#), [switch](#), [positive](#)

[charge](#), [electrical system](#),

[fuse](#), [power](#), [circuit](#), [thermostat](#)

[contact](#), [parallel](#)

[circuit](#), [resistance](#), [particle](#)

UNIT: Electricity and Energy

[Unit Assessment](#)

3.3 Magnets and Electricity

Recommended Timeframe: (1 Day)

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.5.P.10.4 - Investigate and explain that electrical energy can be transformed into heat, light, and sound energy, as well as the energy of motion. (Cognitive Complexity/Depth of Knowledge Rating: High)

Key Resources:

Explore: [How Can Electricity Be Used to Create Motion?](#)

(SC.4.P.10.2, SC.5.P.10.4)

Hands-On Activities & Hands-On Labs:

[Magnets and Electricity Assessment](#)

Key Vocabulary:

[electron](#), [mechanical energy](#), [attract](#), [generator](#), [magnetic](#), [stored energy](#), [electric](#), [energy](#), [electromagnet](#), [repel](#), [static electricity](#), [power](#), [energy \(physical\)](#), [magnetic field](#), [technology](#)

UNIT: Electricity and Energy

Unit Assessment

3.4 Changing the Form of Energy

Recommended Timeframe: (5 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)

SC.5.P.10.1 - Investigate and describe some basic forms of energy, including light, heat, sound, electrical, chemical, and mechanical. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

Key Resources:

Engage: [What Happens to Energy When We Use It?](#) (CIT, video & TEIs)

(SC.5.P.10.1, SC.5.P.10.2)

Explore: [Why Does Energy Change Forms?](#) (CIT, video & TEI)

(SC.5.P.10.1)

Explore: [How Can Stored Energy Be Used?](#) (CIT & video)

Explore More Resources: [Converting Energy](#) (video)

(SC.4.P.10.4)

Explore: [Collision Course](#) (Hands-On Activity)

(SC.5.P.10.2)

Explore: [How Is Energy Conserved?](#) (CIT only)

(SC.5.P.10.1)

Explain: Explaining Changing the Form of Energy (CIT & TEI)

(SC.5.P.10.1, SC.5.P.10.2)

Elaborate: [STEM in Action: Building a Wind Farm](#) (CIT, video and TEI)

(SC.4.P.10.4)

Hands-On Activities & Hands-On Labs:

[Changing the Form of Energy Assessment](#)

Key Vocabulary:

[work](#), [hydroelectric power](#), [chemical energy](#), [radiation](#), [motion](#), [nuclear energy](#), [transmit](#), [mechanical energy](#), [sound](#), [solar energy](#), [sound wave](#), [energy \(physical\)](#), [radiant energy](#), [fuel](#), [kinetic energy](#), [light](#), [gas](#), [power](#), [gravitational potential energy](#), [conservation of energy](#), [potential energy](#), [heat](#), [thermal energy](#)

UNIT: Water and Weather

[Unit Assessment](#)

4.1 About Weather

Recommended Timeframe: (5 Days)

Benchmarks:

SC.5.E.7.3 - Recognize how air temperature, barometric pressure, humidity, wind speed and direction, and precipitation determine the weather in a particular place and time. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

SC.5.E.7.4 - Distinguish among the various forms of precipitation (rain, snow, sleet, and hail), making connections to the weather in a particular place and time. (Cognitive Complexity/Depth of Knowledge Rating: High)

Key Resources:

Engage: [Recognizing Weather](#) (CIT, video, TEIs)

(SC.5.E.7.3, SC.5.E.7.4)

Explore: [What Is Weather and How Do We Measure It?](#) (CIT, video, TEI)

(SC.5.E.7.3)

Explore: [What Causes Weather to Change?](#) (CIT, video & TEI)

(SC.5.E.7.3, SC.5.E.7.4)

Explore: [What Is Wind and How Do We Measure It?](#) (CIT)

(SC.5.E.7.3)

Explore: [What Causes Wind?](#) (CIT & TEI)

(SC.5.E.7.3)

Explore: [What Are the Differences among Types of Precipitation?](#) (CIT, video & TEI)

(SC.5.E.7.4)

Explain: [Explaining About Weather](#) (CIT & TEI)

Hands-On Activities &
Hands-On Labs:

[About Weather Assessment](#)

Key Vocabulary:

[air](#)
[pressure](#), [season](#), [tropical](#), [circulate](#), [tornado](#), [wind](#),
[thermometer](#)
[\(weather\)](#), [hurricane](#), [humidity](#),
[liquid](#), [moisture](#), [water](#)
[cycle](#), [predict](#), [blizzard](#),
[atmosphere](#), [sleet](#), [hail](#), [energy](#)
[\(physical\)](#), [precipitation](#), [climate](#),
[water vapor](#),
[temperate](#), [rain](#), [meteorology](#),
[water](#), [air](#), [barometric](#)
[pressure](#), [barometer](#), [heat](#),
[temperature](#)
[\(weather\)](#), [waterspout](#),
[weather](#)

UNIT: Water and Weather

Unit Assessment

4.2 Water Cycle

Recommended Timeframe: (5 Days)

Benchmarks:

SC.5.E.7.1 - Create a model to explain the parts of the water cycle. Water can be a gas, a liquid, or a solid and can go back and forth from one state to another. (Cognitive Complexity/Depth of Knowledge Rating: High)

SC.5.E.7.2 - Recognize that the ocean is an integral part of the water cycle and is connected to all of Earth's water reservoirs via evaporation and precipitation processes. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

Key Resources:

Engage: [Changing States of Water](#) (CIT, video, TEIs)
(SC.5.E.7.1, SC.5.E.7.2)

Explore: [How Does Water Move through Earth's Systems in the Water Cycle?](#) (CIT & TEI)
(SC.5.E.7.1)

Explore: [Water's Three States](#) (video)
(SC.5.E.7.1, SC.5.E.7.2)

Explore: [Why Does Water Change State in the Water Cycle?](#) (CIT & video)
(SC.5.E.7.1, SC.5.E.7.2)

Explore: [What Happens to Water Vapor in the Water Cycle?](#) (CIT, video & TEI)
(SC.5.E.7.1, SC.5.E.7.2)

Explore: [Modeling the Water Cycle](#) (Hands-On Activity)

Explore: [Where Does Water Collect on Earth After Falling from the Sky?](#) (CIT & TEI)
(SC.5.E.7.2)

Explore: [Water Cycle](#) (Exploration)
(SC.5.E.7.1, SC.5.E.7.2)

Explain: [Explaining Water Cycle](#) (CIT & TEI)
(SC.5.E.7.1)

Hands-On Activities &
Hands-On Labs:

[Modeling the Water Cycle](#)

[Water Cycle Assessment](#)

Key Vocabulary:

[circulate](#), [biosphere](#), [condense](#),
[system](#), [geosphere](#), [cycle](#),
[hydrosphere](#), [water](#)
[cycle](#), [atmosphere](#), [evaporation](#)
[sleet](#), [glacier](#), [hail](#), [energy](#)
[\(physical\)](#), [precipitation](#), [water](#)
[vapor](#), [freeze](#), [rain](#), [phase](#),
[river](#), [water](#), [vapor](#), [change of](#)
[state](#), [heat](#), [groundwater](#),
[weather](#)

UNIT: Water and Weather

[Unit Assessment](#)

4.3 Water in the Atmosphere

Recommended Timeframe: (0.5 Days)

Benchmarks:

SC.5.E.7.1 - Create a model to explain the parts of the water cycle. Water can be a gas, a liquid, or a solid and can go back and forth from one state to another. (Cognitive Complexity/Depth of Knowledge Rating: High)

SC.5.E.7.2 - Recognize that the ocean is an integral part of the water cycle and is connected to all of Earth's water reservoirs via evaporation and precipitation processes. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

SC.5.E.7.4 - Distinguish among the various forms of precipitation (rain, snow, sleet, and hail), making connections to the weather in a particular place and time. (Cognitive Complexity/Depth of Knowledge Rating: High)

Key Resources:

Explore: [What Are Clouds and How Are They Classified](#) (CIT & video)

(SC.5.E.7.1, SC.5.E.7.2, SC.5.E.7.4)

Explore: [Water in the Atmosphere](#) (Exploration)

(SC.5.E.7.4)

Hands-On Activities &
Hands-On Labs:

[Water in the Atmosphere Assessment](#)

Key Vocabulary:

[cumulonimbus](#)
[cloud](#), [vapor](#), [hydrosphere](#),
[cumulus](#)
[cloud](#), [water](#), [atmosphere](#),
[condense](#), [cirrus](#)
[cloud](#), [evaporation](#), [sleet](#), [rain](#),
[dew point](#), [hail](#),
[precipitation](#), [transpiration](#), [humidity](#), [air](#), [cloud](#), [moisture](#),
[weather](#)

UNIT: Water and Weather

Unit Assessment

4.5 Weather Patterns

Recommended Timeframe: (1.5 Days)

Benchmarks:

SC.5.E.7.3 - Recognize how air temperature, barometric pressure, humidity, wind speed and direction, and precipitation determine the weather in a particular place and time. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

SC.5.E.7.4 - Distinguish among the various forms of precipitation (rain, snow, sleet, and hail), making connections to the weather in a particular place and time. (Cognitive Complexity/Depth of Knowledge Rating: High)

Key Resources:

Explore: [Weather and Fronts](#) (video)

(SC.5.E.7.3)

Explore: [What Are Air Masses, and What Happens When They Meet?](#) (CIT)

(SC.5.E.7.3)

Explore: [Make it Rain](#) (Exploration)

(SC.5.E.7.3, SC.5.E.7.4)

Hands-On Activities &
Hands-On Labs:

[Fronts](#)

[Weather Data and Patterns](#)

[Weather Patterns Assessment](#)

Key Vocabulary:

[air pressure](#), [tropical](#), [wind](#),
[thermometer \(weather\)](#), [ocean](#)
[current](#), [convection](#)
[\(weather\)](#), [humidity](#), [model](#),
[predict](#), [atmosphere](#), [map](#),
[thunderstorm](#), [cloud](#),
[precipitation](#), [front](#), [climate](#),
[temperate](#), [meteorology](#),
[temperature \(weather\)](#),
[weather](#), [global](#)
[warming](#), [air](#), [latitude](#)

UNIT: Water and Weather

[Unit Assessment](#)

4.5 About Climate

Recommended Timeframe: (2 Days)

Benchmarks:

SC.5.E.7.5 - Recognize that some of the weather-related differences, such as temperature and humidity, are found among different environments, such as swamps, deserts, and mountains. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

SC.5.E.7.6 - Describe characteristics (temperature and precipitation) of different climate zones as they relate to latitude, elevation, and proximity to bodies of water. (Cognitive Complexity/Depth of Knowledge Rating: High)

Key Resources:

Engage: [What Affects Climate?](#) (CIT & TEIs only)
(SC.5.E.7.5)

Explore: [How Do We Describe Climate?](#) (CIT, video & TEI)
(SC.5.E.7.5, SC.5.E.7.6)

Explore: [How Does the Water Cycle Relate to Climate?](#) (CIT & TEI)

Explore: [How Do Other Factors Affect the Climate of a Region?](#) (CIT & TEI)
(SC.5.E.7.5, SC.5.E.7.6)

Explain: [Explaining About Climate](#) (CIT & TEI)
(SC.5.E.7.5, SC.5.E.7.6)

Hands-On Activities &
Hands-On Labs:

[About Climate Assessment](#)

Key Vocabulary:

[mountain](#), [season](#), [tropical](#), [air](#),
[period](#), [climate](#), [tundra](#),
[atmosphere](#), [fossil fuels](#),
[pollution](#), [water](#)
[cycle](#), [temperate](#), [rain](#),
[weather](#), [heat](#), [global](#)
[warming](#), [cycle](#),
[wind](#), [temperature](#)
[\(weather\)](#), [precipitation](#), [water](#)

UNIT: Water and Weather

Unit Assessment

4.6 Types of Climate

Recommended Timeframe: (5 Days)

Benchmarks:

SC.5.E.7.5 - Recognize that some of the weather-related differences, such as temperature and humidity, are found among different environments, such as swamps, deserts, and mountains. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

SC.5.E.7.6 - Describe characteristics (temperature and precipitation) of different climate zones as they relate to latitude, elevation, and proximity to bodies of water. (Cognitive Complexity/Depth of Knowledge Rating: High)

Key Resources:

Engage: [Discovering Different Climates](#) (CIT, video & TEI)

(SC.5.E.7.5, SC.5.E.7.6)

Engage: [Climate](#) (video)

(SC.5.E.7.5)

Explore: [Why Are Climates Different in Different Parts of the World, and How Do Organisms Adapt to Different Climates?](#) (CIT, video & TEI)

(SC.5.E.7.5, SC.5.E.7.6)

Explore: [What Characterizes a Desert Climate, and Where Are They Found in the World?](#) (CIT & video)

(SC.5.E.7.5, SC.5.E.7.6)

Explore: [How Are Tropical Climates Different from Other Climates?](#) (CIT & video)

(SC.5.E.7.5, SC.5.E.7.6)

Explore: [What Characterizes a Temperate Climate?](#) (CIT & video)

(SC.5.E.7.5, SC.5.E.7.6)

Explore: [What Makes Polar Climates Different from Other Climate Types?](#) (CIT, video & TEI)

(SC.5.E.7.5, SC.5.E.7.6)

Explain: [Explaining Types of Climate](#) (CIT & TEI)

(SC.5.E.7.5, SC.5.E.7.6)

Hands-On Activities &

Hands-On Labs:

[Climate Charades](#)

[Types of Climate Assessment](#)

Key Vocabulary:

[season](#), [tropical](#), [wind](#), [desert](#), [humidity](#), [moisture](#), [environment](#), [atmosphere](#), [equator](#), [precipitation](#), [hemisphere](#), [warm](#), [climate](#), [biome](#), [adaptation](#), [temperate](#), [rain](#), [tundra](#), [water](#), [polar](#), [flood](#), [Antarctic](#), [heat](#), [global warming](#), [temperature](#) ([weather](#)), [Arctic](#), [latitude](#)

UNIT: Water and Weather

[Unit Assessment](#)

4.7 Protection From Severe Weather

Recommended Timeframe: (4 Days)

Benchmarks:

SC.5.E.7.7 - Design a family preparedness plan for natural disasters and identify the reasons for having such a plan. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

Key Resources:

Explore: [What Causes Different Types of Severe Weather?](#) (CIT, videos and TEIs)

(SC.5.E.7.7)

Explore More Resources: [Emergency Kit and Plan](#)

(SC.5.E.7.7)

Elaborate: [STEM in Action: Skyscrapers Push the Limits in Storms](#) (CIT & TEIs)

Elaborate: [Project: Map a Safety Plan](#) (STEM Project Starter)

(SC.5.E.7.7)

Hands-On Activities &
Hands-On Labs:

[Emergency Kit and Plan](#)

[Protection from Severe
Weather Assessment](#)

Key Vocabulary:

[rain](#), [blizzard](#), [tornado](#),
[lightning](#), [shelter](#), [snow](#)
[storm](#), [flood](#), [meteorology](#),
[hurricane](#), [hail](#), [suspension](#)
[bridge](#), [thunderstorm](#), [wind](#),
[weather](#)

UNIT: Survival and Interdependence

[Unit Assessment](#)

5.1 Animal Reproduction

Recommended Timeframe: (4 Days)

Benchmarks:

HE.5.C.1.5 - Explain how human body parts and organs work together in healthy body systems, including the endocrine and reproductive 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: [Introducing Animal reproduction](#) (CIT, video & TEIs)
(SC.5.L.14.1, SC.5.L.14.2)

Explore: [How Do Animals Reproduce?](#) (CIT, video & TEI)
(HE.5.C.1.5, SC.5.L.14.1, SC.5.L.14.2)

Explore: [How Do Animals Protect a Fertilized Egg While It Develops?](#) (Video & TEI)
(HE.5.C.1.5, SC.5.L.14.1, SC.5.L.14.2)

Explore More Resources: [Reproduction](#) (video)

Explore: [Animal Reproduction](#) (Exploration)
(SC.5.L.14.1, SC.5.L.14.2)

Explain: [Explaining Animal Reproduction](#) (CIT & TEI)
(SC.5.L.14.1, SC.5.L.14.2)

Hands-On Activities &
Hands-On Labs:

[Animal Reproduction Assessment](#)

Key Vocabulary:

[mammal](#), [egg](#), [larva](#),
[pollination](#), [behavior](#), [animal](#),
[amphibian](#), [seed](#),
[exoskeleton](#), [survive](#), [reptile](#),
[spore](#), [distribute](#), [bird](#), [budding](#),
[fruit](#), [flowering](#)
[plant](#), [plant](#), [seedling](#), [offspring](#),
[germination](#), [communicate](#),
[fish](#), [tissue](#),
[metamorphosis](#), [vertebrate](#),
[characteristic](#), [sperm](#)
[cell](#), [species](#), [reproduce](#), [snake](#),
[cocoon](#), [flower](#), [cone](#), [embryo](#),
[classify](#), [life cycle](#), [ovary](#), [pupa](#)

UNIT: Survival and Interdependence

[Unit Assessment](#)

5.2 Adaptation

Recommended Timeframe: (4 Days)

Benchmarks:

SC.5.L.15.1 - Describe how, when the environment changes, differences between individuals allow some plants and animals to survive and reproduce while others die or move to new locations. (Cognitive Complexity/Depth of Knowledge Rating: High)

SC.5.L.17.1 - Compare and contrast adaptations displayed by animals and plants that enable them to survive in different environments such as life cycles variations, animal behaviors and physical characteristics. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

Key Resources:

Engage: [Learning about Characteristics That Help Organisms Survive](#) (CIT, video, TEIs)
(SC.5.L.15., SC.5.L.17.1)

Explore: [What Is Adaptation?](#) (CIT, video & TEI)
(SC.5.L.15., SC.5.L.17.1)

Explore More Resources: [Adaptation](#) (video)
(SC.5.L.17.1)

Explore More Resources: [Plant Adaptations](#) (Hands-On Activity)
(SC.5.L.17.1)

Explore More Resources: [Plants in the Desert](#) (Reading Passage)
(SC.5.L.17.1)

Explore: [Adaptation](#) (Exploration)
(SC.5.L.17.1)

Explore: [How Do Structural Adaptations Differ from Behavioral Adaptations?](#) (CIT, video & TEI)
(SC.5.L.17.1)

Explain: [Explaining Adaptation](#) (CIT & TEI)
(SC.5.L.17.1)

Hands-On Activities &
Hands-On Labs:

[Plant Adaptations](#)
[Hiding in Plain Sight](#)

[Adaptation Assessment](#)

Key Vocabulary:

[prey](#), [response](#), [react](#),
[generation](#), [survive](#), [habitat](#),
[predator](#), [heredity](#), [organism](#),
[behavior](#), [camouflage](#),
[environment](#), [variation](#),
[structure](#), [adaptation](#),
[characteristic](#), [species](#),
[reproduce](#), [trait](#), [migration](#),
[feature](#), [instinct](#), [hibernate](#),
[mutate](#)

UNIT: Survival and Interdependence

[Unit Assessment](#)

5.3 Survival

Recommended Timeframe: (4 Days)

Benchmarks:

SC.5.L.15.1 - Describe how, when the environment changes, differences between individuals allow some plants and animals to survive and reproduce while others die or move to new locations. (Cognitive Complexity/Depth of Knowledge Rating: High)

SC.5.L.17.1 - Compare and contrast adaptations displayed by animals and plants that enable them to survive in different environments such as life cycles variations, animal behaviors and physical characteristics. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

Key Resources:

Explore: [What May Happen to Living Things When an Ecosystem Changes?](#) (CIT, video & TEI)
(SC.5.L.15., SC.5.L.17.1)

Explore: [Survival](#) (Exploration)
(SC.5.L.15., SC.5.L.17.1)

Explore: [How Can a Species Survive Changes to an Ecosystem?](#) (CIT & TEI)
(SC.5.L.15., SC.5.L.17.1)

Explore More Resources: [Surviving Ecosystem Change](#) (Reading Passage)
(SC.5.L.15., SC.5.L.17.1)

Explore: [Moth of a Different Color](#) (Exploration)
(SC.5.L.15., SC.5.L.17.1)

Explore: [How Does Forming Groups Help Some Animals Survive?](#) (CIT, video & TEI)
(SC.5.L.15., SC.5.L.17.1)

Elaborate: [Project: Migrating South for the Winter](#) (STEM Project Starter)

Hands-On Activities &
Hands-On Labs:

[Survival Assessment](#)

Key Vocabulary:

[prey](#), [ecosystem](#), [larva](#), [survive](#),
[population](#), [food](#)
[chain](#), [endangered](#)
[species](#), [habitat](#), [predator](#),
[organism](#), [nutrients](#), [offspring](#),
[camouflage](#), [climate](#),
[adaptation](#), [characteristic](#),
[depend](#), [species](#), [reproduce](#),
[trait](#), [migration](#), [hibernate](#)

UNIT: Forces and Motion

Unit Assessment

6.1 About Force

Recommended Timeframe: (6 Days)

Benchmarks:

- SC.5.P.13.1 - Identify familiar forces that cause objects to move, such as pushes or pulls, including gravity acting on falling objects. (Cognitive Complexity/Depth of Knowledge Rating: Low)
- SC.5.P.13.2 - Investigate and describe that the greater the force applied to it, the greater the change in motion of a given object. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)
- SC.5.P.13.3 - Investigate and describe that the more mass an object has, the less effect a given force will have on the object's motion. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)
- SC.5.P.13.4 - Investigate and explain that when a force is applied to an object but it does not move, it is because another opposing force is being applied by something in the environment so that the forces are balanced. (Cognitive Complexity/Depth of Knowledge Rating: High)

Key Resources:

- Engage: [Thinking about What Causes the Motion of Objects to Change](#) (CIT, video & TEIs) (SC.5.P.13.1)
- Explore: [What Is a Force?](#) (CIT & TEI) (SC.5.P.13.1)
- Explore: [Pulling Your Weight](#) (Virtual Lab) (SC.5.P.13.1, SC.5.P.13.2, SC.5.P.13.3)
- Explore: [What Effect Does a Force Have on the Motion of an Object?](#) (TEI & video) (SC.5.P.13.2, SC.5.P.13.3, SC.5.P.13.4)
- Explore: [Shooting More Marbles](#) (Hands-On Activity) (SC.5.P.13.2, SC.5.P.13.3, SC.5.P.13.4)
- Explore: [What Happens When Two Forces Push or Pull an Object in the Same Direction?](#) (CIT) (SC.5.P.13.2)
- Explore: [What Happens When Two Forces Push or Pull an Object in Opposite Directions?](#) (CIT & TEI) (SC.5.P.13.2, SC.5.P.13.4)
- Explain: [Explaining About Force](#) (CIT & TEI) (SC.5.P.13.1, SC.5.P.13.2, SC.5.P.13.3, SC.5.P.13.4)
- Elaborate: [Project: The Effect of Unbalanced Forces on Motion](#) (STEM Project Starter) (SC.5.P.13.2, SC.5.P.13.4)

Hands-On Activities & Hands-On Labs:
[Shooting More Marbles](#)

[About Force Assessment](#)

Key Vocabulary:
[resist](#), [work](#), [pendulum](#), [thrust](#), [mass](#), [force](#), [friction](#), [matter](#), [balanced forces](#), [balance](#), [gravity](#), [power](#), [motion](#), [interact](#)

UNIT: Forces and Motion

[Unit Assessment](#)

6.2 Changing the Speed of Motion

Recommended Timeframe: (4 Days)

Benchmarks:

SC.5.P.13.2 - Investigate and describe that the greater the force applied to it, the greater the change in motion of a given object. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

Key Resources:

Explore: [How Can the Motion of an Object Change?](#) (CIT & video)

(SC.5.P.13.2)

Explore: [Describing Motion](#) (Exploration)

(SC.5.P.13.2)

Explore: [How Do Different Forces Cause Objects to Change Speed or Direction?](#) (CIT, video & TEI)

(SC.5.P.13.2)

Explore: [Changing Motion](#) (Hands-On Lab)

(SC.5.P.13.2)

Explore: [How Does the Force of Friction Affect an Object's Motion?](#) (CIT, video & TEI)

(SC.5.P.13.2)

Explain: [Explaining Changing the Speed of Motion](#) (CIT & TEI)

(SC.5.P.13.2)

Hands-On Activities &

Hands-On Labs:

[Changing Motion](#)

[Changing the Speed of Motion Assessment](#)

Key Vocabulary:

[resist](#), [friction](#), [thrust](#), [speed](#),
[mass](#), [drag](#), [kinetic energy](#), [contact](#), [force](#),
[acceleration](#), [matter](#), [position](#),
[attract](#), [action](#), [heat](#), [energy transfer](#), [motion](#), [thermal energy](#)

UNIT: Forces and Motion

Unit Assessment

6.3 Changing Direction

Recommended Timeframe: (3 Days)

Benchmarks:

SC.5.P.13.1 - Identify familiar forces that cause objects to move, such as pushes or pulls, including gravity acting on falling objects. (Cognitive Complexity/Depth of Knowledge Rating: Low)

SC.5.P.13.2 - Investigate and describe that the greater the force applied to it, the greater the change in motion of a given object. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

SC.5.P.13.3 - Investigate and describe that the more mass an object has, the less effect a given force will have on the object's motion. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

Key Resources:

Engage: [Exploring How Balls Change Direction in Sports](#) (CIT, video & TEIs)
(SC.5.P.13.1, SC.5.P.13.2)

Explore: [How Can the Motion of an Object That Is Moving at a Constant Speed and Direction Be Changed?](#) (CIT, video)
(SC.5.P.13.2)

Explore: [Changing Direction](#) (Exploration)
(SC.5.P.13.2)

Explore: [How Does an Object Thrown Horizontally Behave?](#) (CIT & TEI)
(SC.5.P.13.1)

Explain: [Explaining Changing Direction](#) (CIT & TEI)
(SC.5.P.13.1, SC.5.P.13.2)

Hands-On Activities & Hands-On Labs:
[Play Ball](#)

[Changing Direction Assessment](#)

Key Vocabulary:
[pendulum](#), [gravitation](#), [inertia](#), [force](#), [gravity](#), [motion](#), [mass](#)

UNIT: Mixing It Up

[Unit Assessment](#)

7.1 Review of Matter

Recommended Timeframe: (3 Days)

Benchmarks: SC.5.P.8.1 - Compare and contrast the basic properties of solids, liquids, and gases, such as mass, volume, color, texture, and temperature. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

Key Resources:

Engage: [How Can We Explore the Properties of Matter?](#) (CIT, video and TEIs)
(SC.5.P.8.1)
Explore: [How Is Matter Described and Classified?](#) (CIT & TEI)
(SC.5.P.8.1)
Explore: [What's the Matter?](#) (Exploration)
(SC.5.P.8.1)
Explore: [How Does a Substance's Properties Depend on Its State?](#) (CIT, video & TEI)
(SC.5.P.8.1)
Explain: [Explaining Review of Matter](#) (CIT and TEI)
(SC.5.P.8.1)

Hands-On Activities &
Hands-On Labs:

[Properties of Matter](#)

[Review of Matter Assessment](#)

Key Vocabulary:

[measure](#), [insulate](#), [liquid](#),
[density](#), [mass](#), [periodic table of elements](#), [pure substance](#), [magnet](#), [corrosive](#),
[gas](#), [state of matter](#), [chemical substance](#), [mineral](#), [optical](#), [transparent](#),
[electric](#), [conductor](#),
[translucent](#), [solid](#), [weight](#),
[matter](#), [classify](#), [metal](#), [color](#),
[temperature \(general\)](#)

UNIT: Mixing It Up

[Unit Assessment](#)

7.2 Atoms

Recommended Timeframe: (3 Days)

Benchmarks:

SC.5.P.8.4 - Explore the scientific theory of atoms (also called atomic theory) by recognizing that all matter is composed of parts that are too small to be seen without magnification. (Cognitive Complexity/Depth of Knowledge Rating: Low)

Key Resources:

Engage: [What Are Atoms Made Of?](#) (CIT, video & TEI)

(SC.5.P.8.4)

Explore: [How Can We Model the Particles That Make Up Matter?](#) (CIT, video & TEI)

(SC.5.P.8.4)

Explore: [How Do Atoms Combine to Form Molecules?](#) (CIT)Explore: [Atoms](#) (Exploration)

(SC.5.P.8.4)

Explore: [How Do We Describe the Size of Atoms and Molecules?](#) (CIT & TEI)

(SC.5.P.8.4)

Explain: [Explaining Atoms](#) (CIT & TEI)

(SC.5.P.8.4)

Hands-On Activities &

Hands-On Labs:

[Smallest Pieces](#)[Atoms Assessment](#)

Key Vocabulary:

[electron](#), [neutron](#), [proton](#),
[element](#), [hydrogen](#), [pure](#)
[substance](#), [matter](#), [combine](#),
[molecule](#), [atomic](#)
[number](#), [nucleus](#), [atom](#),
[mixture](#), [chlorine](#)

UNIT: Mixing It Up

[Unit Assessment](#)

7.3 Mixtures

Recommended Timeframe: (3 Days)

Benchmarks:

SC.5.P.8.3 - Demonstrate and explain that mixtures of solids can be separated based on observable properties of their parts such as particle size, shape, color, and magnetic attraction. (Cognitive Complexity/Depth of Knowledge Rating: Moderate)

Key Resources:

Explore: [How Can Mixtures Be Separated?](#) ((CIT & TEI)
(SC.5.P.8.3)
Explore More Resources: [Make Your Own Mixture](#) (Hands-On Activity)
(SC.5.P.8.3)
Elaborate: [Project: A Separation Problem](#) (STEM Project Starter)
(SC.5.P.8.3)

Hands-On Activities &
Hands-On Labs:
[Make Your Own Mixture](#)

[Mixtures Assessment](#)

Key Vocabulary:
[molecule](#), [solid](#), [substance](#),
[pure](#), [magnetic](#), [sugar](#), [beaker](#), [f](#)
[ilter](#), [homogeneous](#), [physical](#)
[change](#), [solution](#), [matter](#),
[combine](#), [chemical](#)
[change](#), [dissolve](#),
[heterogeneous](#), [diffusion](#),
[water](#), [mixture](#), [atom](#)

UNIT: Mixing It Up

[Unit Assessment](#)

7.4 Solutions

Recommended Timeframe: (6 Days)

Benchmarks:

SC.5.P.8.2 - Investigate and identify materials that will dissolve in water and those that will not and identify the conditions that will speed up or slow down the dissolving process. (Cognitive Complexity/Depth of Knowledge Rating: High)

SC.5.P.9.1 - Investigate and describe that many physical and chemical changes are affected by temperature. (Cognitive Complexity/Depth of Knowledge Rating: High)

Key Resources:

Engage: [Analyzing Solutions and Their Properties](#) (CIT, video and TEIs)
(SC.5.P.8.2)

Explore: [How Are Solutions Different from Mixtures That Are Not Solutions?](#) (CIT, video & TEI)
(SC.5.P.8.2)

Explore More Resources: [Predicting What Makes Solutions](#) (Hands-On Lab)
(SC.5.P.8.2)

Explore More Resources: [Speedy Solutions](#) (Hands-On Lab)
(SC.5.P.8.2, SC.5.P.9.1)

Explore: [Solutions](#) (Exploration)

Explain: [Explaining Solutions](#) (CIT & TEI)

Hands-On Activities &

Hands-On Labs:

[Predicting What Makes Solutions](#)
[Speedy Solutions](#)

Key Vocabulary:

[salt](#)
[water](#), [pure](#), [beaker](#), [physical change](#), [mass](#), [element](#), [periodic table of elements](#), [solvent](#), [diffusion](#), [water](#), [mixture](#), [solubility](#), [substance](#), [base](#), [combine](#), [molecule](#), [dissolve](#), [fluid](#), [atom](#), [compound](#), [solute](#), [matter](#), [homogeneous](#), [solution](#), [chlorine](#)

UNIT: Mixing It Up

Unit Assessment

7.5 Chemical Changes

Recommended Timeframe: (3 Days)

Benchmarks:

SC.5.P.9.1 - Investigate and describe that many physical and chemical changes are affected by temperature. (Cognitive Complexity/Depth of Knowledge Rating: High)

Key Resources:

Engage: [Baking Changes Substances](#) (CIT, video & TEI)

(SC.5.P.9.1)

Explore: [How Is a Chemical Change Different from a Physical Change?](#) (CIT, video & TEI)

(SC.5.P.9.1)

Explore More Resources: [What Are Chemical Reactions](#) (video)

(SC.5.P.9.1)

Explore: [How Is Energy Involved in Chemical Changes?](#) (CIT)

(SC.5.P.9.1)

Explain: [Explaining Chemical Changes](#) (CIT & TEI)

Hands-On Activities &
Hands-On Labs:

[Heating Up](#)

[Chemical Changes Assessment](#)

Key Vocabulary:

[salt water](#), [pure](#), [litmus test](#), [physical change](#), [neutral](#), [burn](#), [chemical change](#), [element](#), [oxidation](#), [periodic table of elements](#), [pure substance](#), [corrosive](#), [gas](#), [acid](#), [chemical](#), [chemical reaction](#), [fuel](#), [substance](#), [water](#), [chemical test](#), [combine](#), [energy \(physical\)](#), [dissolve](#), [atom](#), [compound](#), [molecule](#), [solution](#), [matter](#), [detect](#)