

**Archbold Biological Station's
Nature Wonder Alive with Mr. Dustin**

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Program Title: Nature Wonder Alive with Mr. Dustin

Program Description:

Join science educator Dustin Angell every month for live-stream outdoor nature tours. In these episodes, shot in a do-it-yourself style with his phone and selfie-stick, Mr. Dustin teaches audiences of all ages about the natural wonders alive at Archbold Biological Station's 20,000 acres of wild Florida located in the Headwaters of the Florida Everglades and the Florida Wildlife Corridor. The show also features guest scientists who explain their research methods and findings. Audiences will learn about habitats, the organisms that live there, and the natural processes - like geology, climate, and fire - that shape them both. Since this show is live-streamed on Zoom and Facebook Live, audience members can interact with Mr. Dustin and the scientists through the chat window.

Florida's Next Generation Sunshine State Standards for 3rd-5th Grades

Below are Florida standards that may be covered during the virtual nature tours. *Every event is unique*, and the topics covered are influenced by the participants. If you are a teacher and have a specific request, let us know.

NEXT GENERATION SUNSHINE STATE STANDARDS

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| SC.3.N.1.4 | Recognize the importance of communication among scientists. |
| SC.3.N.1.5 | Recognize that scientists question, discuss, and check each other's evidence and explanations |
| SC.3.N.1.6 | Infer based on observation. |

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| 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.3.L.14.1 | Describe structures in plants and their roles in food production, support, water and nutrient transport, and reproduction. |
| SC.3.L.15.2 | Classify flowering and nonflowering plants into major groups such as those that produce seeds, or those like ferns and mosses that produce spores, according to their physical characteristics. |
| SC.3.L.17.1 | Describe how animals and plants respond to changing seasons. |
| SC.3.L.17.2 | Recognize that plants use energy from the Sun, air, and water to make their own food. |
| 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). |
| SC.4.E.6.3 | Recognize that humans need resources found on Earth and that these are either renewable or nonrenewable. |
| 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.E.6.6 | Identify resources available in Florida (water, phosphate, oil, limestone, silicon, wind, and solar energy). |
| SC.4.L.16.1 | Identify processes of sexual reproduction in flowering plants, including pollination, fertilization (seed production), seed dispersal, and germination. |
| SC.4.L.16.2 | Explain that although characteristics of plants and animals are inherited, some characteristics can be affected by the environment. |
| SC.4.L.16.3 | Recognize that animal behaviors may be shaped by heredity and learning. |

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| SC.4.L.16.4 | Compare and contrast the major stages in the life cycles of Florida plants and animals, such as those that undergo incomplete and complete metamorphosis, and flowering and nonflowering seed-bearing plants. |
| SC.4.L.17.1 | Compare the seasonal changes in Florida plants and animals to those in other regions of the country. |
| 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. |
| SC.4.L.17.3 | Trace the flow of energy from the Sun as it is transferred along the food chain through the producers to the consumers. |
| SC.4.L.17.4 | Recognize ways plants and animals, including humans, can impact the environment. |
| SC.4.N.1.3 | Explain that science does not always follow a rigidly defined method ("the scientific method") but that science does involve the use of observations and empirical evidence. |
| SC.4.N.1.7 | Recognize and explain that scientists base their explanations on evidence. |
| SC.4.N.2.1 | Explain that science focuses solely on the natural world. |
| SC.4.N.1.8 | Recognize that science involves creativity in designing experiments. |
| SC.5.E.7.5 | Recognize that some of the weather-related differences, such as temperature and humidity, are found among different environments, such as swamps, deserts, and mountains. |
| 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. |

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.

Big Idea: Organization and Development of Living Organisms -

- A. All plants and animals, including humans, are alike in some ways and different in others.
- B. All plants and animals, including humans, have internal parts and external structures that function to keep them alive and help them grow and reproduce.
- C. Humans can better understand the natural world through careful observation.

Big Idea: Diversity and Evolution of Living Organisms -

- A. Earth is home to a great diversity of living things, but changes in the environment can affect their survival.
- B. Individuals of the same kind often differ in their characteristics and sometimes the differences give individuals an advantage in surviving and reproducing.

Big Idea: The Practice of Science -

- A: 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.
- B: The processes of science frequently do not correspond to the traditional portrayal of "the scientific method."
- C: Scientific argumentation is a necessary part of scientific inquiry and plays an important role in the generation and validation of scientific knowledge.
- D: 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.

Big Idea: The Characteristics of Scientific Knowledge -

- A: 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.
- B: Scientific knowledge is durable and robust, but open to change.

C: 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.

Big Idea: Earth Systems and Patterns –

Humans continue to explore the interactions among water, air, and land. Air and water are in constant motion that results in changing conditions that can be observed over time.