Florida Science

Grades 9-12: Access Points

Earth and Space Science

Earth in Space and Time

Supported

1. Recognize that the universe consists of many galaxies, including the Milky Way. SC.912.E.5.SU.1
2. Identify differences in stars: some are smaller, some are larger and some appear brighter than others. SC.912.E.5.SU.2
3. Describe observable effects of the Sun on Earth, such as changes in light and temperature. SC.912.E.5.SU.3
4. Recognize that there are planetary systems in the Universe. SC.912.E.5.SU.4
5. Recognize an eclipse. SC.912.E.5.SU.5
6. Identify major contributions related to space exploration that affected Florida. SC.912.E.5.SU.6
7. Recognize examples of tools that use radiation for observation purposes, such as x-rays and infrared night goggles. SC.912.E.5.SU.7
8. Identify major contributions related to space exploration that affected Florida. SC.912.E.5.SU.6

Participatory

1. Recognize that when objects move away from each other, the distance between them expands. SC.912.E.5.PA.1
2. Recognize that some stars are brighter than others. SC.912.E.5.PA.2
3. Observe and recognize effects of the Sun on Earth, such as temperature changes. SC.912.E.5.PA.3
4. Recognize that Earth is a planet. SC.912.E.5.PA.4
5. Recognize items, such as freeze-dried food and space blankets, developed because of space exploration. SC.912.E.5.PA.5
6. Recognize a tool that uses radiation for personal reasons, such as x-rays. SC.912.E.5.PA.6

Earth Structures

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Independent

1. Describe the three layers of Earth (core, mantle, and crust). SC.912.E.6.IN.1
2. Describe examples of surface features, such as glaciers, valleys, canyons, and dried riverbeds, which are caused by wind and erosion (surface processes). SC.912.E.6.IN.2
3. Relate a cause and effect of movements in Earth's crust (plate tectonics), such as fault lines in the plates causing earthquakes. SC.912.E.6.IN.3
4. Identify natural geological processes that change the land and water in Florida, including beach erosion and sinkholes. SC.912.E.6.IN.

Supported

1. Recognize the three layers of Earth (core, mantle, and crust). SC.912.E.6.SU.1
2. Identify types of surface features, such as hills and valleys. SC.912.E.6.SU.2
3. Recognize that Earth's crust is broken into parts (plates) that move and cause mountains and volcanoes. SC.912.E.6.SU.3
4. Recognize examples of natural changes to Florida's land and water, such as beach erosion. SC.912.E.6.SU.

Participatory

1. Identify a surface feature of Earth, such as a hill. SC.912.E.6.PA.1
2. Recognize that the surface of Earth can change. SC.912.E.6.PA.2

Earth Systems and Patterns

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Independent

1. Identify cycles that occur on Earth, such as the water and carbon cycles, and the role energy plays in them. SC.912.E.7.IN.1
2. Recognize that there are circular movements of ocean water (surface and deep-water currents) which move cold water from the poles toward the tropics and vice versa. SC.912.E.7.IN.2
3. Describe the interactions among the atmosphere, hydrosphere, and biosphere, including how air, water, and land support living things and how air temperature affects water and land temperatures. SC.912.E.7.IN.3
4. Describe variations in climate due to geological locations, such as on mountains and the nearness to large bodies of water. SC.912.E.7.IN.4
5. Identify weather conditions using weather data and weather maps. SC.912.E.7.IN.5
6. Compare weather conditions in different types of severe storms, including hurricanes, tornadoes, and thunderstorms. SC.912.E.7.IN.6
7. Recognize that global climate change is related to conditions in the atmosphere and oceans. SC.912.E.7.IN.7
8. Describe how atmospheric and hydrologic conditions, such as hurricanes, drought, wildfires, and sinkholes, affect human behavior. SC.912.E.7.IN.8
9. Recognize that the ocean absorbs most of the solar energy reaching Earth and loses heat primarily by evaporation. SC.912.E.7.IN.9

Supported

1. Recognize the phases of the water cycle that occur on Earth and the role energy plays in the water cycle. SC.912.E.7.SU.1
2. Recognize that currents move the ocean water around Earth. SC.912.E.7.SU.2
3. Recognize components of the atmosphere, the hydrosphere, and the biosphere. SC.912.E.7.SU.3
4. Identify the climate conditions in different parts of the world. SC.912.E.7.SU.4
5. Identify weather conditions, including temperature, wind speed, and humidity. SC.912.E.7.SU.5
6. Recognize conditions in severe storms, such as hurricanes, tornadoes, and thunderstorms. SC.912.E.7.SU.6
7. Recognize that global climate change occurs over a long period of time. SC.912.E.7.SU.7
8. Identify how weather and water conditions affect humans in Florida. SC.912.E.7.SU.8
9. Recognize that the ocean absorbs heat from the Sun and then warms the air. SC.912.E.7.SU.9

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Participatory

1 Recognize that clouds release rain (part of the water cycle). SC.912.E.7.PA.1

2 Recognize waves in the ocean. SC.912.E.7.PA.2

3 Recognize that humans, plants, and animals live on the Earth (biosphere). SC.912.E.7.PA.3

4 Recognize that weather (climate) is different in different locations. SC.912.E.7.PA.4

5 Recognize the weather conditions, including severe weather, in Florida. SC.912.E.7.PA.5

6 Recognize that the Sun heats the water in the ocean. SC.912.E.7.PA.6

Independent	Independent
Recognize that the Milky Way is part of the expanding universe. SC.912.E.5.IN.1	1 **Recognize that the Milky Way is part of the expanding universe.** SC.912.E.5.IN.1
Explain that stars change over time, and that stars can be different; some are smaller, some are larger and some appear brighter than others. SC.912.E.5.IN.2	2 **Explain that stars change over time, and that stars can be different; some are smaller, some are larger and some appear brighter than others.** SC.912.E.5.IN.2
Describe the Sun as a medium-sized star with sunspots and storms that can affect weather and radio transmissions on Earth. SC.912.E.5.IN.3	3 **Describe the Sun as a medium-sized star with sunspots and storms that can affect weather and radio transmissions on Earth.** SC.912.E.5.IN.3
Recognize that there are other planetary systems in the universe besides the Solar System. SC.912.E.5.IN.4	4 **Recognize that there are other planetary systems in the universe besides the Solar System.** SC.912.E.5.IN.4
Identify tools that use different types of radiation, such as radio waves, ultraviolet radiation, and infrared waves. SC.912.E.5.IN.5	5 **Identify tools that use different types of radiation, such as radio waves, ultraviolet radiation, and infrared waves.** SC.912.E.5.IN.5

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radiation, and infrared waves. SC.912.E.5.IN.5

Identify major contributions and research from space exploration that affected Florida's economy and culture. SC.912.E.5.IN.6

6 **Identify major contributions and research from space exploration that affected Florida's economy and culture.** SC.912.E.5.IN.6

Recognize a lunar eclipse, a solar eclipse, and the effect of the Moon on tides on Earth. SC.912.E.5.IN.7

7 **Recognize a lunar eclipse, a solar eclipse, and the effect of the Moon on tides on Earth.** SC.912.E.5.IN.7

Life Science

Organization and Development of Living Organisms

Independent

1 Identify that all living things are made of cells and cells function in similar ways (cell theory). SC.912.L.14.IN.1

2 Identify the major parts of plant and animal cells, including the cell membrane, nucleus, and cytoplasm, and their basic functions. SC.912.L.14.IN.2

3 Identify that parts of cells (organelles) can combine to work together. SC.912.L.14.IN.3

4 Describe common human health issues. SC.912.L.14.IN.4

5 Describe the general processes of food production, support, water transport, and reproduction in the major parts of plants. SC.912.L.14.IN.5

Supported

1 Identify that the cell is the smallest basic unit of life and that all living things are made of cells. SC.912.L.14.SU.1

2 Recognize that cells have different parts and each has a function. SC.912.L.14.SU.2

3 Recognize common human health issues. SC.912.L.14.SU.3

4 Relate parts of plants, such as leaf, stem, root, seed, and flower, to the functions of food production, support, water transport, and reproduction. SC.912.L.14.SU.4

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Participatory

1 Match parts of common living things to their functions. SC.912.L.14.PA.1

2 Recognize that small parts of a living thing can work together. SC.912.L.14.PA.2

3 Identify ways to prevent infection from bacteria and viruses, such as hand washing and first aid. SC.912.L.14.PA.3

4 Recognize major plant parts, such as root, stem, leaf, and flower. SC.912.L.14.PA.

Diversity and Evolution of Living Organisms

Independent

1 Identify that prehistoric plants and animals changed over time (evolved) or became extinct. SC.912.L.15.IN.1

2 Classify living organisms into their kingdoms. SC.912.L.15.IN.2

3 Identify that there are scientific explanations of the origin of life on Earth. SC.912.L.15.IN.3

4 Recognize ways that the appearance of humans, their language, and their tools have changed over time. SC.912.L.15.IN.4

5 Recognize that some living things produce very large numbers of offspring to ensure that enough survive to continue the species (a condition for natural selection). SC.912.L.15.IN.5

1 Identify that prehistoric plants and animals changed over time (evolved) or became extinct. SC.912.L.15.IN.1

6 Recognize that changes in the genes of a species can affect the characteristics of their offspring. SC.912.L.15.IN.6

Supported

1 Match fossils to related species. SC.912.L.15.SU.1

2 Match organisms to the animal, plant, and fungus kingdoms. SC.912.L.15.SU.2

3 Recognize that there are scientific explanations of how life began. SC.912.L.15.SU.3

4 Recognize that humans have changed in appearance over a very long period of time. SC.912.L.15.SU.4

5 Recognize that some living things, such as fish and turtles, produce very large numbers of offspring because most will die as a result of dangers in the environment before they grow up. SC.912.L.15.SU.5

6 Recognize that characteristics of the offspring of living things are sometimes different from their parents. SC.912.L.15.SU.6

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Participatory

1 Recognize that plants and animals change as they age. SC.912.L.15.PA.1

2 Sort common living things into plant and animal kingdoms. SC.912.L.15.PA.2

3 Recognize that animals produce offspring. SC.912.L.15.PA.3

4 Recognize differences in physical characteristics within a species of animals, such as different types of dogs. SC.912.L.15.PA.4

Heredity and Reproduction

Independent

1 Identify that genes are sets of instructions that determine which characteristics are passed from parent to offspring. SC.912.L.16.IN.1

2 Identify traits that plants and animals, including humans, inherit. SC.912.L.16.IN.2

3 Recognize that a substance called DNA carries genetic information in all organisms, and changes (mutations) in DNA can be helpful or harmful to an organism. SC.912.L.16.IN.3

4 Identify that cancer can result when cells change or grow uncontrollably. SC.912.L.16.IN.4

5 Identify ways that biotechnology has impacted society and the environment, such as the development of new medicines and farming techniques. SC.912.L.16.IN.5

6 Describe the basic process of human development from fertilization to birth. SC.912.L.16.IN.6

7 Recognize that cells reproduce by dividing to produce new cells that are identical (mitosis) or new cells that are different (meiosis). SC.912.L.16.IN.7

Supported

1 Recognize characteristics (traits) that offspring inherit from parents. SC.912.L.16.SU.1

2 Recognize that all organisms have a substance called DNA with unique information. SC.912.L.16.SU.2

3 Recognize that cancer may result when cells change or grow too fast. SC.912.L.16.SU.3

4 Recognize that new medicines and foods can be developed by science (biotechnology). SC.912.L.16.SU.4

5 Recognize major phases in the process of human development from fertilization to birth. SC.912.L.16.SU.5

6 Recognize that cells reproduce by dividing. SC.912.L.16.SU.6

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Participatory

1 Recognize similar characteristics (traits) between a child and parents, such as hair, eye, and skin color, or height. SC.912.L.16.PA.1

2 Recognize similarities in characteristics of plants and animals of the same type (species). SC.912.L.16.PA.2

3 Recognize that illness can result when parts of our bodies are not working properly. SC.912.L.16.PA.3

4 Recognize a food. SC.912.L.16.PA.4

5 Recognize the sequence of human development from baby to child to adult. SC.912.L.16.PA.5

6 Recognize that living things produce offspring (reproduce). SC.912.L.16.PA.6

Interdependence

Independent

1 Recognize that living things in oceans and fresh water are affected by the location, availability of light, depth of the water, and temperature. SC.912.L.17.IN.1

2 Identify that living things in an ecosystem are affected by changes in the environment, such as changes to the food supply, climate change, or the introduction of predators. SC.912.L.17.IN.2

3 Identify relationships among organisms, including helping each other (mutualism); obtaining food (predation); benefiting at the expense of the other (parasitism); and competing with each other for food, space, or shelter (competition). SC.912.L.17.IN.3

4 Recognize possible changes in an ecosystem (biodiversity) that can result from natural catastrophic events, changes in climate, and human activity. SC.912.L.17.IN.4

5 Identify the components of a food web, including sunlight, producers, consumers, and decomposers, and trace the flow of energy from the Sun. SC.912.L.17.IN.5

6 Identify the contributions of non-living elements, such as carbon and oxygen, to maintaining life in an ecosystem. SC.912.L.17.IN.6

7 Identify types of renewable and nonrenewable natural resources and explain the need for conservation. SC.912.L.17.IN.7

8 Describe ways the lifestyles of individuals and groups can help or hurt the environment. SC.912.L.17.IN.8

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Supported

1. Recognize that living things in bodies of water are affected by the location and depth of the water. SC.912.L.17.SU.1
2. Recognize how animals and plants in an ecosystem may be affected by changes to the food supply or climate. SC.912.L.17.SU.2
3. Recognize that organisms can interact with other organisms in an ecosystem to help each other (mutualism), to obtain food (predation), and to benefit at expense of the other (parasitism). SC.912.L.17.SU.3
4. Recognize changes in living things (biodiversity) that can result from natural catastrophic events and human activity. SC.912.L.17.SU.4
5. Identify producers, consumers, and decomposers in a simple food chain. SC.912.L.17.SU.5
6. Identify that clean water and air are important for supporting life in an ecosystem. SC.912.L.17.SU.6
7. Identify a way to conserve a familiar, nonrenewable, natural resource. SC.912.L.17.SU.7
8. Identify ways individuals can help the environment. SC.912.L.17.SU.8

Participatory

1. Recognize common living things in bodies of water. SC.912.L.17.PA.1
2. Recognize what happens to plants and animals when they don't get enough food or water. SC.912.L.17.PA.2
3. Recognize examples of mutual relationships between people and other living things. SC.912.L.17.PA.3
4. Recognize actions that are harmful to living things. SC.912.L.17.PA.4
5. Recognize that animals (consumers) eat animals and plants for food. SC.912.L.17.PA.5
6. Recognize the importance of clean water for living things. SC.912.L.17.PA.6
7. Recognize a way to help the local environment. SC.912.L.17.PA.7

Matter and Energy Transformations

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Independent

1 Identify that carbohydrates, fats, proteins, and nucleic acids (macromolecules) are important for human organisms. SC.912.L.18.IN.1

2 Identify the products and function of photosynthesis. SC.912.L.18.IN.2

3 Identify that cells release energy from food so the organism can use it (cellular respiration). SC.912.L.18.IN.3

4 Recognize that plants give off oxygen that is used by animals and animals give off carbon dioxide that is used by plants. SC.912.L.18.IN.4

5 Recognize that energy is stored in cells. SC.912.L.18.IN.5

6 Recognize that enzymes break down food molecules during the digestive process. SC.912.L.18.IN.6

7 Identify that special properties of water, such as the ability to moderate temperature and dissolve substances, help to sustain living things on Earth. SC.912.L.18.IN.7

Supported

1 Recognize that humans use proteins, carbohydrates, and fats. SC.912.L.18.SU.1

2 Recognize that the function of photosynthesis is to produce food for plants. SC.912.L.18.SU.2

3 Recognize that cells get energy from food. SC.912.L.18.SU.3

4 Recognize that people and animals breathe in the oxygen that plants give off. SC.912.L.18.SU.4

5 Recognize that food is broken down in digestion (use of enzymes). SC.912.L.18.SU.5

6 Identify the important role of water in sustaining life of plants and animals. SC.912.L.18.SU.6

Participatory

1 Recognize that humans need different kinds of food. SC.912.L.18.PA.1

2 Recognize that plants need water, light, and air to grow. SC.912.L.18.PA.2

3 Identify that food is a source of energy. SC.912.L.18.PA.3

4 Recognize that saliva helps people eat when they chew. SC.912.L.18.PA.4

5 Recognize that plants and animals use water to live. SC.912.L.18.PA.5

Nature of Science **The Practice of Science**

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Independent

1 Identify a problem based on a specific body of knowledge, including life science, earth and space science, or physical science, and do the following: 1. Identify a scientific question 2. Examine reliable sources of informtion to identify what is already known 3. Develop a possible explanation (hypothesis) 4. Plan and carry out an experiment 5. Gather data based on measurement and observations 6. Evaluate the data 7. Use the data to support reasonable explanations, inferences, and conclusions. SC.912.N.1.IN.1

2 Describe the processes used in scientific investigations, including posing a research question, forming a hypothesis, reviewing what is known, collecting evidence, evaluating results, and reaching conclusions. SC.912.N.1.IN.2

3 Identify that scientific investigations are sometimes repeated in different locations. SC.912.N.1.IN.3

4 Identify that scientists use many different methods in conducting their research. SC.912.N.1.IN.4

Supported

1 Recognize a problem based on a specific body of knowledge, including life science, earth and space science, or physical science, and do the following: 1. Recognize a scientific question 2. Use reliable information and identify what is already known 3. Create possible explanation 4. Carry out a planned experiment 5. Record observations 6. Summarize results 7. Reach a reasonable conclusion. SC.912.N.1.SU.1

2 Identify the basic process used in scientific investigations, including questioning, observing, recording, determining, and sharing results. SC.912.N.1.SU.2

3 Recognize that scientific investigations can be repeated in different locations. SC.912.N.1.SU.3

4 Recognize that scientists use a variety of methods to get answers to their research questions. SC.912.N.1.SU.

Participatory

1 Recognize a problem related to a specific body of knowledge, including life science, earth and space science, or physical science, and do the following: 1. Observe objects and activities 2. Follow planned procedures 3. Recognize a solution. SC.912.N.1.PA.1

2 Recognize a process used in science to solve problems, such as observing, following procedures, and recognizing results. SC.912.N.1.PA.2

3 Recognize that when a variety of common activities are repeated the same way, the outcomes are the same. SC.912.N.1.PA.3

4 Recognize that people try different ways to complete a task when the first one does not work. SC.912.N.1.PA.4

The Characteristics of Scientific Knowledge

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Independent

1. Identify examples of investigations that involve science. SC.912.N.2.IN.1
2. Distinguish between questions that can be answered by science and observable information and questions that can't be answered by science and observable information. SC.912.N.2.IN.2
3. Recognize that scientific knowledge can be challenged or confirmed by new investigations and reexamination. SC.912.N.2.IN.3
4. Identify major contributions of scientists. SC.912.N.2.IN.

Supported

1. Identify questions that can be answered by science. SC.912.N.2.SU.1
2. Recognize that what is known about science can change based on new information. SC.912.N.2.SU.2
3. Recognize major contributions of scientists. SC.912.N.2.SU.

Participatory

1. Recognize an example of work by scientists. SC.912.N.2.PA.1
2. Recognize a variety of cause-effect relationships related to science. SC.912.N.2.PA.2

The Role of Theories, Laws, Hypotheses, and Models

Independent

1. Recognize that a scientific theory is developed by repeated investigations of many scientists and agreement on the likely explanation. SC.912.N.3.IN.1
2. Identify examples of scientific laws that describe relationships in the natural world, such as Newton's laws. SC.912.N.3.IN.2
3. Identify ways models are used in the study of science. SC.912.N.3.IN.3

Supported

1. Recognize that scientific theories are supported by evidence and agreement of many scientists. SC.912.N.3.SU.1
2. Recognize examples of scientific laws that describe relationships in nature, such as Newton's laws. SC.912.N.3.SU.2
3. Recognize ways models are used in the study of science. SC.912.N.3.SU.3

Participatory

1. Recognize examples of cause-effect descriptions or explanations related to science. SC.912.N.3.PA.1
2. Recognize a model used in the context of one's own study of science. SC.912.N.3.PA.2

:ience and Society

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Independent

1 Identify ways scientific knowledge and problem solving benefit people. SC.912.N.4.IN.1

2 Identify that costs and benefits must be considered when choosing a strategy for solving a problem. SC.912.N.4.IN.2

Supported

1 Recognize ways scientific knowledge and problem solving benefit people. SC.912.N.4.SU.1

2 Recognize that some strategies may cost more to solve a problem. SC.912.N.4.SU.2

Participatory

1 Recognize science information that helps people. SC.912.N.4.PA.1

2 Recognize a local problem that can be solved by science. SC.912.N.4.PA.2

Physical Science

Energy

Independent

1 Identify examples of energy being transformed from one form to another (conserved quantity). SC.912.P.10.IN.1

2 Identify power as work done in a certain amount of time using measurable terms, such as watts or horsepower. SC.912.P.10.IN.2

3 Relate the transfer of heat to the states of matter, including gases result from heating, liquids result from cooling a gas, and solids result from further cooling a liquid. SC.912.P.10.IN.3

4 Describe a process that gives off heat (exothermic), such as burning, and a process that absorbs heat (endothermic), such as water coming to a boil. SC.912.P.10.IN.4

5 Identify fundamental forces, including gravitational and electromagnetic. SC.912.P.10.IN.5

6 Identify that atoms can be changed to release energy, such as in nuclear power plants, and recognize one related safety issue. SC.912.P.10.IN.6

7 Identify common conductors and insulators of electricity. SC.912.P.10.IN.7

8 Identify that some electrical devices use different types of power sources and explain what might happen if incorrect electrical components are used. SC.912.P.10.IN.8

9 Identify common applications of electromagnetic waves moving through different media, such as radio waves, microwaves, x-rays, or infrared. SC.912.P.10.IN.9

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Supported

1 Recognize energy transformations that occur in everyday life, such as solar energy to electricity. SC.912.P.10.SU.1

2 Recognize the relationship between work and power, such as power is how fast a person or machine does work. SC.912.P.10.SU.2

3 Observe and recognize ways that heat travels, such as through space (radiation), through solids (conduction), and through liquids and gases (convection). SC.912.P.10.SU.3

4 Recognize common processes that give off heat (exothermic), such as burning, and processes that absorb heat (endothermic), such as water coming to a boil. SC.912.P.10.SU.4

5 Recognize that nuclear power plants generate electricity and can be dangerous. SC.912.P.10.SU.5

6 Recognize fundamental forces, such as gravitational. SC.912.P.10.SU.6

7 Recognize common objects that conduct electricity (conductors) and objects that do not conduct electricity (insulators). SC.912.P.10.SU.7

8 Recognize that some electrical devices use different types of power sources. SC.912.P.10.SU.8

9 Observe and identify the effects of magnetic attraction on iron. SC.912.P.10.SU.9

10 Recognize examples of electromagnetic waves moving through different media, such as microwave ovens, radios, and x-rays. SC.912.P.10.SU.10

Participatory

1 Observe and recognize examples of the transformation of electrical energy to light and heat. SC.912.P.10.PA.1

2 Recognize that work requires energy. SC.912.P.10.PA.2

3 Recognize the source and recipient of heat transfer. SC.912.P.10.PA.3

4 Identify materials that provide protection (insulation) from heat. SC.912.P.10.PA.4

5 Recognize the universal symbols for radioactive and other hazardous materials. SC.912.P.10.PA.5

6 Recognize that an object falls unless stopped (gravity). SC.912.P.10.PA.6

7 Recognize safe and unsafe practices related to the use of electricity, such as keeping foreign objects out of electrical sockets and not using electrical devices around water. SC.912.P.10.PA.7

8 Demonstrate opening and closing an electrical circuit to turn an electrical device on and off. SC.912.P.10.PA.8

9 Recognize how magnets are used in real-world situations. SC.912.P.10.PA.9

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10 Recognize primary and secondary colors in visible light. SC.912.P.10.PA.10

Motion

Independent

1. Recognize that scalar quantities describe the magnitude of the measurement, such as size, weight, volume, area, temperature, or speed. SC.912.P.12.IN.1
2. Identify acceleration as a change in speed or direction. SC.912.P.12.IN.2
3. Recognize various situations that show Newton's third law of motion: for every action there is an equal and opposite reaction. SC.912.P.12.IN.3
4. Identify examples of how gravity attracts other objects, such as people to Earth or orbits of planets in the Solar System. SC.912.P.12.IN.4
5. Recognize that the speed of light is always the same. SC.912.P.12.IN.5
6. Identify that gases exert pressure in a closed surface, such as pressure inside a basketball or a hot air balloon. SC.912.P.12.IN.6

Supported

1. Recognize that speed is expressed as distance moved in a certain time, such as miles per hour or feet per second. SC.912.P.12.SU.1
2. Recognize that acceleration generally involves a change in speed. SC.912.P.12.SU.2
3. Recognize the action and reaction in a situation that show Newton's third law of motion: for every action there is an equal and opposite reaction. SC.912.P.12.SU.3
4. Identify that gravity is a force that attracts objects. SC.912.P.12.SU.4
5. Recognize that light travels very fast. SC.912.P.12.SU.5
6. Recognize that a gas can exert pressure, such as in balloons, car tires, or pool floats. SC.912.P.12.SU.6

Participatory

1. Recognize that objects travel at different speeds. SC.912.P.12.PA.1
2. Identify the speed and direction of a moving object, including fast and slow, up and down, round and round, straight line. SC.912.P.12.PA.2
3. Identify the source of the force moving an object. SC.912.P.12.PA.3
4. Recognize that things fall down toward Earth unless stopped or held up (gravity). SC.912.P.12.PA.4
5. Recognize ways to stop light from traveling, such as closing a door. SC.912.P.12.PA.5
6. Recognize that some objects contain air, such as balloons, tires, and balls. SC.912.P.12.PA.6

Matter

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Independent

1. Classify states of matter as solid, liquid, and gaseous. Classify states of matter as solid, liquid, and gaseous. SC.912.P.8.IN.1
2. Compare characteristics of physical and chemical changes of matter. SC.912.P.8.IN.2
3. Identify the nucleus as the center of an atom. SC.912.P.8.IN.3
4. Recognize that the periodic table includes all known elements. SC.912.P.8.IN.4
5. Identify that compounds are made of two or more elements. SC.912.P.8.IN.5
6. Identify formulas for common compounds, such as H2O and CO2. SC.912.P.8.IN.6
7. Identify properties of common acids and bases. SC.912.P.8.IN.7
8. Identify that carbon is found in all living things. SC.912.P.8.IN.8

Supported

1. Identify examples of states of matter as solid, liquid, and gaseous. SC.912.P.8.SU.1
2. Identify examples of physical and chemical changes. SC.912.P.8.SU.2
3. Recognize that atoms are tiny particles in materials, too small to see. SC.912.P.8.SU.3
4. Recognize examples of common elements, such as oxygen and hydrogen. SC.912.P.8.SU.4
5. Recognize examples of common compounds, such as water and salt. SC.912.P.8.SU.5
6. Match common chemical formulas to their common name, such as H2O to water. SC.912.P.8.SU.6
7. Categorize common materials or foods as acids or bases. SC.912.P.8.SU.7
8. Recognize that carbon is found in all living things. SC.912.P.8.SU.8

Participatory

1. Select an example of a common solid, liquid, and gas. SC.912.P.8.PA.1
2. Recognize a common chemical change, such as cooking, burning, rusting, or decaying. SC.912.P.8.PA.2
3. Recognize that the parts of an object can be put together to make a whole. SC.912.P.8.PA.3
3. Recognize that the parts of an object can be put together to make a whole. SC.912.P.8.PA.3
4. Match common compounds to their names or communication symbols. SC.912.P.8.PA.4
5. Recognize that some acids and bases can be dangerous and identify related hazard symbols. SC.912.P.8.PA.5