



### **Teacher's Packet 4<sup>th</sup> – 5<sup>th</sup> Grade**

\*Please share this guide with other teachers from your school who will be joining you on this trip. Thanks!

There are many great opportunities for students to learn and explore at the MOSH. This guide will help you make the most of your visit and provides activities to continue your discoveries after you leave.

#### **Planning Your Visit:**

- We suggest you plan at least 1 ½ hours for your visit.
- A Science Show or Planetarium Program will increase the length of your visit
- In general The MOSH is less crowded early in the week and early in the school year
- Please arrive at least 15 minutes prior to your first program  
(Scheduled programs may be cancelled for groups arriving more than 10 minutes after the scheduled start time of their program)
- Please have a head count of all your students and adults ready before you enter the museum  
(Have separate numbers for students, teachers and chaperones with you that day)
- We do not have an eating space indoors, so please plan accordingly for inclement weather.  
(For fire safety reasons students cannot eat in the Lobby or under the covered walkway)
- MOSH does not have a place to store school lunches and there is not a refrigerator or microwave available for public use
- Each group will receive 1 free adult for every 10 children  
(Except for pre-K groups and special needs groups who are allowed 1 free adult for every 5 children)
- Please inform MOSH of any students with special needs so that we can best serve them.

#### **Notes:**

Students **MUST** stay with a chaperone at **ALL TIMES**. Unchaperoned groups will be asked to leave the Museum without refund.

Teachers/Chaperones you are in charge of your students and they must conduct themselves in an orderly fashion. Please remember that others are touring the Museum during your visit. Our Kidspace area is **only** for children 5 years old and younger.

## **Tips for the Best Visit:**

- Go over rules with your group before arriving at MOSH
- Make sure that chaperones and children know their groups before arriving
- Tell your children what to do in case they get separated from their group  
(They can go to the front desk or find a MOSH Staff member)
- Give each chaperone a different path through the museum so that you avoid congestion and waiting around. For Example, Group A starts in *The Body Within*, while Group B starts in *The Currents of Time*.

## **MOSH Rules**

- 1. There is no chewing gum inside the museum**
- 2. There is no running or horseplay inside the museum**
- 3. If someone in your group is more than 5 minutes late to a private program they will not be allowed to enter, as this will disrupt the program**
- 4. If you exit a private program that has already started the doors will lock behind you and re-entry will not be allowed, so be sure to use the restroom before your show begins**
- 5. There are live animals that live here at MOSH and it is very important to treat them kindly and stay quiet while you are around them**  
(Also, it is never appropriate to bang on their cages / enclosures or yell at them)
- 6. A chaperone must be with students while they are in the Gift Shop and only 20 people are allowed in the gift shop at one time, so you may have to form a line outside of the gift shop if it becomes full**
- 7. Cell phone and camera use are PROHIBITED in the Planetarium, as it can be a distraction to all those seated in the room**
- 8. HAVE FUN!**

## How to Use this Guide

### **Before your visit:**

Gather your students together to talk about the field trip. There are many permanent and traveling exhibits that they will get to explore when they arrive here at MOSH. Take some time to talk about how they will recognize each exhibit. For Example: What do they think they will find inside “The Body Within?” Or what kinds of animals might live in “The Naturalist Center?” Vocabulary for each exhibit is included below. This is also a perfect time to talk about staying with their chaperones/teachers and what to do if they get lost. You can download scavenger hunts for our exhibits at [www.themosh.org](http://www.themosh.org) these can be handed out to student’s right before your arrival at MOSH.

### **During your visit:**

As you explore the museum, take some time to stop at the exhibits mentioned in this guide as you discover them. Gathering your group together to investigate particular exhibits will help slow your children down and encourage them to spend time exploring the exhibits. It also gives them a chance to use some of those vocabulary words that you introduced to them. Don’t worry about being an expert on any of the topics. You are exploring along with them.

### **After your visit:**

Ask students what they noticed in different exhibits and ask them to explain some details about their favorite part of the field trip. Then try some of the post-visit activities that we have included below.

## Curriculum for our Permanent Exhibits

### The Body Within



#### Vocabulary:

**Brain:** A large mass of nerve tissues inside the head which controls the entire body

**Heart:** The primary hollow organ that pumps blood through the body

**Digestive System:** The system in the body that is used to process food and turn it into energy

**Skeletal System:** The bodily system that consists of the bones, their associated cartilages, and the joints, that supports and protects the body, produces blood cells, and stores minerals

**Nerve:** A bundle of fibers in the body that convey signals from one part of the body to the brain

**Organ:** A distinct region of cells in our body that perform a certain function

#### Post Visit Activities:

##### 4<sup>th</sup> Grade: Guess the Item

Remind students about the “Senses Station” at MOSH where they had to feel an item and guess what it is. Explain to them that different parts of the body are more sensitive to the feel of textures than others. Collect items with a specific texture, such as a pine cone, tennis ball, rock and seashell. Pair the students up and blindfold one in each pair. The other student should press these items one at a time on various spots on the other person's body. The blindfolded student should guess what the item is, based on feel. Switch the partners so both students get a turn. When everyone has gotten a turn, ask the class which spots were more sensitive and which made it harder to tell what the object was.

##### 5<sup>th</sup> Grade: Blood Components Project

The objective of this project is to identify and re-create the four basic components of blood. These components are red blood cells, which transport carbon dioxide and oxygen; plasma, which transports wastes and dissolved foods; white blood cells, which fight off germs and absorb old cells; and platelets, which help your blood clot. According to Steve Spangler Science, mix together in a cup some red hot candies, to serve as your red blood cells; some corn syrup, to serve as the plasma; some white jelly beans, to represent the white blood cells; and some candy sprinkles to represent platelets. Not only is this hands-on activity fun, but the end result is completely edible.

Science Standard Big Idea #14: Organization and Development of Living Organisms

## Currents of Time



### Vocabulary:

**Timucua:** Native peoples who inhabited Northeast Florida and Southeast Georgia for about 2000 years.

**Midden:** A mound of discarded shells and trash

**Exploration:** The act of looking into or traveling over thoroughly

**Ponce de Leon:** The Spanish Explorer who discovered Florida in 1513

**Colony:** A group of people who leave their native country to settle in a new place

**Segregation:** The separation of people into groups based on the color of their skin

**Civil Rights:** Rights that protect a person's freedom and ensure equality

### Post Visit Activities:

#### 4<sup>th</sup> Grade: Spanish Moss

When the French arrived in America they looked up into the trees and noticed a gray material was hanging down and blowing in the breeze. However, what was more interesting was the fact the Timucuan Indians had many different uses for that material. Have your students do some research about how the Timucuan population used Spanish moss and how we still use it today. Allow them to present their findings to the class and have them include their thoughts about how they would have reacted if they were a French Explorer that landed in Florida and saw this plant for the first time.

#### 5<sup>th</sup> Grade: Native American Traditions

Young Indians earned eagle feathers for brave acts that they completed. Ask the students to write a story about a brave act that might have earned them an eagle feather. Cut a large feather shape from colored construction paper and one from lined paper and give them to the students to create a shaped book of their story.

Social Studies Big Idea #2: Historical Knowledge

## Atlantic Tails



### Vocabulary

**Mammal:** An animal that processes seven basic characteristics: warm-blooded, live birth, nurse young, breathe air, presence of hair or fur, muscular diaphragm, and external ears.

**Migration:** The long distance movement of animals, usually on a seasonal basis

**Blubber:** Layer of fatty tissue below skin in marine mammals.

**Symbiosis:** Two or more organisms that live together and help each other

**Adaptation:** Traits that allow the animal to survive better in the wild.

**Baleen:** Slats that hang from plates from the roof of the mouth of baleen whales.

**Warm-Blooded:** Animals that keep their bodies warm by heating inside, instead of using the sun to warm up.

### Post Visit Activities:

#### 4<sup>th</sup> Grade: Blubber Glove

Whales depend on a thick layer of body fat called blubber to stay warm. It is almost impossible for the cold temperatures to penetrate the blubber which keeps whales warm.

To learn how blubber can keep things warm, make a blubber glove and put it to the test by sticking your protected hand into a bucket of ice water. The “blubber” in the mitt will protect your hand from the cold.

**Materials:** Two zip top sandwich bags, One cup solid shortening, Duct tape

#### 5<sup>th</sup> Grade: Marine Life Dioramas

Instruct your fifth grade class to create a diorama of a whale, dolphin or manatee habitat. Assign each student, or group of students, a specific whale, dolphin or manatee species. Students must research their assigned animal and construct an accurate representation of that organism's environment. The diorama should include an image of the animal as well as the habitat's, plant life, food sources, other marine species and any potential dangers to the marine animal. The students should keep in mind the particular breathing method of their marine animal when designing the top portion of the diorama. Students can share their research findings in an oral presentation and display their dioramas inside the classroom.

Science Standard Big Idea #14: Organization and Development of Living Organisms

## JEA PowerPlay



### Vocabulary

**Fossil Fuels:** Fuels formed in the earth from plant or animal remains

**Biomass:** Plant materials and animal waste that is used as fuel

**Natural Resource:** A resource that we can find in nature

**Renewable Resource:** A natural resource is not depleted when used by people

**Wind Energy:** Power that is made from wind

**Natural Gas:** A mixture of many different gases that forms beneath the Earth

### Post Visit Activities:

#### 4<sup>th</sup> Grade: Energy Options

Energy comes from power created by a variety of sources. Create a chart of energy sources including gasoline, battery, wind, sun, water, nuclear etc. Allow students to draw or find pictures of objects that run on one of the sources of energy and place it in a column under the appropriate source. Have a class discussion as to what energy source seems to be used the most.

#### 5<sup>th</sup> Grade: Pick Me! Pick Me!

Assign teams of students a type of energy. It could be renewable, nonrenewable, or alternative. Have each team research their type of energy and present to the class the reasons why their type of energy is the best for future use. After all energy sources are presented, have the class vote on their choice for the best energy source of the future.

Science Standard Big Idea #10: Forms of Energy



## The Florida Naturalist Center



### Vocabulary:

**Adaptation:** Traits that allow the animal to survive better in the wild.

**Carnivore:** An animal that eats mostly other animals.

**Ecosystem:** A community of organisms in their natural environment.

**Endangered Species:** A group of animals or plants in danger of becoming extinct

**Community:** A group of organisms that inhabit the same region and interact with each other

**Habitat:** Where an animal lives.

**Herbivore:** An animal that eats mostly plants.

**Predator:** An organism that feeds on other organisms.

**Biome:** A major regional group of plant and animal communities that are well adapted to the physical environment

### Post Visit Activities:

#### 4<sup>th</sup> Grade: The Role of the Gopher Tortoise

Every organism has a specific job in its ecosystem, called its niche. Ask students to research the Gopher Tortoise's role in its ecosystem and how it actually helps other species find shelter. Lead a class discussion about what would happen if the Gopher Tortoise was removed from its ecosystem and how other species would be affected by this.

#### 5<sup>th</sup> Grade: Survival Kit

Tell students that every living thing is found in a habitat or environment that allows it to survive and reproduce. Have them think about the animals that they saw when they first entered the Naturalist Center. Have them draw one of those animals with a survival kit. Inside the kit, they will name and/or draw what it needs for survival.

Science Standard Big Idea #14: Organization and Development of Living Organisms

Science Standard Big Idea #15: Diversity and Evolution

Science Standard Big Idea #17: Interdependence



## **Follow Up Resources:**

Esbensen, Barbara Juster. *Baby Whales Drink Milk*. Harper Collins Publisher, NY. 1994.

Everts, Tammy and Bobbie Kalman. *Dolphins*. Crabtree Publishing Co., NY. 1995.

Jenkins, Priscilla Belz. *A Safe Home for Manatees*. Harper Collins Publishers, NY. 1997.

Lambert, David. *The Kingfisher Young People's Book of the Oceans*. Kingfisher, 1997.

Lionni, Leo. *Swimmy*. Random House, NY. 1968.

Tokuda, Wendy and Richard Hall. *Humphrey the Lost Whale*. Heian International, Inc., CA. 1992.

Weitzel, Kelly. *The Timucuan Indians- A Native American Detective Story*. The University Press of Florida: FL, 2000.

Costabel, Eva Deutch. *The Early People of Florida*. Atheneum Macmillan Publishing Company: NY, 1993.

Sherrow, Victoria. *American Indian Children of the Past*. The Millbrook Press: CT, 1997.

Ciment, James and Ronald LaFrance. *Encyclopedia of the North American Indian*. Scholastic, Inc: NY, 1996.

Philip, Neil. *A Braid of Lives- Native American Childhood*. Clarion Books: NY, 2000.