MOSH

MUSEUM OF SCIENCE & HISTORY

Teacher's Packet K-1st 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 kids 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

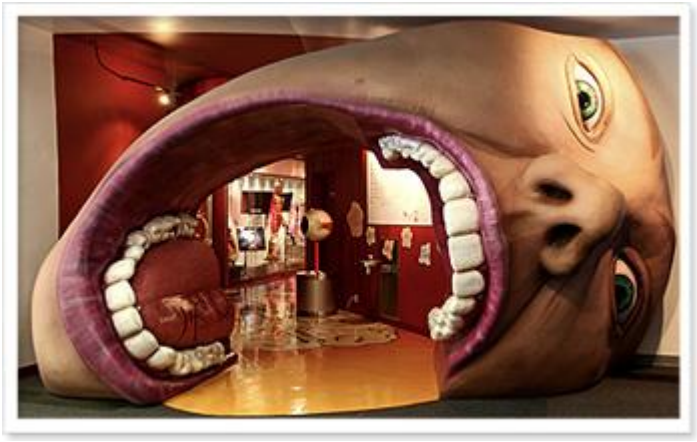
Before your visit:
Gather your students together to talk about the field trip. There are many permanent and traveling exhibits that they will get to explore when they arrive here at MOSH. Take some time to talk about how they will recognize each exhibit. For Example: What do they think they will find 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 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
Lungs: Two spongy organs that allow us to take in oxygen and expel carbon dioxide
Pupil: The black spot in the middle of the eye which regulates light entering the eye
Skeleton: An internal framework of bones that support the body
Stomach: One of the primary organs of digestion
Tongue: A muscular organ in the mouth used for tasting, chewing, and speaking
X-ray: A black and white negative image or picture of the interior of the body

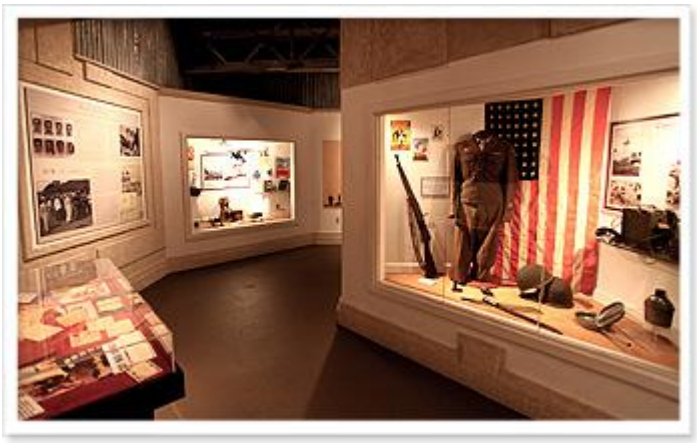
Post Visit Activities:

Kindergarten: Body Shapes
Trace each child's body as they rest on a long sheet of butcher paper. When finished, help children identify body parts and outline them. Write the words on the sheet as you identify them. Have children "fill in" their outlines by adding such things as eyes, hair, nose, mouth, etc. Display all around the classroom.

1st Grade: Picture This
Have your students make flashcards with pictures of different body parts on them. For example, one card could have a brain, one a heart, one an eye and so on. After they have finished making their flashcards have them team up with other classmates to see who can correctly guess what the pictures are and where they are found in the human body.

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
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

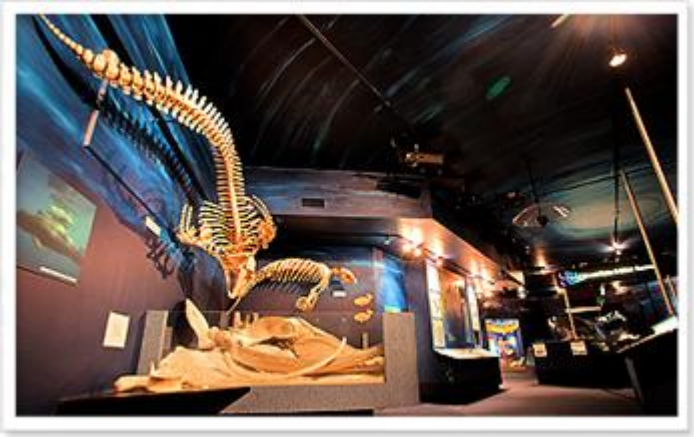
Post Visit Activities:

Kindergarten: Bang a Drum
Provide empty oatmeal containers, colored construction paper cut so it will wrap completely around it with a small overlap, brown paper bags cut into a circle to cover the end of the containers with an inch overlap, rubber bands, yarn, tape or glue, and colored markers. Allow the students to pick the color of construction paper they would like to use to cover their oatmeal containers. Glue or tape them onto the container. Allow the students to decorate their drum. Cover the open end with the paper bag circles and attach with a rubber band. Allow the students an opportunity to play their drums before taking them home.

1st Grade: Using our Resources
Remind students that people (Like the Timucuan) once had to use natural resources for everything, including clothing, toys, bowls, houses, etc. Tell students that today they are going to create their own game with just the resources that you give them. Divide the class into several small groups. Give each group a rubber ball, seven craft sticks, five paper clips, and three pipe cleaners. Challenge the students to create a new game using only these "natural" resources.

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.
Pectoral Fin or Flipper: Small airplane wing-like appendages.
Blowhole: Opening of nasal passage on top of head.
Blubber: Layer of fatty tissue below skin in marine mammals.
Fluke: Flattened, blade-like tail on marine mammals.
Marine: Ocean water environment.
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:

Kindergarten: Characteristics of Creatures
Ask your students to remind you of the definition of a mammal, and then have your students describe to you some characteristics of whales and manatees that they remember from their visit. Is a whale a mammal? What about a Manatee? Let students cut out pictures of sea animals from a magazine and classify them as mammals or non-mammals. Take these pictures and glue them to a sheet of paper leaving space at the bottom. At the bottom of their page have them write down how these animals behave in the wild.

1st 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

Directions:
1. Put one cup of shortening into a zip top bag.
2. Put your hand into the other empty bag.
3. Put your hand with the bag on it into the bag with the shortening.

4. Try to spread the shortening around until it surrounds the outside of the bag that your hand is in, creating a layer of insulation around your hand.
5. Take your hand out of the bag and use duct tape to seal the two bags together so that none of the shortening escapes.
6. Put your hand back into the glove and submerge in ice cold water.

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

JEA PowerPlay

Vocabulary

Fossil Fuel: a fuel formed in the earth for plant or animal remains
Coal: a fuel source made from plant matter that is very old
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

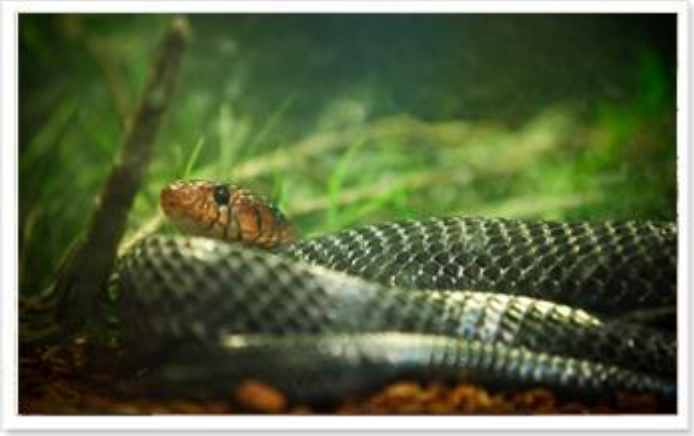
Post Visit Activities:

Kindergarten: No Power
Review with the students all the ways that energy can be produced. Give the students a variety of magazines. Allow them to create a collage of pictures cut from magazines and/or drawings of all the things they can think of that need energy to run. Display the collages in the classroom and conduct a discussion of how different our life would be if we did not have energy.

1st Grade: Do You Have the Energy?
Provide a variety of magazines and ask students to cut out pictures of things that are powered by electricity. Ask the students to imagine that they had no electricity and had to find an alternative way to power things such as lights, fans, televisions, ovens, etc. Talk with the students about some of the alternative fuels they saw at the Museum. Ask the students to redesign the item that they cut out to show how it would be powered. For example, a fan might be turned by the wind.

Science Standard Big Idea #10: Forms of Energy
Science Standard Big Idea #13: Forces and Changes in Motion

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: A group of animals or plants in danger of becoming extinct
Extinct: The death and disappearance of a species.
Habitat: Where an animal lives.
Herbivore: An animal that eats mostly plants.
Predator: An organism that feeds on other organisms.

Post Visit Activities:

Kindergarten: Characteristic Sorting
Remind the students that all living things have characteristics that make them similar to or different from other living things. Have available an assortment of animal pictures. Talk to the students about how the pictures can be sorted. Start by having them count the number of legs. Divide the pictures into animals with two legs and four legs. Put the pictures back in one group and allow the students to suggest other ways they might be sorted and complete the activity by sorting another way.

1st Grade: Living/Nonliving
Provide a large number of magazines for the students to cut up. Children's magazines will work best for this activity. Give each child a large sheet of manila paper separated in down the middle with a line and the words "Living" and "Nonliving". Allow students time to complete their charts. They should be able to explain why each object is categorized as it is.

Science Standard Big Idea #14: Organization and Development of Living Organisms
Science Standard Big Idea #17: Interdependence

Follow Up Resources:

- Gannon, Michael, ed. *The New History of Florida.* University Press of Florida, 1996.
- Marsh, Carole. *Florida Timeline: A Chronology of Our State's History, Mystery, Trivia, Legend, Lore & More!* Gallopade Publishing Group, Atlanta GA 1992.
- Esbensen, Barbara Juster. *Baby Whales Drink Milk*. Harper Collins Publisher, NY. 1994.
- Jenkins, Priscilla Belz. *A Safe Home for Manatees*. Harper Collins Publishers, NY. 1997.
- 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.

For more resources visit www.themosh.org and click "Education".
There are additional guides there for specific science programs as well as scavenger hunts that your students can use while at MOSH.