

Amazon Voyage: Vicious Fishes & Other Riches
FLORIDA SUNSHINE STATE SCIENCE STANDARDS

Grade Levels: PreK-2

Strand D: Processes that Shape the Earth

Standard 1: The student recognizes that processes in the lithosphere, atmosphere, hydrosphere, and biosphere interact to shape the Earth.

SC.D.1.1.2 knows that life occurs on or near the surface of the Earth in land, air, and water.

Standard 2: The student understands the need for protection of the natural systems on Earth.

SC.D.2.1.1 understands that people influence the quality of life of those around them.

Strand F: Processes of Life

Standard 1: The student describes patterns of structure and function in living things.

SC.F.1.1.1 knows the basic needs of all living things.

SC.F.1.1.4 understands that structures of living things are adapted to their function in specific environments.

Standard 2: The student understands the process and importance of genetic diversity.

SC.F.2.1.1 knows that living things have offspring that resemble their parents.

SC.F.2.1.2 knows that there are many different kinds of living things that live in a variety of environments.

Strand G: How Living Things Interact with Their Environment

Standard 1: The student understands the competitive, interdependent, cyclic nature of living things in the environment.

SC.G.1.1.1 knows that environments have living and nonliving parts.

SC.G.1.1.2 knows that plants and animals are dependent upon each other for survival.

SC.G.1.1.4 knows that animals and plants can be associated with their environment by an examination of their structural characteristics.

Standard 2: The student understands the consequences of using limited natural resources.

SC.G.2.1.1 knows that if living things do not get food, water, shelter, and space, they will die.

SC.G.2.1.2 knows that the activities of humans affect plants and animals in many ways.

Strand H: The Nature of Science

Standard 1: The student uses the scientific processes and habits of mind to solve problems.

SC.H.1.1.1 knows that in order to learn, it is important to observe the same things often and compare them.

SC.H.1.1.3 knows that in doing science, it is often helpful to work with a team and to share findings with others.

SC.H.1.1.4 knows that people use scientific processes including hypotheses, making inferences, recording and communicating data when exploring the natural world.

SC.H.1.1.5 uses the senses, tools, and instruments to obtain information from his or her surroundings.

Standard 2: The student understands that most natural events occur in comprehensible, consistent patterns.

SC.H.2.1.1 knows that most natural events occur in patterns.

Standard 3: The student understands that science, technology, and society are interwoven and interdependent.

SC.H.3.1.1 knows that scientists and technologists use a variety of tools (e.g., thermometers, magnifiers, rulers, and scales) to obtain information in more detail and to make work easier.

Grade Levels: 3-5

Strand B: Energy

Standard 1: The student recognizes that energy may be changed in form with varying efficiency.

SC.B.1.2.2 recognizes various forms of energy (e.g., heat, light, and electricity).

Strand D: Processes that Shape the Earth

Standard 1: The student recognizes that processes in the lithosphere, atmosphere, hydrosphere, and biosphere interact to shape the Earth.

SC.D.1.2.1 knows that larger rocks can be broken down into smaller rocks, which in turn can be broken down to combine with organic material to form soil.

SC.D.1.2.2 knows that 75 percent of the surface of the Earth is covered by water.

SC.D.1.2.3 knows that the water cycle is influenced by temperature, pressure, and the topography of the land.

SC.D.1.2.4 knows that the surface of the Earth is in a continuous state of change as waves, weather, and shifts of the land constantly change and produce many new features.

SC.D.1.2.5 knows that some changes in the Earth's surface are due to slow processes and some changes are due to rapid processes.

Standard 2: The student understands the need for protection of the natural systems on Earth.

SC.D.2.2.1 knows that reusing, recycling, and reducing the use of natural resources improve and protect the quality of life

Strand F: Processes of Life

Standard 1: The student describes patterns of structure and function in living things.

SC.F.1.2.2 knows how all animals depend on plants.

SC.F.1.2.3 knows that living things are different but share similar structures.

Strand G: How Living Things Interact with Their Environment

Standard 1: The student understands the competitive, interdependent, cyclic nature of living things in the environment.

SC.G.1.2.1 knows ways that plants, animals, and protists interact.

SC.G.1.2.2 knows that living things compete in a climatic region with other living things and that structural adaptations make them fit for an environment.

SC.G.1.2.5 knows that animals eat plants or other animals to acquire the energy they need for survival.

SC.G.1.2.7 knows that variations in light, water, temperature, and soil content are largely responsible for the existence of different kinds of organisms and population densities in an ecosystem.

Standard 2: The student understands the consequences of using limited natural resources.

SC.G.2.2.1 knows that all living things must compete for Earth's limited resources; organisms best adapted to compete for the available resources will be successful and pass their adaptations (traits) to their offspring.

SC.G.2.2.2 knows that the size of a population is dependent upon the available resources within its community.

SC.G.2.2.3 understands that changes in the habitat of an organism may be beneficial or harmful.

Strand H: The Nature of Science

Standard 1: The student uses the scientific processes and habits of mind to solve problems.

SC.H.1.2.2: knows that a successful method to explore the natural world is to observe and record, and then analyze and communicate the results

SC.H.1.2.3: knows that to work collaboratively, all team members should be free to reach, explain, and justify their own individual conclusions

SC.H.1.2.5 knows that a model of something is different from the real thing, but can be used to learn something about the real thing.

Standard 2: The student understands that most natural events occur in comprehensible, consistent patterns.

SC.H.2.2.1: knows that natural events are often predictable and logical.

Standard 3: The student understands that science, technology, and society are interwoven and interdependent.

SC.H.3.2.1 understands that people, alone or in groups, invent new tools to solve problems and do work that affects aspects of life outside of science.

SC.H.3.2.2 knows that data are collected and interpreted in order to explain an event or concept.

SC.H.3.2.3 knows that before a group of people build something or try something new, they should determine how it may affect other people.

Grade Levels: 6-9

Strand B: Energy

Standard 1: The student recognizes that energy may be changed in form with varying efficiency.

SC.B.1.3.6 knows the properties of waves (e.g., frequency, wavelength, and amplitude); that each wave consists of a number of crests and troughs; and the effects of different media on waves.

Strand D: Processes that Shape the Earth

Standard 1: The student recognizes that processes in the lithosphere, atmosphere, hydrosphere, and biosphere interact to shape the Earth.

SC.D.1.3.1 knows that mechanical and chemical activities shape and reshape the Earth's land surface by eroding rock and soil in some areas and depositing them in other areas, sometimes in seasonal layers.

SC.D.1.3.2 knows that over the whole Earth, organisms are growing, dying, and decaying as new organisms are produced by the old ones.

SC.D.1.3.3 knows how conditions that exist in one system influence the conditions that exist in other systems.

SC.D.1.3.4 knows the ways in which plants and animals reshape the landscape (e.g., bacteria, fungi, worms, rodents, and other organisms add organic matter to the soil, increasing soil

fertility, encouraging plant growth, and strengthening resistance to erosion).

Standard 2: The student understands the need for protection of the natural systems on Earth.

SC.D.2.3.1 understands that quality of life is relevant to personal experience.

Strand F: Processes of Life

Standard 1: The student describes patterns of structure and function in living things.

SC.F.1.3.7 knows that behavior is a response to the environment and influences growth, development, maintenance, and reproduction.

Standard 2: The student understands the process and importance of genetic diversity.

SC.F.2.3.3 knows that generally organisms in a population live long enough to reproduce because they have survival characteristics.

SC.F.2.3.4 knows that the fossil record provides evidence that changes in the kinds of plants and animals in the environment have been occurring over time.

Strand G: How Living Things Interact with Their Environment

Standard 1: The student understands the competitive, interdependent, cyclic nature of living things in the environment.

SC.G.1.3.2: knows that biological adaptations include changes in structures, behaviors, or physiology that enhance reproductive success in a particular environment.

SC.G.1.3.3: understands that the classification of living things is based on a given set of criteria and is a tool for understanding biodiversity and interrelationships.

Standard 2: The student understands the consequences of using limited natural resources.

SC.G.2.3.1: knows that some resources are renewable and others are nonrenewable.

SC.G.2.3.3: knows that a brief change in the limited resources of an ecosystem may alter the size of a population or the average size of individual organisms and that long-term change may result in the elimination of animal and plant populations inhabiting the Earth.

SC.G.2.3.4: understands that humans are a part of an ecosystem and their activities may deliberately or inadvertently alter the equilibrium in ecosystems.

Strand H: The Nature of Science

Standard 1: The student uses the scientific processes and habits of mind to solve problems.

SC.H.1.3.1: knows that scientific knowledge is subject to modification as new information challenges prevailing theories and as a new theory leads to looking at old observations in a new way.

SC.H.1.3.2: knows that the study of the events that led scientists to discoveries can provide information about the inquiry process and its effects.

SC.H.1.3.3 knows that science disciplines differ from one another in topic, techniques, and outcomes but that they share a common purpose, philosophy, and enterprise.

SC.H.1.3.6 recognizes the scientific contributions that are made by individuals of diverse backgrounds, interests, talents, and motivations.

Standard 2: The student understands that most natural events occur in comprehensible, consistent patterns.

SC.H.2.3.1: recognizes that patterns exist within and across systems.

Standard 3: The student understands that science, technology, and society are interwoven and interdependent.

SC.B.3.3.2 knows that special care must be taken in using animals in scientific research.

SC.B.3.3.5 understands that contributions to the advancement of science, mathematics, and technology have been made by different kinds of people, in different cultures, at different times and are an intrinsic part of the development of human culture.

SC.B.3.3.6 knows that no matter who does science and mathematics or invents things, or when or where they do it, the knowledge and technology that result can eventually become available to everyone.

Grade Levels: 10-12

Strand B: Energy

Standard 1: The student recognizes that energy may be changed in form with varying efficiency.

SC.B.1.4.4 knows that as electrical charges oscillate, they create time-varying electric and magnetic fields that propagate away from the source as an electromagnetic wave.

Strand D: Processes that Shape the Earth

Standard 1: The student recognizes that processes in the lithosphere, atmosphere, hydrosphere, and biosphere interact to shape the Earth.

SC.D.1.4.1 knows that the solid crust of Earth consists of slow-moving, separate plates that float on a denser, molten layer of Earth and that these plates interact with each other, changing the Earth's surface in many ways (e.g., forming mountain ranges and rift valleys, causing earthquake and volcanic activity, and forming undersea mountains that can become ocean islands).

SC.D.1.4.3 knows that changes in Earth's climate, geological activity, and life forms may be traced and compared.

SC.D.1.4.4 knows that Earth's systems and organisms are the result of a long, continuous change over time.

Standard 2: The student understands the need for protection of the natural systems on Earth.

SC.D.2.4.1 understands the interconnectedness of the systems on Earth and the quality of life.

Strand F: Processes of Life

Standard 1: The student describes patterns of structure and function in living things.

SC.F.1.4.2 knows that body structures are uniquely designed and adapted for their function.

SC.F.1.4.7 knows that organisms respond to internal and external stimuli.

Standard 2: The student understands the process and importance of genetic diversity.

SC.F.2.4.3 understands the mechanisms of change (e.g., mutation and natural selection) that lead to adaptations in a species and their ability to survive naturally in changing conditions and to increase species diversity.

Strand G: How Living Things Interact with Their Environment

Standard 1: The student understands the competitive, interdependent, cyclic nature of living things in the environment.

SC.G.1.4.1: knows of the great diversity and interdependence of living things.

Standard 2: The student understands the consequences of using limited natural resources.

SC.G.2.4.3: understands how genetic variation of offspring contributes to population control in an environment and that natural selection ensures that those who are best adapted to their surroundings survive to reproduce.

SC.G.2.4.5 understands that the amount of life any environment can support is limited and that human activities can change the flow of energy and reduce the fertility of the Earth.

SC.G.2.4.6 knows the ways in which humans today are placing their environmental support systems at risk (e.g., rapid human population growth, environmental degradation, and resource depletion).

Strand H: The Nature of Science

Standard 1: The student uses the scientific processes and habits of mind to solve problems.

SC.H.1.4.1: knows that investigations are conducted to explore new phenomena, to check on previous results, to test how well a theory predicts, and to compare different theories.

SC.H.1.4.2: knows that from time to time, major shifts occur in the scientific view of how the world works, but that more often, the changes that take place in the body of scientific knowledge are small modifications of prior knowledge.

Standard 2: The student understands that most natural events occur in comprehensible, consistent patterns.

SC.H.2.4.1: knows that scientists assume that the universe is a vast system in which basic rules exist that may range from very simple to extremely complex but that scientists operate on the belief that the rules can be discovered by careful, systemic study.

SC.H.2.4.2: knows that scientists control conditions in order to obtain evidence, but when that is not possible for practical or ethical reasons, they try to observe a wide range of natural occurrences to discern patterns.

Standard 3: The student understands that science, technology, and society are interwoven and interdependent.

SC.H.3.4.3: knows that scientists can bring information, insights, and analytical skills to matters of public concern and help people understand the possible causes and effects of events.

SC.H.3.4.4: knows that funds for science research come from federal government agencies, industry, and private foundations and that this funding often influences the areas of discovery.

SC.H.3.4.5: knows that the value of a technology may differ for different people and at different times.