

## SURFSIDE SAFARI EDUCATIONAL OBJECTIVES

### Sunshine State Standards following grades 3-5

#### **Students will:**

**- Learn the importance of recording data in a field journal, with an emphasis on using their own powers of scientific observation**

SC.3.N.1.3 Keep records as appropriate, such as pictorial, written, or simple charts and graphs, of investigations conducted.

SC.3.N.1.7 Explain that empirical evidence is information, such as observations or measurements, that is used to help validate explanations of natural phenomena.

SC.3.N.1.1 Raise questions about the natural world, investigate them individually and in teams through free exploration and systematic investigations, and generate appropriate explanations based on those explorations.

SC.4.N.1.1 Raise questions about the natural world, use appropriate reference materials that support understanding to obtain information (identifying the source), conduct both individual and team investigations through free exploration and systematic investigations, and generate appropriate explanations based on those explorations.

SC.4.N.1.4 Attempt reasonable answers to scientific questions and cite evidence in support.

SC.4.N.1.6 Keep records that describe observations made, carefully distinguishing actual observations from ideas and inferences about the observations.

SC.4.N.1.7 Recognize and explain that scientists base their explanations on evidence.

SC.5.N.1.1 Define a problem, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigations of various types such as: systematic observations, experiments requiring the identification of variables, collecting and organizing data, interpreting data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.

SC.5.N.1.6 Recognize and explain the difference between personal opinion/interpretation and verified observation.

SC.5.N.2.1 Recognize and explain that science is grounded in empirical observations that are testable; explanation must always be linked with evidence.

**- Learn the importance of conducting water testing using a variety of measuring tools, understand how to use these tools and begin to interpret the results**

SC.3.N.1.2 Compare the observations made by different groups using the same tools and seek reasons to explain the differences across groups.

SC.3.P.8.1 Measure and compare temperatures of various samples of solids and liquids.

SC.3.N.3.1 Recognize that words in science can have different or more specific meanings than their use in everyday language; for example, energy, cell, heat/cold, and evidence.

SC.4.E.6.5 Investigate how technology and tools help to extend the ability of humans to observe very small things and very large things.

SC.4.N.1.2 Compare the observations made by different groups using multiple tools and seek reasons to explain the differences across groups.

SC.4.N.1.5 Compare the methods and results of investigations done by other classmates.

SC.4.P.8.2 Identify properties and common uses of water in each of its states.

SC.5.N.1.3 Recognize and explain the need for repeated experimental trials.

**- Understand how Native Americans were able to utilize Florida's unique barrier island systems throughout their history, how they taught the Spanish to use the available resources and discover how their use of certain plants and trees made a significant cultural contribution to the students' own lives**

SC.4.L.17.2 Explain that animals, including humans, cannot make their own food and that when animals eat plants or other animals, the energy stored in the food source is passed to them.

SS.3.G.2.6 Investigate how people perceive places and regions differently by conducting interviews, mental mapping, and studying news, poems, legends, and songs about a region or area.

SS.3.G.3.2 Describe the natural resources in the United States, Canada, Mexico, and the Caribbean.

SS.3.G.4.1 Explain how the environment influences settlement patterns in the United States, Canada, Mexico, and the Caribbean.

SS.3.G.4.2 Identify the cultures that have settled the United States, Canada, Mexico, and the Caribbean.

SS.4.A.2.1 Compare Native American tribes in Florida.

SS.5.A.2.3 Compare cultural aspects of Native American tribes from different geographic regions of North America including but not limited to clothing, shelter, food, major beliefs and practices, music, art, and interactions with the environment.

**- Understand the concept of native and exotic organisms through observation of Australian pines, water hyacinth, etc. in the lagoon and hardwood trees in the hammock, noting that they have adaptations specific to a certain geographic region**

SC.3.N.1.6 Infer based on observation.

SC.4.L.17.1 Compare the seasonal changes in Florida plants and animals to those in other regions of the country.

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.

**- Understand that leaf litter in the hammock and lagoon decomposes to release nutrients for the surrounding trees and their shallow, visible root systems in the hardwood hammock allow for better nutrient and water absorption**

SC.3.L.17.2 Recognize that plants use energy from the Sun, air, and water to make their own food.

SC.3.L.14.1 Describe structures in plants and their roles in food production, support, water and nutrient transport, and reproduction.

SC.3.L.14.2 Investigate and describe how plants respond to stimuli (heat, light, gravity), such as the way plant stems grow toward light and their roots grow downward in response to gravity.

SC.4.P.9.1 Identify some familiar changes in materials that result in other materials with different characteristics, such as decaying animal or plant matter, burning, rusting, and cooking.

**- Understand the significance of human-made objects found on the beach and how human actions, including their own, can affect marine organisms**

SC.4.L.16.3 Recognize that animal behaviors may be shaped by heredity and learning.

SC.4.L.17.4 Recognize ways plants and animals, including humans, can impact the environment.

**- Identify and understand basic marine organisms and their unique structures, functions and environmental adaptations**

SC.3.L.15.1 Classify animals into major groups (mammals, birds, reptiles, amphibians, fish, arthropods, vertebrates and invertebrates, those having live births and those which lay eggs) according to their physical characteristics and behaviors.

SC.4.L.16.2 Explain that although characteristics of plants and animals are inherited, some characteristics can be affected by the environment.

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.

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.

**- Learn that human attempts to prevent beach erosion to protect oceanfront objectives are in conflict with the natural processes that are constantly reshaping barrier island systems**

SC.3.N.1.5 Recognize that scientists question, discuss, and check each others' evidence and explanations.

SC.4.E.6.4 Describe the basic differences between physical weathering (breaking down of rock by wind, water, ice, temperature change, and plants) and erosion (movement of rock by gravity, wind, water, and ice).

SS.4.G.1.1 Identify physical features of Florida.

SS.4.G.1.3 Explain how weather impacts Florida.

**- Understand that organisms and ecosystems are interconnected through examination of hardwood hammock, coastal and lagoon systems**

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.

**- Understand why Hugh Taylor Birch made the purchase of the land and appreciate the importance of having the information and natural experience contained within this park- the “old Florida”- in the middle of an urban center, understanding what they can do in terms of conservation and that other people may choose to use the land differently**

SC.3.N.1.4 Recognize the importance of communication among scientists.

SS.3.C.2.1 Identify group and individual actions of citizens that demonstrate civility, cooperation, volunteerism, and other civic virtues.

SS.3.E.1.3 Recognize that buyers and sellers interact to exchange goods and services through the use of trade or money.

SS.4.A.8.4 Explain how tourism affects Florida's economy and growth.

SS.4.C.2.2 Identify ways citizens work together to influence government and help solve community and state problems

SS.4.E.1.2 Explain Florida's role in the national and international economy and conditions that attract businesses to the state.

SS.5.C.2.5 Identify ways good citizens go beyond basic civic and political responsibilities to improve government and society.

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