Middle School Grade 6 Science Tutorials offer targeted instruction, practice, and review designed to help students develop scientific literacy, deepen conceptual understanding, and apply scientific practices. Students explore concepts such as Earth's structures, systems, and patterns; the organization, development, and evolution of organisms; and the relationship between force and motion.

Students engage with the content in an interactive, feedback-rich environment as they progress through standards-aligned modules. By continually honing their ability to apply knowledge in real-world scenarios, students build the depth of knowledge and higher-order skills required to demonstrate their mastery when put to the test.

In each module, the Learn It and Try It make complex ideas accessible to students as they explore the nature of science through focused content, interactive mini investigations, multi-modal representations, and personalized feedback. The Review It offers a high-impact summary of key concepts and relates those concepts to students' lives. The Test It assesses students' mastery of the module's concepts, providing granular performance data to students and teachers after each attempt. To help students focus on the content most relevant to them, unit-level pretests and posttests can quickly identify where students are strong and where they're still learning.

These Tutorials are built to the Next Generation Science Standards for middle school science.

Unit 1: Nature of Science

- **WHAT IS SCIENCE?**
  - SC.6.N.1.A: Nature of Science The Practice of Science Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
  - SC.6.N.1.D: Nature of Science The Practice of Science Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.
  - SC.6.N.1.5: Nature of Science The Practice of Science Recognize that science involves creativity, not just in designing experiments, but also in creating explanations that fit evidence.
  - SC.6.N.2.1: Nature of Science The Characteristics of Scientific Knowledge Distinguish science from other activities involving thought.
  - SC.6.N.1.2: Nature of Science The Practice of Science Explain why scientific investigations should be replicable.

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- SC.6.N.2.A: Nature of Science The Characteristics of Scientific Knowledge Scientific knowledge is based on empirical evidence, and is appropriate for understanding the natural world, but it provides only a limited understanding of the supernatural, aesthetic, or other ways of knowing, such as art, philosophy, or religion.
- SC.6.N.1.B: Nature of Science The Practice of Science The processes of science frequently do not correspond to the traditional portrayal of the scientific method.
- SC.6.N.2.C: Nature of Science The Characteristics of Scientific Knowledge Because science is based on empirical evidence it strives for objectivity, but as it is a human endeavor the processes, methods, and knowledge of science include subjectivity, as well as creativity and discovery.
- SC.6.N.2.B: Nature of Science The Characteristics of Scientific Knowledge Scientific knowledge is durable and robust, but open to change.
- SC.6.N.2.2: Nature of Science The Characteristics of Scientific Knowledge Explain that scientific knowledge is durable because it is open to change as new evidence or interpretations are encountered.
- SC.6.N.2.3: Nature of Science The Characteristics of Scientific Knowledge Recognize that scientists who make contributions to scientific knowledge come from all kinds of backgrounds and possess varied talents, interests, and goals.
- SC.6.N.3.1: Nature of Science The terms that describe examples of scientific knowledge, for example; theory, law, hypothesis, and model have very specific meanings and functions within science. Recognize and explain that a scientific theory is a well-supported and widely accepted explanation of nature and is not simply a claim posed by an individual. Thus, the use of the term theory in science is very different than how it is used in everyday life.
- SC.6.N.3.2: Nature of Science The terms that describe examples of scientific knowledge, for example; theory, law, hypothesis, and model have very specific meanings and functions within science. Recognize and explain that a scientific law is a description of a specific relationship under given conditions in the natural world. Thus, scientific laws are different from societal laws.
- SC.6.N.3.3: Nature of Science The terms that describe examples of scientific knowledge, for example; theory, law, hypothesis, and model have very specific meanings and functions within science. Give several examples of scientific laws.

- **TYPES OF INVESTIGATIONS**
  - SC.6.N.1.B: Nature of Science The Practice of Science The processes of science frequently do not correspond to the traditional portrayal of the scientific method.
  - SC.6.N.1.1: Nature of Science The Practice of Science Define a problem from the sixth grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
  - SC.6.N.1.3: Nature of Science The Practice of Science Explain the difference between an experiment and other types of scientific investigation, and explain the relative benefits and limitations of each.

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- SC.6.N.1.A: Nature of Science The Practice of Science Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
- SC.6.N.1.2: Nature of Science The Practice of Science Explain why scientific investigations should be replicable.
- SC.6.N.1.D: Nature of Science The Practice of Science Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.
- SC.6.N.1.5: Nature of Science The Practice of Science Recognize that science involves creativity, not just in designing experiments, but also in creating explanations that fit evidence.
- SC.6.N.2.C: Nature of Science The Characteristics of Scientific Knowledge Because science is based on empirical evidence it strives for objectivity, but as it is a human endeavor the processes, methods, and knowledge of science include subjectivity, as well as creativity and discovery.

- **USING MODELS**
  - SC.6.N.3.4: Nature of Science The terms that describe examples of scientific knowledge, for example; theory, law, hypothesis, and model have very specific meanings and functions within science. Identify the role of models in the context of the sixth grade science benchmarks.

Unit 2: Measurement and Data

- **TOOLS AND MEASUREMENT**
  - SC.6.N.1.A: Nature of Science The Practice of Science Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
  - SC.6.N.1.1: Nature of Science The Practice of Science Define a problem from the sixth grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
- **DISPLAYING AND INTERPRETING DATA**
  - SC.6.N.1.A: Nature of Science The Practice of Science Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
  - SC.6.N.1.1: Nature of Science The Practice of Science Define a problem from the sixth grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify

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variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.

Unit 3: Force and Motion

- **DESCRIBING FORCES**
  - SC.6.P.13.C: Physical Science Forces and Changes in Motion Some forces act through physical contact, while others act at a distance.
  - SC.6.P.13.1: Physical Science Forces and Changes in Motion Investigate and describe types of forces including contact forces and forces acting at a distance, such as electrical, magnetic, and gravitational.
  - SC.6.P.13.B: Physical Science Forces and Changes in Motion Energy change is understood in terms of forces--pushes or pulls.
  - SC.6.N.1.1: Nature of Science The Practice of Science Define a problem from the sixth grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
  - SC.6.P.12.B: Physical Science Motion of Objects The motion of objects can be changed by forces.
- **DESCRIBING MOTION**
  - SC.6.N.3.3: Nature of Science The terms that describe examples of scientific knowledge, for example; theory, law, hypothesis, and model have very specific meanings and functions within science. Give several examples of scientific laws.
  - SC.6.P.12.A: Physical Science Motion of Objects Motion is a key characteristic of all matter that can be observed, described, and measured.
  - SC.6.P.12.B: Physical Science Motion of Objects The motion of objects can be changed by forces.
  - SC.6.P.13.3: Physical Science Forces and Changes in Motion Investigate and describe that an unbalanced force acting on an object changes its speed, or direction of motion, or both.
  - SC.6.P.12.1: Physical Science Motion of Objects Measure and graph distance versus time for an object moving at a constant speed. Interpret this relationship.
  - SC.6.N.1.1: Nature of Science The Practice of Science Define a problem from the sixth grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
- **EFFECTS OF FORCES**
  - SC.6.N.3.3: Nature of Science The terms that describe examples of scientific knowledge, for example; theory, law, hypothesis, and model have very specific meanings and functions within science. Give several examples of scientific laws.
  - SC.6.P.12.B: Physical Science Motion of Objects The motion of objects can be changed by forces.

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- SC.6.P.13.A: Physical Science Forces and Changes in Motion It takes energy to change the motion of objects.
- SC.6.P.13.3: Physical Science Forces and Changes in Motion Investigate and describe that an unbalanced force acting on an object changes its speed, or direction of motion, or both.
- SC.6.N.1.1: Nature of Science The Practice of Science Define a problem from the sixth grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
- SC.6.N.3.3: Nature of Science The terms that describe examples of scientific knowledge, for example; theory, law, hypothesis, and model have very specific meanings and functions within science. Give several examples of scientific laws.

Unit 4: Noncontact Forces

- **ELECTROMAGNETIC FORCES**
  - SC.6.P.13.1: Physical Science Forces and Changes in Motion Investigate and describe types of forces including contact forces and forces acting at a distance, such as electrical, magnetic, and gravitational.
- **GRAVITATIONAL FORCE**
  - SC.6.N.3.3: Nature of Science The terms that describe examples of scientific knowledge, for example; theory, law, hypothesis, and model have very specific meanings and functions within science. Give several examples of scientific laws.
  - SC.6.P.13.1: Physical Science Forces and Changes in Motion Investigate and describe types of forces including contact forces and forces acting at a distance, such as electrical, magnetic, and gravitational.
  - SC.6.P.13.2: Physical Science Forces and Changes in Motion Explore the Law of Gravity by recognizing that every object exerts gravitational force on every other object and that the force depends on how much mass the objects have and how far apart they are.
  - SC.6.N.1.1: Nature of Science The Practice of Science Define a problem from the sixth grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.

Unit 5: Forces and Planet Earth

- **THE EARTH SYSTEM**
  - SC.6.E.7.4: Earth and Space Science The scientific theory of the evolution of Earth states that changes in our planet are driven by the flow of energy and the cycling of matter through dynamic interactions among the atmosphere, hydrosphere, cryosphere, geosphere, and biosphere, and the resources used to sustain human civilization on Earth. Differentiate and show interactions among the geosphere, hydrosphere, cryosphere, atmosphere, and biosphere.

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- SC.6.E.7.1: Earth and Space Science The scientific theory of the evolution of Earth states that changes in our planet are driven by the flow of energy and the cycling of matter through dynamic interactions among the atmosphere, hydrosphere, cryosphere, geosphere, and biosphere, and the resources used to sustain human civilization on Earth. Differentiate among radiation, conduction, and convection, the three mechanisms by which heat is transferred through Earth's system.
- SC.6.P.11.D: Physical Science Energy Transfer and Transformations The Law of Conservation of Energy: Energy is conserved as it transfers from one object to another and from one form to another.

- **WEATHERING AND EROSION**
  - SC.6.E.6.1: Earth and Space Science Over geologic time, internal and external sources of energy have continuously altered the features of Earth by means of both constructive and destructive forces. All life, including human civilization, is dependent on Earth's internal and external energy and material resources. Describe and give examples of ways in which Earth's surface is built up and torn down by physical and chemical weathering, erosion, and deposition.
  - SC.6.E.6.2: Earth and Space Science Over geologic time, internal and external sources of energy have continuously altered the features of Earth by means of both constructive and destructive forces. All life, including human civilization, is dependent on Earth's internal and external energy and material resources. Recognize that there are a variety of different landforms on Earth's surface such as coastlines, dunes, rivers, mountains, glaciers, deltas, and lakes and relate these landforms as they apply to Florida.
- **PLATE TECTONICS**
  - SC.6.E.7.1: Earth and Space Science The scientific theory of the evolution of Earth states that changes in our planet are driven by the flow of energy and the cycling of matter through dynamic interactions among the atmosphere, hydrosphere, cryosphere, geosphere, and biosphere, and the resources used to sustain human civilization on Earth. Differentiate among radiation, conduction, and convection, the three mechanisms by which heat is transferred through Earth's system.
  - SC.6.N.2.2: Nature of Science The Characteristics of Scientific Knowledge Explain that scientific knowledge is durable because it is open to change as new evidence or interpretations are encountered.
  - SC.6.E.6.2: Earth and Space Science Over geologic time, internal and external sources of energy have continuously altered the features of Earth by means of both constructive and destructive forces. All life, including human civilization, is dependent on Earth's internal and external energy and material resources. Recognize that there are a variety of different landforms on Earth's surface such as coastlines, dunes, rivers, mountains, glaciers, deltas, and lakes and relate these landforms as they apply to Florida.

Unit 6: Energy

- **DESCRIBING ENERGY**
  - SC.6.P.11.1: Physical Science Energy Transfer and Transformations Explore the Law of Conservation of Energy by differentiating between potential and kinetic energy. Identify situations where kinetic energy is transformed into potential energy and vice versa.

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- SC.6.N.1.1: Nature of Science The Practice of Science Define a problem from the sixth grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.

- **ENERGY TRANSFER AND TRANSFORMATION**
  - SC.6.P.11.A: Physical Science Energy Transfer and Transformations Waves involve a transfer of energy without a transfer of matter.
  - SC.6.P.11.1: Physical Science Energy Transfer and Transformations Explore the Law of Conservation of Energy by differentiating between potential and kinetic energy. Identify situations where kinetic energy is transformed into potential energy and vice versa.
  - SC.6.P.13.A: Physical Science Forces and Changes in Motion It takes energy to change the motion of objects.
  - SC.6.N.1.1: Nature of Science The Practice of Science Define a problem from the sixth grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
  - SC.6.P.11.D: Physical Science Energy Transfer and Transformations The Law of Conservation of Energy: Energy is conserved as it transfers from one object to another and from one form to another.

Unit 7: Energy and Waves

- **MECHANICAL WAVES**
  - SC.6.P.11.A: Physical Science Energy Transfer and Transformations Waves involve a transfer of energy without a transfer of matter.
  - SC.6.P.11.B: Physical Science Energy Transfer and Transformations Water and sound waves transfer energy through a material.
  - SC.6.N.1.1: Nature of Science The Practice of Science Define a problem from the sixth grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
- **ELECTROMAGNETIC WAVES**
  - SC.6.P.11.A: Physical Science Energy Transfer and Transformations Waves involve a transfer of energy without a transfer of matter.
  - SC.6.P.11.C: Physical Science Energy Transfer and Transformations Light waves can travel through a vacuum and through matter.
  - SC.6.N.1.1: Nature of Science The Practice of Science Define a problem from the sixth grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry

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out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.

- **INTERACTIONS OF WAVES AND MATTER**
  - SC.6.P.11.A: Physical Science Energy Transfer and Transformations Waves involve a transfer of energy without a transfer of matter.

Unit 8: Energy and Earth's Systems

- **FRESHWATER AND ICE**
  - SC.6.E.6.2: Earth and Space Science Over geologic time, internal and external sources of energy have continuously altered the features of Earth by means of both constructive and destructive forces. All life, including human civilization, is dependent on Earth's internal and external energy and material resources. Recognize that there are a variety of different landforms on Earth's surface such as coastlines, dunes, rivers, mountains, glaciers, deltas, and lakes and relate these landforms as they apply to Florida.
  - SC.6.E.7.2: Earth and Space Science The scientific theory of the evolution of Earth states that changes in our planet are driven by the flow of energy and the cycling of matter through dynamic interactions among the atmosphere, hydrosphere, cryosphere, geosphere, and biosphere, and the resources used to sustain human civilization on Earth. Investigate and apply how the cycling of water between the atmosphere and hydrosphere has an effect on weather patterns and climate.
  - SC.6.E.7.4: Earth and Space Science The scientific theory of the evolution of Earth states that changes in our planet are driven by the flow of energy and the cycling of matter through dynamic interactions among the atmosphere, hydrosphere, cryosphere, geosphere, and biosphere, and the resources used to sustain human civilization on Earth. Differentiate and show interactions among the geosphere, hydrosphere, cryosphere, atmosphere, and biosphere.
- **OCEANS**
  - SC.6.E.6.2: Earth and Space Science Over geologic time, internal and external sources of energy have continuously altered the features of Earth by means of both constructive and destructive forces. All life, including human civilization, is dependent on Earth's internal and external energy and material resources. Recognize that there are a variety of different landforms on Earth's surface such as coastlines, dunes, rivers, mountains, glaciers, deltas, and lakes and relate these landforms as they apply to Florida.
  - SC.6.E.7.5: Earth and Space Science The scientific theory of the evolution of Earth states that changes in our planet are driven by the flow of energy and the cycling of matter through dynamic interactions among the atmosphere, hydrosphere, cryosphere, geosphere, and biosphere, and the resources used to sustain human civilization on Earth. Explain how energy provided by the sun influences global patterns of atmospheric movement and the temperature differences between air, water, and land.
  - SC.6.P.11.A: Physical Science Energy Transfer and Transformations Waves involve a transfer of energy without a transfer of matter.
- **THE ATMOSPHERE**

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- SC.6.E.7.9: Earth and Space Science The scientific theory of the evolution of Earth states that changes in our planet are driven by the flow of energy and the cycling of matter through dynamic interactions among the atmosphere, hydrosphere, cryosphere, geosphere, and biosphere, and the resources used to sustain human civilization on Earth. Describe how the composition and structure of the atmosphere protects life and insulates the planet.
- SC.6.E.7.1: Earth and Space Science The scientific theory of the evolution of Earth states that changes in our planet are driven by the flow of energy and the cycling of matter through dynamic interactions among the atmosphere, hydrosphere, cryosphere, geosphere, and biosphere, and the resources used to sustain human civilization on Earth. Differentiate among radiation, conduction, and convection, the three mechanisms by which heat is transferred through Earth's system.
- SC.6.E.7.5: Earth and Space Science The scientific theory of the evolution of Earth states that changes in our planet are driven by the flow of energy and the cycling of matter through dynamic interactions among the atmosphere, hydrosphere, cryosphere, geosphere, and biosphere, and the resources used to sustain human civilization on Earth. Explain how energy provided by the sun influences global patterns of atmospheric movement and the temperature differences between air, water, and land.

Unit 9: Weather and Climate

- **WEATHER**
  - SC.6.E.7.2: Earth and Space Science The scientific theory of the evolution of Earth states that changes in our planet are driven by the flow of energy and the cycling of matter through dynamic interactions among the atmosphere, hydrosphere, cryosphere, geosphere, and biosphere, and the resources used to sustain human civilization on Earth. Investigate and apply how the cycling of water between the atmosphere and hydrosphere has an effect on weather patterns and climate.
  - SC.6.E.7.3: Earth and Space Science The scientific theory of the evolution of Earth states that changes in our planet are driven by the flow of energy and the cycling of matter through dynamic interactions among the atmosphere, hydrosphere, cryosphere, geosphere, and biosphere, and the resources used to sustain human civilization on Earth. Describe how global patterns such as the jet stream and ocean currents influence local weather in measurable terms such as temperature, air pressure, wind direction and speed, and humidity and precipitation.
  - SC.6.E.7.5: Earth and Space Science The scientific theory of the evolution of Earth states that changes in our planet are driven by the flow of energy and the cycling of matter through dynamic interactions among the atmosphere, hydrosphere, cryosphere, geosphere, and biosphere, and the resources used to sustain human civilization on Earth. Explain how energy provided by the sun influences global patterns of atmospheric movement and the temperature differences between air, water, and land.
- **SEVERE WEATHER**
  - SC.6.E.7.7: Earth and Space Science The scientific theory of the evolution of Earth states that changes in our planet are driven by the flow of energy and the cycling of matter through dynamic interactions among the atmosphere, hydrosphere, cryosphere, geosphere, and biosphere, and the resources used to sustain human civilization on Earth. Investigate how natural disasters have affected human life in Florida.

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- SC.6.E.7.8: Earth and Space Science The scientific theory of the evolution of Earth states that changes in our planet are driven by the flow of energy and the cycling of matter through dynamic interactions among the atmosphere, hydrosphere, cryosphere, geosphere, and biosphere, and the resources used to sustain human civilization on Earth. Describe ways human beings protect themselves from hazardous weather and sun exposure.
- SC.6.E.7.2: Earth and Space Science The scientific theory of the evolution of Earth states that changes in our planet are driven by the flow of energy and the cycling of matter through dynamic interactions among the atmosphere, hydrosphere, cryosphere, geosphere, and biosphere, and the resources used to sustain human civilization on Earth. Investigate and apply how the cycling of water between the atmosphere and hydrosphere has an effect on weather patterns and climate.
- SC.6.E.7.3: Earth and Space Science The scientific theory of the evolution of Earth states that changes in our planet are driven by the flow of energy and the cycling of matter through dynamic interactions among the atmosphere, hydrosphere, cryosphere, geosphere, and biosphere, and the resources used to sustain human civilization on Earth. Describe how global patterns such as the jet stream and ocean currents influence local weather in measurable terms such as temperature, air pressure, wind direction and speed, and humidity and precipitation.

- **CLIMATE**
  - SC.6.E.7.6: Earth and Space Science The scientific theory of the evolution of Earth states that changes in our planet are driven by the flow of energy and the cycling of matter through dynamic interactions among the atmosphere, hydrosphere, cryosphere, geosphere, and biosphere, and the resources used to sustain human civilization on Earth. Differentiate between weather and climate.
  - SC.6.E.7.3: Earth and Space Science The scientific theory of the evolution of Earth states that changes in our planet are driven by the flow of energy and the cycling of matter through dynamic interactions among the atmosphere, hydrosphere, cryosphere, geosphere, and biosphere, and the resources used to sustain human civilization on Earth. Describe how global patterns such as the jet stream and ocean currents influence local weather in measurable terms such as temperature, air pressure, wind direction and speed, and humidity and precipitation.
  - SC.6.E.7.1: Earth and Space Science The scientific theory of the evolution of Earth states that changes in our planet are driven by the flow of energy and the cycling of matter through dynamic interactions among the atmosphere, hydrosphere, cryosphere, geosphere, and biosphere, and the resources used to sustain human civilization on Earth. Differentiate among radiation, conduction, and convection, the three mechanisms by which heat is transferred through Earth's system.
  - SC.6.E.7.2: Earth and Space Science The scientific theory of the evolution of Earth states that changes in our planet are driven by the flow of energy and the cycling of matter through dynamic interactions among the atmosphere, hydrosphere, cryosphere, geosphere, and biosphere, and the resources used to sustain human civilization on Earth. Investigate and apply how the cycling of water between the atmosphere and hydrosphere has an effect on weather patterns and climate.
  - SC.6.E.7.5: Earth and Space Science The scientific theory of the evolution of Earth states that changes in our planet are driven by the flow of energy and the cycling of matter through dynamic interactions among the atmosphere, hydrosphere, cryosphere, geosphere, and biosphere, and the resources used

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to sustain human civilization on Earth. Explain how energy provided by the sun influences global patterns of atmospheric movement and the temperature differences between air, water, and land.

Unit 10: Nature of Life

- **CHARACTERISTICS OF LIFE**
  - SC.6.L.14.A: Life Science Organization and Development of Living Organisms All living things share certain characteristics.
  - SC.6.L.14.C: Life Science Organization and Development of Living Organisms Life can be organized in a functional and structural hierarchy.
  - SC.6.L.14.1: Life Science Organization and Development of Living Organisms Describe and identify patterns in the hierarchical organization of organisms from atoms to molecules and cells to tissues to organs to organ systems to organisms.
  - SC.6.L.14.2: Life Science Organization and Development of Living Organisms Investigate and explain the components of the scientific theory of cells (cell theory): all organisms are composed of cells (single-celled or multi-cellular), all cells come from pre-existing cells, and cells are the basic unit of life.
  - SC.6.L.14.3: Life Science Organization and Development of Living Organisms Recognize and explore how cells of all organisms undergo similar processes to maintain homeostasis, including extracting energy from food, getting rid of waste, and reproducing.
  - SC.6.L.14.D: Life Science Organization and Development of Living Organisms Life is maintained by various physiological functions essential for growth, reproduction, and homeostasis.
- **CELL STRUCTURE**
  - SC.6.L.14.B: Life Science Organization and Development of Living Organisms The scientific theory of cells, also called cell theory, is a fundamental organizing principle of life on Earth.
  - SC.6.L.14.2: Life Science Organization and Development of Living Organisms Investigate and explain the components of the scientific theory of cells (cell theory): all organisms are composed of cells (single-celled or multi-cellular), all cells come from pre-existing cells, and cells are the basic unit of life.
  - SC.6.L.14.4: Life Science Organization and Development of Living Organisms Compare and contrast the structure and function of major organelles of plant and animal cells, including cell wall, cell membrane, nucleus, cytoplasm, chloroplasts, mitochondria, and vacuoles.

Unit 11: Cell Processes

- **CELL NUTRITION AND TRANSPORT**
  - SC.6.L.14.3: Life Science Organization and Development of Living Organisms Recognize and explore how cells of all organisms undergo similar processes to maintain homeostasis, including extracting energy from food, getting rid of waste, and reproducing.
  - SC.6.L.14.4: Life Science Organization and Development of Living Organisms Compare and contrast the structure and function of major organelles of plant and animal cells, including cell wall, cell membrane, nucleus, cytoplasm, chloroplasts, mitochondria, and vacuoles.

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- SC.6.L.14.D: Life Science Organization and Development of Living Organisms Life is maintained by various physiological functions essential for growth, reproduction, and homeostasis.

- **CELL GROWTH AND REPRODUCTION**
  - SC.6.L.14.2: Life Science Organization and Development of Living Organisms Investigate and explain the components of the scientific theory of cells (cell theory): all organisms are composed of cells (single-celled or multi-cellular), all cells come from pre-existing cells, and cells are the basic unit of life.
  - SC.6.L.14.3: Life Science Organization and Development of Living Organisms Recognize and explore how cells of all organisms undergo similar processes to maintain homeostasis, including extracting energy from food, getting rid of waste, and reproducing.
  - SC.6.L.14.4: Life Science Organization and Development of Living Organisms Compare and contrast the structure and function of major organelles of plant and animal cells, including cell wall, cell membrane, nucleus, cytoplasm, chloroplasts, mitochondria, and vacuoles.
  - SC.6.L.14.D: Life Science Organization and Development of Living Organisms Life is maintained by various physiological functions essential for growth, reproduction, and homeostasis.

Unit 12: Diversity of Life

- **DOMAINS AND KINGDOMS OF LIFE**
  - SC.6.L.15.1: Life Science Diversity and Evolution of Living Organisms Analyze and describe how and why organisms are classified according to shared characteristics with emphasis on the Linnaean system combined with the concept of Domains.
- **CLASSIFICATION OF LIVING THINGS**
  - SC.6.L.15.1: Life Science Diversity and Evolution of Living Organisms Analyze and describe how and why organisms are classified according to shared characteristics with emphasis on the Linnaean system combined with the concept of Domains.

Unit 13: Evolution and Adaptations

- **THEORY OF EVOLUTION**
  - SC.6.L.15.A: Life Science Diversity and Evolution of Living Organisms The scientific theory of evolution is the organizing principle of life science.
  - SC.6.L.15.B: Life Science Diversity and Evolution of Living Organisms The scientific theory of evolution is supported by multiple forms of evidence.
- **NATURAL SELECTION**
  - SC.6.L.15.C: Life Science Diversity and Evolution of Living Organisms Natural Selection is a primary mechanism leading to change over time in organisms.
- **ANIMAL BEHAVIOR**
  - SC.6.L.14.D: Life Science Organization and Development of Living Organisms Life is maintained by various physiological functions essential for growth, reproduction, and homeostasis.

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- SC.6.L.14.3: Life Science Organization and Development of Living Organisms Recognize and explore how cells of all organisms undergo similar processes to maintain homeostasis, including extracting energy from food, getting rid of waste, and reproducing.

Unit 14: Multicellular Bodies

- **SPECIALIZED CELLS AND TISSUES**
  - SC.6.L.14.C: Life Science Organization and Development of Living Organisms Life can be organized in a functional and structural hierarchy.
  - SC.6.L.14.D: Life Science Organization and Development of Living Organisms Life is maintained by various physiological functions essential for growth, reproduction, and homeostasis.
  - SC.6.L.14.1: Life Science Organization and Development of Living Organisms Describe and identify patterns in the hierarchical organization of organisms from atoms to molecules and cells to tissues to organs to organ systems to organisms.
- **ORGANS AND ORGAN SYSTEMS**
  - SC.6.L.14.C: Life Science Organization and Development of Living Organisms Life can be organized in a functional and structural hierarchy.
  - SC.6.L.14.1: Life Science Organization and Development of Living Organisms Describe and identify patterns in the hierarchical organization of organisms from atoms to molecules and cells to tissues to organs to organ systems to organisms.
  - SC.6.L.14.D: Life Science Organization and Development of Living Organisms Life is maintained by various physiological functions essential for growth, reproduction, and homeostasis.

Unit 15: The Human Body

- **HUMAN ORGAN SYSTEMS**
  - SC.6.L.14.5: Life Science Organization and Development of Living Organisms Identify and investigate the general functions of the major systems of the human body (digestive, respiratory, circulatory, reproductive, excretory, immune, nervous, and musculoskeletal) and describe ways these systems interact with each other to maintain homeostasis.
  - SC.6.L.14.D: Life Science Organization and Development of Living Organisms Life is maintained by various physiological functions essential for growth, reproduction, and homeostasis.
- **DISEASE AND HUMAN HEALTH**
  - SC.6.L.14.D: Life Science Organization and Development of Living Organisms Life is maintained by various physiological functions essential for growth, reproduction, and homeostasis.
  - SC.6.L.14.5: Life Science Organization and Development of Living Organisms Identify and investigate the general functions of the major systems of the human body (digestive, respiratory, circulatory, reproductive, excretory, immune, nervous, and musculoskeletal) and describe ways these systems interact with each other to maintain homeostasis.
  - SC.6.L.14.6: Life Science Organization and Development of Living Organisms Compare and contrast types of infectious agents that may infect the human body, including viruses, bacteria, fungi, and

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