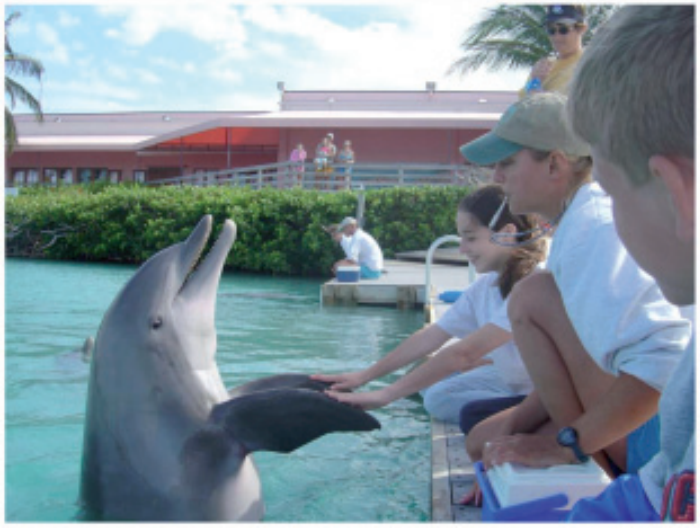
Build-A-Field Trip

A Division of Florida Safari Adventures

3 DAY TRIP - FLORIDA KEYS AND DOLPHIN ADVENTURE

4th - 12th Grade **Wetland Ecology, Coral Reef Diversity, Mangrove Exploration, Marine Mammal**



- **Everglades Exploration**
- **Native American Studies**
- **Kayak the Mangroves**
- **Dolphin Encounter**
- **Astronomy and Fish ID Program**
- **Snorkel the Coral Reefs**

CALL **954-772-7800** or E-MAIL **info@BuildAFieldtrip.com**

1925 NE 45th Street, Ste. 132, Fort Lauderdale, FL 33308

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Following breakfast, we'll depart for the kayaking launch site. After a brief kayaking lesson, we begin our journey across the bay into the mangroves, stopping along the way for our comparative study of the mangrove ecosystem. Discussions will include the importance of mangroves both to humans and a diverse array of wildlife, from the fish and invertebrates we observed to the birds flying overhead. Following lunch, we'll continue our day as we prepare for our encounter with some of the most compelling marine mammals, dolphins. Our 4 hour visit to Dolphin Plus/Dolphin Cove and Island Dolphin Care finds us learning about the behavior of these very intelligent species through several interactive programs: the Marine Mammal Care Lab, the Dolphin "Wade" interaction program, a hands-on Touch Tank and direct interaction in the water with the dolphins. Together, these make for an unforgettable environmental experience with this beloved mammal. Following dinner, as night falls, participate in our marine ecology discussion and Fish Identification program before heading back to our hotel or campsite.

Following breakfast, we'll head to John Pennekamp State Park, fit our snorkel gear and board the dive boat and begin our coral reef study. Snorkel gear will be provided. After the swim test, we'll spend the next 3 hours discovering the fascinating dynamics of both mangrove and coral reef ecology. Returning from our snorkeling experience, we'll enjoy a picnic lunch, departing Key Largo in the late afternoon to head home, swapping stories about our Florida adventure! A last stop at the famed "Robert is Here" tortoise farm and smoothie stand is a perfect end to our trip.

PRICING:

- **$520.00 per student**
- **Based on a minimum of 36 students and a maximum of 48 students**
- **Based on Broward county departure.**
- **Includes coach transportation, instruction, equipment, lodging and meals,**
- **Seasonal rates apply**

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EDUCATIONAL OBJECTIVES

Sunshine State Standards following Grades 4-12

Students will:

- learn the importance of recording data in a field journal, with an emphasis on using their own powers of scientific observation while working in a group comparing and contrasting data collected

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.

SC.6.N.1.1 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.1.4 Discuss, compare, and negotiate methods used, results obtained, and explanations among groups of students conducting the same investigation.

SC.7.N.1.1 Define a problem from the seventh 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.7.N.1.6 Explain that empirical evidence is the cumulative body of observations of a natural phenomenon on which scientific explanations are based.

SC.8.N.1.1 Define a problem from the eighth grade curriculum using appropriate reference materials to support scientific understanding, plan and carry out scientific investigations 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.8.N.1.6 Understand that scientific investigations involve the collection of relevant empirical evidence, the use of logical reasoning, and the application of imagination in devising hypotheses, predictions, explanations and models to make sense of the collected evidence.

SC.8.N.1.3 Use phrases such as “results support” or “fail to support” in science, understanding that science does not offer conclusive ‘proof’ of a knowledge claim.

SC.8.N.1.4 Explain how hypotheses are valuable if they lead to further investigations, even if they turn out not to be supported by the data.

SS.8.G.6.2 Illustrate places and events in U.S. history through the use of narratives and graphic representations.

SC.912.N.1.3 Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.

SC.912.N.1.6 Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.

SC.912.N.2.4 Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.

-understand how Native Americans and early European settlers were able to utilize Florida’s unique barrier island systems throughout history

SC.6.N.2.3 Recognize that scientists who make contributions to scientific knowledge come from all kinds of backgrounds and possess varied talents, interests, and goals.

SC.7.L.17.3 Describe and investigate various limiting factors in the local ecosystem and their impact on native populations, including food, shelter, water, space, disease, parasitism, predation, and nesting sites.

SC.8.N.4.2 Explain how political, social, and economic concerns can affect science, and vice versa.

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.

SS.5.A.3.2 Investigate (nationality, sponsoring country, motives, dates and routes of travel, accomplishments) the European explorers.

SS.5.A.3.3 Describe interactions among Native Americans, Africans, English, French, Dutch, and Spanish for control of North America.

SS.5.A.4.1 Identify the economic, political and socio-cultural motivation for colonial settlement.

SS.5.E.2.1 Recognize the positive and negative effects of voluntary trade among Native Americans, European explorers, and colonists.

SS.6.G.2.6 Explain the concept of cultural diffusion, and identify the influences of different ancient cultures on one another.

SS.6.G.4.1 Explain how family and ethnic relationships influenced ancient cultures.

SS.7.G.2.3 Explain how major physical characteristics, natural resources, climate, and absolute and relative location have influenced settlement, economies, and inter-governmental relations in North America.

SS.8.A.2.5 Discuss the impact of colonial settlement on Native American populations.

-understand how the culture and dynamic history of Key West has been shaped historically through trade, settlement and other factors

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-understand the concept that the presence of certain trees are an indication of events that are occurring, noting that they have adaptations that allow them to live in certain areas, with a focus on the salt-water adaptations of the mangroves

SC.7.L.17.1 Explain and illustrate the roles of and relationships among producers, consumers, and decomposers in the process of energy transfer in a food web.

SC.7.L.17.2 Compare and contrast the relationships among organisms such as mutualism, predation, parasitism, competition, and commensalism.

SC.8.L.18.1 Describe and investigate the process of photosynthesis, such as the roles of light, carbon dioxide, water and chlorophyll; production of food; release of oxygen.

SC.912.L.14.8 Explain alternation of generations in plants.

SC.912.L.14.10 Discuss the relationship between the evolution of land plants and their anatomy.

SC.912.L.17.2 Explain the general distribution of life in aquatic systems as a function of chemistry, geography, light, depth, salinity, and temperature.

SC.912.L.17.9 Use a food web to identify and distinguish producers, consumers, and decomposers. Explain the pathway of energy transfer through trophic levels and the reduction of available energy at successive trophic levels.

- understand the predictability and logistics behind the KLOE system, with a focus on the Everglades as a natural and interrupted ecosystem

SC.7.E.6.6 Identify the impact that humans have had on Earth, such as deforestation, urbanization, desertification, erosion, air and water quality, changing the flow of water.

SC.8.N.4.1 Explain that science is one of the processes that can be used to inform decision making at the community, state, national, and international levels.

SS.8.G.5.2 Describe the impact of human modifications on the physical environment and ecosystems of the United States throughout history.

SC.912.L.17.19 Describe how different natural resources are produced and how their rates of use and renewal limit availability.

SC.912.L.17.20 Predict the impact of individuals on environmental systems and examine how human lifestyles affect sustainability.

SS.912.G.5.6 Analyze case studies to predict how a change to an environmental factor can affect an ecosystem.

- understand the significance of human actions, including their own, in the protection of natural resources such as water and its pollution and redirection in the Everglades area

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

SS.6.G.3.2 Analyze the impact of human populations on the ancient world's ecosystems.

SC.8.N.4.2 Explain how political, social, and economic concerns can affect science, and vice versa.

SS.8.G.5.1 Describe human dependence on the physical environment and natural resources to satisfy basic needs in local environments in the United States.

SC.912.L.17.11 Evaluate the costs and benefits of renewable and nonrenewable resources, such as water, energy, fossil fuels, wildlife, and forests.

SC.912.L.17.12 Discuss the political, social, and environmental consequences of sustainable use of land.

SC.912.L.17.13 Discuss the need for adequate monitoring of environmental parameters when making policy decisions.

SC.912.L.17.15 Discuss the effects of technology on environmental quality.

SC.912.L.17.16 Discuss the large-scale environmental impacts resulting from human activity, including waste spills, oil spills, runoff, greenhouse gases, ozone depletion, and surface and groundwater pollution.

SC.912.L.17.18 Describe how human population size and resource use relate to environmental quality.

SS.912.C.2.4 Evaluate, take, and defend positions on issues that cause the government to balance the interests of individuals with the public good.

SS.912.C.2.8 Analyze the impact of citizen participation as a means of achieving political and social change.

SS.912.G.2.5 Use geographic terms and tools to analyze case studies of debates over how human actions modify a selected region.

SS.912.G.3.3 Use geographic terms and tools to explain differing perspectives on the use of renewable and non-renewable resources in Florida, the United States, and the world.

SS.912.G.5.2 Analyze case studies of how changes in the physical environment of a place can increase or diminish its capacity to support human activity.

SS.912.G.5.4 Analyze case studies of how humans impact the diversity and productivity of ecosystems.

-identify and understand basic dolphin anatomy, its unique structures and functions, and dolphin behavior how these are related to environmental issues

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.

SC.6.L.15.1 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.

SC.7.L.16.1 Understand and explain that every organism requires a set of instructions that specifies its traits, that this hereditary information (DNA) contains genes located in the chromosomes of each cell, and that heredity is the passage of these instructions from one generation to another.

SC.7.L.15.2 Explore the scientific theory of evolution by recognizing and explaining ways in which genetic variation and environmental factors contribute to evolution by natural selection and diversity of organisms.

SC.7.L.15.3 Explore the scientific theory of evolution by relating how the inability of a species to adapt within a changing environment may contribute to the extinction of that species.

SC.912.L.15.7 Discuss distinguishing characteristics of vertebrate and representative invertebrate phyla, and chordate classes using typical examples.

SC.912.L.17.6 Compare and contrast the relationships among organisms, including predation, parasitism, competition, commensalism, and mutualism.

SC.912.L.17.7 Characterize the biotic and abiotic components that define freshwater systems, marine systems and terrestrial systems.

-understand that organisms both within and between ecosystems are interconnected through examination of Everglades, mangrove estuary and ocean systems, with emphasis on the human element in these systems

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

SC.7.L.17.3 Describe and investigate various limiting factors in the local ecosystem and their impact on native populations, including food, shelter, water, space, disease, parasitism, predation, and nesting sites.

SC.7.N.2.1 Identify an instance from the history of science in which scientific knowledge has changed when new evidence or new interpretations are encountered.

SS.5.G.3.1 Describe the impact that past natural events have had on human and physical environments in the United States through 1850.

SS.6.G.3.2 Analyze the impact of human populations on the ancient world’s ecosystems.

SC.912.L.17.4 Describe changes in ecosystems resulting from seasonal variations, climate change and succession.

SC.912.L.17.8 Recognize the consequences of the losses of biodiversity due to catastrophic events, climate changes, human activity, and the introduction of invasive, non-native species.

- understand the basics of astronomy including the changes that occur in the organization of the solar system seasonally

SC.8.E.5.1 Recognize that there are enormous distances between objects in space and apply our knowledge of light and space travel to understand this distance.

SC.8.E.5.2 Recognize that the universe contains many billions of galaxies and that each galaxy contains many billions of stars.

SC.8.E.5.3 Distinguish the hierarchical relationships between planets and other astronomical bodies relative to solar system, galaxy, and universe, including distance, size, and composition.

SC.8.E.5.10 Assess how technology is essential to science for such purposes as access to outer space and other remote locations, sample collection, measurement, data collection and storage, computation, and communication of information.