



THE VILLAGES GEM & MINERAL SOCIETY – Field Trip Information FLORIDA



Appleton Museum of Art - College of Central Florida

4333 E. Silver Springs Blvd. Ocala, FL
352-291-4455 appletonmuseum.org



The Appleton is an award-winning contemporary interpretation of classical architecture clad in Italian travertine marble. The 81,610-square-foot museum features 30,000 square feet of gallery space devoted to the Appleton's permanent collections. The Edith Marie Appleton Gallery 4,000 square-foot, two-story exhibition gallery, was added in 1996 and a 2,662-square-foot art storage facility was completed in 2009. Galleries in the original building are arranged in a quadrangle which surrounds an interior courtyard and fountain. The museum features a 250-seat auditorium equipped with state-of-the-art sound equipment. Facilities also include an art library, three art studio/classroom spaces and courtyard café which can accommodate 150 guests.

A World of Art at Your Fingertips

The museum's permanent collections of approximately 18,000 objects include European, American, Asian, African, Contemporary and pre-Columbian art and artifacts, and a series of temporary traveling exhibitions are presented throughout the year. The museum is also building a collection of works of Florida artists which relates directly to the history and cultural heritage of the Central Florida community



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Florida Museum of Natural History

University of Florida Cultural Plaza
3215 Hull Rd, Gainesville, FL
352 846 2000 flmnh.ufl.edu

The Florida Fossils: Evolution of Life and Land Exhibition:

Located in Powell Hall, the exhibit describes the history of the Florida Platform through five geologic time periods, beginning in the Eocene epoch, when Florida was underwater. Visitors travel through the Eocene, Oligocene, Miocene, Pliocene and Pleistocene epochs and see Florida's first land animals, evolving grasslands and savannahs and the land bridge between North and South America that formed about 3 million years ago.



The exhibit ends with the arrival of the first humans in Florida near the end of the Pleistocene. Over 90 percent of the exhibit's 500 fossils are real, and many were found within 100 miles of Gainesville.

Some of the exhibit highlights are:

- **Shark Jaw Row**

Enter the exhibit past shark jaws ranging in height from 2-9 feet, including the jaw of the extinct giant — Megalodon — largest shark that ever lived.

- **Before Florida Formed**

The exhibition begins with five extinction events described in dioramas that lead visitors onto the Florida Platform at about 65 million years ago, also known as the Dawn of the Age of Mammals.

- **Walk through Time**

Travel around the exhibit's central island and witness the fossil history of Florida during the Eocene, Oligocene, Miocene, Pliocene and Pleistocene epochs. Displays include a primitive-toothed whale in the Eocene, a pig-like, extinct mammal from the Oligocene, a Miocene rhinoceros being attacked by two saber-toothed, cat-like animals, a 15-foot (4.6 m)-tall sloth standing on its hind legs in the Pliocene area and a 500,000-year-old jaguar chasing a peccary from the Pleistocene epoch. See Florida's first land animals and an amazing parade of life through the ages.

- **Fossils and More**

Be visually awed by full skeletal mounts and sculptures in exciting life-like postures, and touch bronze sculptures (one-sixth scale models) of what the animals looked like in life. Each time period includes numerous animals, artwork, video and more.

- **Temporary and Epilogue Galleries**

Enjoy fossil-related temporary displays and learn about Earth's Sixth Extinction — a modern crisis caused by humans.



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Gillespie Museum of Minerals

Stetson University 234 E Michigan Ave, Deland, FL
386 822 7000 stetson.edu/other/gillespie-museum/



The Gillespie Museum is a rock and mineral museum offering students of all ages and the community many educational opportunities pertaining to earth and environmental science. The geologic collection of more than 15,000 minerals, rocks, and fossils is one of the oldest and largest in the southeastern U.S., and is exhibited throughout the building in various cabinets, as well as hands-on, interactive displays.

Permanent Exhibits

Science on Display - The Historic Gillespie Collection (new)

Main Gallery Displays

Minerals A-Z

Wulfenite, smithsonite, calcite and quartz

Amethyst Vug

Meteorites - Messengers from Space

The Beauty of Petrified Wood

The Ancient Art of Marble Inlay

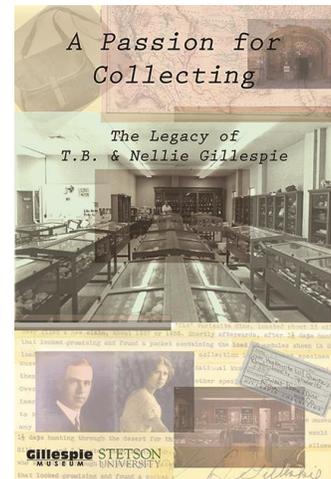
Gemstones & Birthstones

Florida Natural History - Native Florida ecosystems and plant landscapes

The Underground World of minerals, mining and fluorescent rocks

The Rock Cycle

Volcanoes





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Honeymoon Island State Park

#1 Causeway Blvd. Dunedin, FL

(727) 469-5942 floridastateparks.org/park/Honeymoon-Island

Welcome to Honeymoon Island State Park

The pioneers called it Hog Island, but it became Honeymoon Isle in 1939 when a New York developer built 50 palm - thatched bungalows for honeymooners. Today, visitors can drive across Dunedin Causeway to enjoy the sun-drenched Gulf beaches, mangrove swamps, and tidal flats

Nature lovers will find osprey nests, a wide variety of shorebirds, and one of the few remaining virgin slash pine forests in South Florida. The park boasts several nature trails and bird observation areas. Visitors can swim, fish, and snorkel in the warm waters of the Gulf or picnic while they enjoy the beautiful scenery. Shelling is particularly good here, as the Gulf currents deposit an incredible variety of seashells on the shore. Showers are available and the park's concession has a gift shop and snack bar. Located at the extreme west end of State Road 586.



Florida's state parks are committed to providing equal access to all facilities and programs. Beach wheelchairs are available upon request. Should you need assistance to enable your participation, please contact the Ranger Station at 727-469-5942, option 5.





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Mulberry Phosphate Museum

101 S.E. 1st St, Mulberry, FL

863 425 2823 mulberryphosphatemuseum.org



As you walk through our museum, you will experience the Earth's past, viewing the remains of various types of marine life as well as reptile and mammals dating back millions of years. Your visit will be an introduction to the relationship of animal remains with the modern Phosphate Industry.

Florida has evolved dramatically over the last 65 million years from volcanic island to lush tropical landscape. Your museum visit begins almost 250 million years ago. The Sea covered the land which would one day become Florida. Shells, coral, fish, and plants as well as sharks, whales, and turtles, dominated the sea floor. Some of the sea life could grow to enormous sizes. Slowly, over millions of years, the sea bottom continued to build up. About 65 million years ago, a volcanic island emerged from the primeval sea. Soon animals like the alligator, horse, crocodile, mastodon, woolly mammoth, camel and rhinoceros dominated the landscape. With the coming of the "Great Ice Age" the animal population increased. The fossil record shows Florida to be a melting pot for many different types of animals and plants.

At least 10 million years ago, the ocean flooded the area now called Florida. As the water washed the state billions of phosphate particles were deposited on the land. These particles, along with sand and clay, settled into strata. The retreating water eventually buried these phosphate beds under tons of sandy soil, mostly in Central Florida. This area became known as the Bone Valley because of the bones and fossilized remains of prehistoric animals that are common to phosphate deposits.

Galleries

The Phosphate Gallery is designed to inform visitors of the various areas of phosphate and the industry. You will learn where phosphate is found, how it is mined and processed, and how we use it in our everyday lives.

The Historic Railroad Gallery provides historic photos and information on the City of Mulberry, Polk County, the Railroad Industry and the Phosphate Industry.

The Fossil Gallery is located in the historic train depot. It housed the prehistoric Fossil Collections.

The museum's outdoor exhibit includes a 44 yard Dragline Bucket once used to dig the phosphate rock out of the ground. The bucket is set in the middle of a pile of rock. Museum visitors can try their luck at finding shark teeth and other prehistoric animal remains.





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Peace River (Megalodon Expedition)

Burger King address 1016 E Oak St, Arcadia, FL
239 368 3252 fossilexpeditions.com/fossil2.htm

Although we work many vertebrate sites, some of our favorites are the Peace River between Arcadia and Wauchula. We meet at 9:30 or 10 a.m., at the Burger King restaurant in Arcadia or Wauchula, depending on which site we're going to and you're staying. We'll give you precise directions when you reserve your trip.

We screen-wash in shallow water and look for a wide variety of species of sharks teeth, as well as bones and teeth from mammoths, sloths, camels, bison, horses, giant armadillos, turtles, dolphins, rays, alligators and whales. Realistically, the larger fossils (entire mammoth teeth and leg bones, or five inch shark teeth) are a rarity. It's more common to find fragments of mammoth teeth, entire horse teeth, or smaller shark teeth (1/2" to 1" on average; occasionally 2 inches).



Participants can keep what they find, unless they come up with something new to science. Then we ask that you donate it to the Florida Museum of Natural History in Gainesville. As for permits, you do not need one if you are with us. We have a group permit that covers you.

As guides, we show people where to look, how to look, and how to preserve their finds for another million years.

In over a decade of fossil expeditions the fiercest creature ever to bite one of our customers was a fire ant.

We suggest you wear old tennis shoes that can get wet, shorts, extra dry clothes for later, a hat, sunscreen, lunch and drinks in a small cooler. Also, we recommend everyone wear socks that can get wet with the shoes. They're much more comfortable if you get sand in your shoes. We don't recommend sandals. Screens and shovels are provided by us





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Rucks Pit, Fort Drum Crystal Mine

28320 NE 55th Ave, Okeechobee, FL
863 634 4579 thefortdrumcrystalmine.com

Diggers actually dig atop a field covered with truckloads of material that is mined out on a regular basis. The site was initially called "Ruck's Pit," and is now called, "Fort Drum Crystal Mine". The crystals form inside of the clam shells by a long process. Calcite is dissolved from the fossil sea shells by acidic groundwater and then transported downward where it then re-precipitates inside the shells of the clams. While the process of forming crystals may be lengthy, finding them isn't necessarily a fast or easy task either. For a daily fee those who want to come and dig and look for calcite-filled fossil clamshells can do so. However, the process is often laborious, as it requires the breaking of rocks to discover what's inside. To the untrained eye, the process is even more difficult as knowing exactly what rocks to crack open is more of a guess. Although some tools are supplied, such as chisels, hammers, and a water hose for washing the rocks, guests need to also bring a supply of items, such as: sturdy shoes, a hat, food, drinking water, a chair, small boxes, newspaper for wrapping specimens, a trash bag for dirty, wet clothes, and a 5-gallon bucket. Guests are allowed to fill one five-gallon bucket for each paid adult admission. Diggers sometimes discover calcite-filled fossil clam shells that can be



impressive in size. Some can exceed six inches in diameter and contain calcite crystals more than one inch long. Most diggers find something worth taking home, while collectors often find even more. On location is also a retail store that sells landscape rocks, aquarium rocks, and fossils & minerals from all over the world, as well as some samples of what the Rucks' dug up.



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Santa Fe College – Jean Klein Rock Cycle Garden

3000 NW 83 St, Gainesville, FL
352 395 5000 sfcollge.edu/rockcycle/

This is a one of a kind outdoor exhibit on the main campus of Santa Fe College in Gainesville, Florida. It features over twenty boulders, many weighing thousands of kilograms. These boulders were collected from different localities across the U.S.A.

Construction on this exhibit was begun in 2003. It opened to the public in June of 2006. Rocks are displayed in an orderly sequence beginning with igneous, followed by sedimentary and continuing with metamorphic, finally bringing you back to the starting point. There is an informational panel at the beginning of the exhibit explaining the ROCK CYCLE and why the rocks are placed in the order in which they occur.

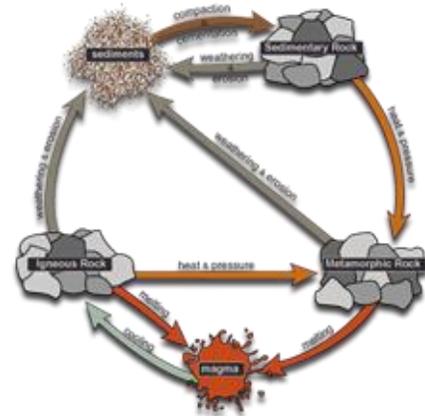
The Rock Cycle

The rock cycle is a concept used to explain how the three basic rock types are related and how Earth processes, over geologic time, change a rock from one type into another. Plate tectonic activity, along with weathering and erosional processes, are responsible for the continued recycling of rocks.

Rocks are classified into three basic types based on how they formed.

- **Igneous** - A rock formed by the cooling and crystallization of magma (molten rock) at or below the Earth's surface.
- **Sedimentary** - A rock formed as a result of the weathering process, either by compaction and cementation of rock and mineral fragments, or the precipitation of dissolved minerals.
- **Metamorphic** - These rocks form as existing rocks are subjected to intense heat and/or pressure, usually over long periods of time.

The rocks on display are meant to be viewed in a clockwise direction. As you walk, keep in mind that existing rocks may change through natural processes over geologic time, or even melt to form new rocks.





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Vulcan Mine

16313 Ponce De Leon Blvd, Brooksville, FL
352 796 5690



Tours are available a few times a year at the Vulcan Phosphate Mine West of Brooksville, Florida. At the mine they have huge fossil Sharks teeth there and also some rare Ammonites. Here you can see the cliffs surrounding the mine. You may have more luck by climbing the cliffs and searching around on the mesa on top.

Here's some information on echinoids which are a very common find at Vulcan limestone mine north of Brooksville, Florida.

Echinoids are a class of echinoderms which includes the creatures commonly known as sea urchins, sand dollars and sea biscuits. Echinoids are found in deposits of any age in Florida. The ones found at Vulcan are from the Oligocene Suwannee Limestone and are around 30 million years old.



Phymotaxis mansfieldi: This beautiful sea urchin is reasonably common, but it is always a good day at the mine if you find a nice one. They can be anywhere from .5 to 2 inches across.

Gagaria mossomi: This urchin is less common than the *Phymotaxis* and tends to be smaller, but not always.



Clypeaster rogersi: In some places in the mine these sand dollars have been reasonably common, but in general they are not. There is probably more than one species found at Vulcan. Oligocene *Clypeasters* can be as small as .5 inch or as much as 4 or 5 inches across.

Rhyncholampas gouldi: This sea biscuit is by far the most common echinoid at Vulcan Mine, everyone finds a bucketful. They range in size from .5 inch to 2 inches across. Kinds of *Rhyncholampas* can be found in deposits of almost any age in Florida, but they are never as plentiful as in Suwannee Limestone.



Schizaster americanus: This is a type of sea biscuit that is sometimes called a "heart urchin". This species is quite rare at Vulcan. It is usually less than an inch across.

Agassizia mossomi: A very time sea biscuit that is also quite rare. About .5 inch across.

