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Georgia Aquarium
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Aqua Adventure Teacher Guide
Grades K- 2

Dear Educators,

We are happy you are visiting us here at the Georgia Aquarium and extending your classroom to include our saltwater and freshwater habitats.

The following guide has been designed to make your day at the Aquarium engaging and fun for you and your students. We have divided it into four sections – *lesson overview, activity guide, pre-visit activities, and post-visit activities*. For the Kindergarten through 2nd grade guide, we designed the on site activity guide as "to do" lists where the students can stop and make an observation, answer a question, or listen to a speaker as they tour the Aquarium.

Extension of your classroom: We are excited to offer you this space as an extension of your own classroom. The following activities have been correlated to the kindergarten, first grade, and second grade Georgia Performance Standards. In just a morning or an afternoon you and your students can address the following objectives and GPS's:

Enduring Understandings:
- All organisms have basic needs to survive.
- Aquatic habitats are home to diverse populations of organisms.
- Through observations we can learn about aquatic animals and their habitats.

Objectives:
- Students will understand the basic needs of animals: shelter, water, air, and food.
- Students will identify similarities and differences in animals which are used to group living things.
- Students will understand that the covering of an animal is important to its survival.
- Students will understand that animals do not look the same through all stages of their life cycles.

Georgia Performance Standards Addressed:
Kindergarten

SKCS1. Students will be aware of the importance of curiosity, honesty, openness, and skepticism in science and will exhibit these traits in their own efforts to understand how the world works.

a. Raise questions about the world around you and be willing to seek answers to some of the questions by making careful observations (5 senses) and trying things out.

SKCS2. Students will have the computation and estimation skills necessary for analyzing data and following scientific explanations**.**

a. Use whole numbers for counting, identifying, and describing things and experiences.
b. Make quantitative estimates of nonstandard measurements (blocks, counters) and check by measuring.

SKCS4. Students will use the ideas of system, model, change, and scale in exploring scientific and technological matters.

b. Describe changes in size, weight, color, or movement, and note which of their other qualities remains the same.
c. Compare very different sizes (large/small), ages (parent/baby), speed (slow/fast), and weights (heavy/light) of both manmade and natural things.

SKCS5. Students will communicate scientific ideas and activities clearly.

a. Describe and compare things in terms of number, shape, texture, size, weight, color and motion.

SKCS6. Students will understand the important features of the process of scientific inquiry.
Students will apply the following to inquiry learning practices:

a. In doing science, it is often helpful to work with a team and to share findings with others.
c. Much can be learned about plants and animals by observing them closely, but care must be taken to know the needs of living things and how to provide for them.

SKL2. Students will compare the similarities and differences in groups of organisms.

a. Explain the similarities and differences in animals. (color, size, appearance)

ELAKLSV1. The student uses oral and visual skills to communicate. The student:

a. Listens and speaks appropriately with peers and adults.
b. Follows two-part direction.
e. Describes people, places, things, locations, and actions.
f. Increases vocabulary to reflect growing range of interests and knowledge.

MKN1. Students will connect numerals to the quantities they represent:

a. Count a number of objects up to 30.

MKM1. Students will group objects according to common properties such as color, shape, texture or number.

a. Compare and order objects on the basis of length.
d. Compare and order objects on the basis of weight.

First Grade

S1CS1. Students will be aware of the importance of curiosity, honesty, openness, and skepticism in science and will exhibit these traits in their own efforts to understand how the world works.

a. Raise questions about the world around them and be willing to seek answers to some of the questions by making careful observations and measurements and trying to figure things out.

S1CS2. Students will have the computation and estimation skills necessary for analyzing data and following scientific explanations.

a. Use whole numbers in ordering, counting, identifying, measuring, and describing things and experiences.

b. Make quantitative estimates of familiar lengths, weights, and time intervals, and check them by measuring.

S1CS4. Students will use the ideas of system, model, change, and scale in exploring scientific and technological matters.

b. Describe changes in size, weight, color, or movement, and note which of their other qualities remains the same.
c. Compare very different sizes (large/small), ages (parent/baby), speed (slow/fast), and weights (heavy/light) of both manmade and natural things.

S1CS5. Students will communicate scientific ideas and activities clearly.

a. Describe and compare things in terms of number, shape, texture, size, weight, color and motion.

S1L1. Students will investigate the characteristics and basic needs of plants and animals.

b. Identify the basic needs of an animal.
    - Air
    - Water
    - Food
    - Shelter
d. Compare and describe various animals - appearance, motion, growth, basic needs.

ELA1LSV1. The student uses oral and visual skills to communicate. The student:

a. Follows three-part directions
c. Responds appropriately to orally presented questions.
d. Increases vocabulary to reflect growing range of interests and knowledge.

M1M1. Students will compare and/or order the length, weight, or capacity of two or more objects by using direct comparison or a nonstandard unit.

a. Directly compare length, weight and capacity of concrete objects.
b. Estimate and measure using non-standard unit that is smaller than the object being measured.

Second Grade

S2CS1. Students will be aware of the importance of curiosity, honesty, openness, and skepticism in science and will exhibit these traits in their own efforts to understand how the world works.

a. Raise questions about the world around them and be willing to seek answers to some of the questions by making careful observations and measurements and trying to figure things out.

S2CS2. Students will have the computation and estimation skills necessary for analyzing data and following scientific explanations.

a. Use whole numbers in ordering, counting, identifying, measuring, and describing things and experiences.

S2CS4. Students will use the ideas of system, model, change, and scale in exploring scientific and technological matters.

b. Describe changes in size, weight, color, or movement, and note which of their other qualities remains the same.
c. Compare very different sizes (large/small), ages (parent/baby), speed (slow/fast), and weights (heavy/light) of both manmade and natural things.

S2L1. Students will investigate the life cycles of different living organisms.

a. Determine the sequence of the life cycle of common animals in your area: a mammal such as a cat or dog or classroom pet.

ELA2LSV1. The student uses oral and visual strategies to communicate. The student:

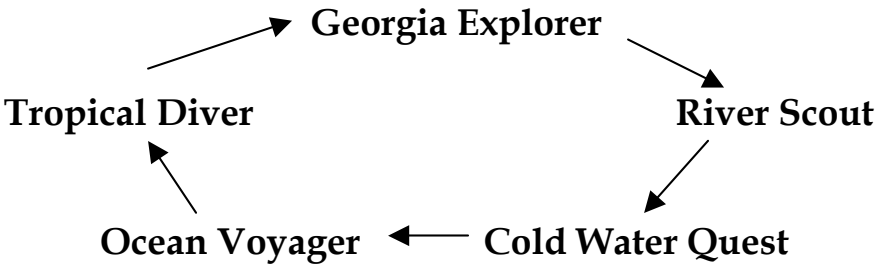
a. Interprets information presented and seeks clarification when needed.
d. Listens to and views variety of media to acquire information.
e. Increases vocabulary to reflect growing range of interests and knowledge.

Overall Format: Each gallery has a few stops at which we recommend you spend a little more time with your students. Each stop is highlighted by an exhibit overview and some guiding questions for the students (and answers for the adults). These questions are meant to help highlight key concepts for your group, whether it be observing an animal's behavior or simply finding some of our favorite animals in the exhibit.

Whenever your group is in front of the larger gallery windows at the aquarium, we ask that students sit cross-legged in a few rows close to the window. If all students sit on their bottoms and not on their knees, everyone in the group is able to see. We recommend rows of about 7 so that no group takes up more than about one third of a window at a time and everyone behind the group can see.

At our touch pools, students will have the opportunity to explore using their senses. For the safety of the animals, please make sure the students are touching softly with two fingers and not grabbing. Some students might not be tall enough to reach all of the animals. Please make sure that you watch your students carefully for their safety as well as that of the animals.

Your groups: While at the aquarium, the smaller the individual group the better. We recommend one chaperone with five to seven students. This allows everyone to see the exhibits and help with traffic in the galleries. We also recommend that not everyone starts at the same gallery. Have the groups start in different galleries and rotate. Here is our recommendation on how to rotate:



Considering that every gallery exits to the main atrium, it is easy to set up an end meeting point for all groups before exiting through the gift shop or eating. **We recommend all the adults pick up a map when you enter the Aquarium to help orient you in the building**.

Rules: Finally, to ensure a great visit, we ask that you share the following rules with your students and chaperones for the safety of our animals and your students.

- No running
- Be respectful of the other guests
- No horseplay, pushing or shoving
- Use indoor voices
- No tapping on the windows – it can be very bothersome to our animals
- **Students and chaperones need to stay together at all times**
- No gum
- Only touch with two fingers

We hope you have an amazing day here at the Georgia Aquarium, the world's most engaging aquarium, and that the tips and tricks listed in this guide are useful in extending your classroom to the watery world. Please be sure to complete our ***Teacher Survey*** located at the end of the guide.

Best Fishes!

The Georgia Aquarium Education Department

Welcome to the Georgia Explorer gallery! Here we will use our senses to discover more about the animals that share our home state with us. Get those two scientific fingers ready to explore and learn more about these animals!

Visit our shrimp boat and see what the fisherman brought in today from the Georgia coast! Students can gently touch native white and brown shrimp. What does it feel like? Could you see all the legs?

Keep those scientific fingers ready, horseshoe crabs and sea stars are next at the Gray's Reef touch pool! Which of them do you think is going to be smooth and which one will be rough? Were you right?

Head over to the Gray's Reef window.
Find the loggerhead sea turtle! Sometimes it likes to swim and sometimes it likes to nap on the rocks.

- Do you think the sea turtle is bigger or smaller than you?
- Do you think you weigh more or less than the sea turtle? *The sea turtle weighs roughly 25 pounds*.
- How does a turtle protect itself? *Its hard shell.*
- What does a turtle breathe? *Air, just like us.*

Look in the exhibit next to the sea turtle, this represents Gray's Reef, a protected habitat off the coast of Georgia. There are a few special animals hiding in here for you to find!

- Can you find the long-spined porcupine fish swimming around?
- Count how many Spiny lobsters are crawling around on the rocks.

Watch the northern right whale movie in the small theatre.

- Why do northern right whales come to the coast of Georgia? *To give birth.*
- What do the whales eat? *Plankton*

Follow the stairs near the theater up to the second floor and slide down the whale slide! Make sure to ***walk*** the whole way there. *Chaperones, we suggest you wait for your students at the bottom of the slide, but feel free to use the slide as well!*

Watch the short video on sea turtles. *(Located close to the bottom of the whale slide in the corner)*

- How are they born? How do sea turtles begin their life cycle? *They hatch out of eggs and crawl to the ocean.*
- Where do they go and hide while they are still small? *In rafts of seaweed in the ocean.*
- What do they eat when they are young? *Jellies.*
- Where do they go to lay their eggs? *On the same beach where they were born on or hatched.*

Rivers and lakes are a huge part of our lives! Wherever you go you will find freshwater habitats all over the world. They are important to us and all the many different animals that live there! Let's go discover just how different all these animals can be!

Meet the African cichlids! *(Pronounced sick-lids)* These animals live in lakes and rivers in Africa and South America. They come in many different colors and sizes.

- Count how many different kinds of cichlids there are in the exhibit based on their colors?
- Besides eating, what do these clever little cichlids also use their mouth for? *They keep their eggs in their mouths to keep them safe.*
- Make your face look like you are holding onto a whole bunch of eggs! Sure would be hard work!

Crawl through the tunnel under the river! This is a North American river that has many different kinds of fish. Look at all the different kinds of mouths these animals have! While in the tunnel, have the students peek through the bubble window and find a fish with a sucker mouth (mouth is round and often sucking on a rock or log). Crawl out of the tunnel and turn to you left to look at the big window. Can you find:

- A fish with a blue/black spot on it gill? *That's a blue gill*.
- A fish with big lips that look like they are frowning? *That's a big mouth buffalo*
-

Come look at the American alligators. Lying perfectly still with their eyes out of the water, alligators will wait patiently for their food while keeping their bodies warm in the sun, but when prey does swim by, watch out!

- How many alligators do you see today? *Varies with day, up to 7.*
- How many turtles can you find swimming around or hiding under the logs? *depends*
- What do the alligators use to swim, their tails or their feet? *Tails*

What are the Asian small clawed otters up to? These little otters play hard and sleep well throughout the day. They are all sisters and originally came from an aquarium in France. They love to work to get their food, open things up, or dig through small openings to reach in with their paws.

- Can you find all of the otters? *Number in exhibit varies day to day but we have 5.*
- What are their bodies covered with to keep them warm? *Fur*
- Do fish have fur? *No, fish have scales*

Welcome to the colder waters of the world! These include the coast of California, southern Africa, and the north and south poles. Brrr! How do these animals stay warm in these cold waters? With their coverings of course! Let's go explore.

Carefully touch the anemones in the touch pool. To reach down, make sure you lie on your bellies on the rocks and be very, very gentle. Please do not touch the center of the anemone because that is its mouth. Feel how cold that water is? It's 55 degrees Fahrenheit; that's how cold all the water is in this gallery.

- How do the anemones feel?

Now turn around and look at the Kelp Forest exhibit behind you, the habitat where these animal live. Do any of the animals look familiar? Find the sea stars sticking to the walls.

- Can you find a small shark hiding amongst the rocks?
- The mascot of the Georgia Aquarium, Deepo, is a garibaldi damselfish. Can you find the garibaldi damselfish?

Come sit by the beluga whales and relax. Listen to the aquarium staff on the microphone; they will be sharing some great information about these amazing animals.

- What keeps beluga whales warm? *Blubber (fat under their skin) keeps them warm.*
- What do whales breathe? *Air* Where do they go to breathe? *At the top of the water.*
- What kind of animals are whales? *Mammals*
- Move your hands together like a whale's tail; can you think of another animal whose tail moves like that? *Dolphins and other whales*
- How does a fish's tail move? *Side to side*
- How is a fish tale different than a mammal tail? *Mammals move their tails up/down, fish move them right/left.*

Welcome to the world ocean! We call it the world ocean because all oceans are part of one large ocean that covers the entire world allowing animals to roam from one area to another. **The adults in the groups should pick up a dive card at the beginning of the gallery to help in identifying the animals.**

Travel through the tunnel.
While you walk through the tunnel, try to find two kinds of sharks and two kinds of rays swimming above you. How are sharks and rays different? *Look at the gills, the mouths, their body shape, and the way that they swim. (for example: rays have gills on the bottom where as sharks have 5 gills slits on the sides)*

Watch for schools of yellow fish with black stripes on their face (porkfish) swimming together around the window. They are waiting for fish to come so they can clean them! How do you think they clean them? *They pick the dirt and small animals off the skin with their little mouths.*

Settle down in front of the big window for a while and find even more animals in the deep end of this 6 million gallon exhibit. Listen to the Georgia Aquarium staff on the microphone; they have a lot of great information to share with you.

- Show with your hands how big you think a whale sharks mouth is. *4ft (if the average kindergarten student stretches their arms all the way out, it will show just over 4ft)*
- Show with your hands how big you think a whale sharks throat is. *The size of a quarter.*
- If their throat is that small, can they eat all of these fish? *No*
- What could whale sharks eat in the ocean that is small enough to fit into their throat? *They eat krill (very small shrimp) and plankton.*
- Find an animal resting on the sand. It's not sleeping; it's just resting or waiting for fish to come clean them!
- Watch the small fish swim around this huge habitat. What do the smaller fish do to feel safe in such a large ocean? *They swim together.*
- What is a group of fish called? *A school.*
- How do fish breathe? *They use their gills.* Have the students see if they can see the gills in action on one of the grouper (the very large grey fish by the window)
- Now take a look at the sharks. How do they breathe? *They use gills too, but instead of one gill on each side, they have 5 gill slits on each side.* Have the students see if they can see the gills on a shark and how they are different.
- Now look at the stingrays. Where are their gills? *On the bottom.*

  Take a second look at those sting ray gills – is there just one on each side or 5. Who do you think stingrays are related to? *Sharks*

Welcome to the peaceful waters of the warm tropical ocean that surround the equator. Here we will find the wildest colors you will see all day. These animals are very good at being seen when they want to be and hiding when they don't. Let's see what we can find!

Patiently peek into the first coral reef. The garden eels that live in the sand will be peeking out at the water around them. Now look for animals that hide around the coral.

- Show with your hands how long you think the garden eels are. *16in.*
- Why are they all facing the same way? What are they looking out for? *Food comes to them in the current in the water.*

Jellies! Feel free to take a seat in front of the large jelly exhibit and watch them float through the water. Jellies don't always pulse while they are in the water; sometimes they take a break and just float a while.

- How do jellies catch their food? *With their long stringy tentacles.*
- Do you think they want to eat big things or small things? *Small.*
- Look in the water and see if you can find what looks like dust; that's the plankton that jellies eat! When they sting it, it gets stuck to them, and they slowly move the food up into their stomach which is located in the bell or dome part of their body.

Have a seat in front of the large coral reef window. This is our living coral reef habitat. Coral reefs can be found around the world. Animals, including corals, that live here require warm, clear water to survive. Coral reefs are very special habitats where different types of fish find their shelter.

- What is a habitat? *A home where an animal lives and is able to find its food, shelter, air and water.*
- Ask the students if they notice anything different about these fish than any other fish they may have already seen? *They are all brightly colored, smaller.*
- Why do you think they are brightly colored? *For camouflage as the reef is a brightly colored habitat.*
- Play "I-spy" – encourage the students to point silently once they find the fish instead of shouting.
    - A small shark swimming above your heads: it's a Blacktip reef shark!
    - A big black and white fish with big yellow lips: it's a sweetlips!
    - A gray fish with a horn on its head: it's a unicornfish!
    - A yellow fish kissing the reef (they are actually eating algae!): it's a Yellow tang
    - A school of large fish that look like dinner plates: they are Long-finned batfish!
    - A pink fish with an purple square on its side: it's a boy Square spot anthias
    - A fish most people call "Dory": it's a Palette surgeonfish!

Beautiful Basics (Pre-visit activity)

Adapted from the Project Wild K-12 Curriculum & Activity Guide.

Grades: K-2

Objectives: Students will identify the four basic needs of people and animals.

Duration: 20 minutes

Vocabulary: basic needs, wildlife, shelter

Background:

All living things have basic needs for their survival. Animals, including people, need food, water, shelter and air to survive. Animals must be able to obtain these needs in their environment to survive.

Materials

Whiteboard
Dry erase markers

Procedure:

1. Draw a three-column chart on a whiteboard with the headings People, Pets, and Wildlife.
2. Ask the students, "What do people need to live or survive?"
3. List the student's ideas in a column under the word "People".
4. Complete the same for pets and wildlife.
5. After the chart is complete, tell the students that all living things have certain basic needs that they must have to survive. Go through each basic need (shelter, food, air, and water) and make sure it's been covered by items on each list.
6. Ask the students to look at their lists on the whiteboard. Are there words in each column that describe the same basic need, i.e. food? Shelter? Air? Water? Read through the lists on the board showing the students that the basic need is needed by each group.
    a. For example, a place to sleep could be combined with a place to hide under the concept of shelter.
7. Create a new chart with the students that illustrates the four basic needs using in the information from the first chart.
8. Reinforce to the students that all living things have four basic needs.

Assessment:

1. Have the students list at least four things animals need for survival.
2. How do humans meet their needs differently from animal needs?
   Examples: Humans get water from the sink; penguins get their water from their food. Humans get their oxygen from air; fish get their oxygen from water)

Extensions:

Display a variety of photos or drawings of humans, domesticated animals, and wild animals in their habitats. Show the first photo, for example, of a beach. Ask the students, if they were going to live on this beach what would they as humans need? Then ask the same for pets and wildlife. Compare the results.

Resources:

Project Wild: K-12 Curriculum & Activity Guide. Council for Environmental Education. 2001.

Fishin' Mission (Pre-visit activity)

Adapted from Dolphin Quest "Fin-tastic Fishing Fun".

Grades: K-2

Objectives: Students will group animals by comparing and contrasting physical characteristics.

Duration: 45-60 minutes

Vocabulary: air-breather, non air-breather, animal coverings, reptile, mammal, fish, bird.

Background:

There are many characteristics that make animals different from each other such as appearance and habitat. Comparing and contrasting animal characteristics can provide insight to their lifestyle. For example, animals living in cold climates must have fur, feathers, or blubber to keep them warm while warm water animals will not have these types of coverings. Another great way to compare and contrast animals is to classify them by reptiles, fish, and mammals. By doing this it is easy to see similarities within the groups and how the animals differ.

Materials:

Animal pictures (obtain pictures of 2-3 different animals that look very different from each other. We suggest a picture of a dog, snake and bird.)
Fishing cards (one sheet per student)
Kiddie pool or open classroom space
Magnet Strips
Brass Fasteners (found at office supply stores)
String
Glue
Popsicle Sticks
Safety Scissors
Plastic bags (one per student to take home their magnets)

Procedure:

1. Introduce the concept that not all animals are the same and we can learn a lot by examining what makes them different
2. Use the animal pictures to facilitate this discussion.
3. Have the children identify the similarities and differences between the dog, snake and bird. Differences may include animal shape, number of legs, animal coverings, etc. Similarities may include colors (if applicable) or habitat (depending on what picture you choose)

4. To apply the knowledge gained about comparing and contrasting animals the children will play a game.
5. Make enough copies of the fishing cards for each student to have their own sheet.
6. Have the students color and cut out their animal cards and attach a brass fastener to each card.
7. Have students glue a piece of string to their popsicle stick. On the other end of the string the children should attach a magnet by tying the string around the magnet or using glue (If using glue let it dry before moving on to the next step.)
8. Have the children scatter their fishing cards in a kiddie pool or on the floor.
9. Instruct them to go fishing and catch as many animals as they can in the 30 second time limit.
10. Students will sort their catch based on the following criteria:
    a. Air breathers vs. non-air breathers
    b. Type of animal's covering (including fur, feathers, scales)
    c. Whether the animal is a reptile, mammal, fish or bird
11. Review with the students why it is effective to use these characteristics as a way to compare and contrast animals.

Extension:

Repeat the above activity using magnetic alphabet letters. Once a letter is caught have the class name as many animals that start with that letter as they can, write them up on the board, and then group them following the same criteria as listed above. Have students come up with additional criteria to sort animals.

Assessment:

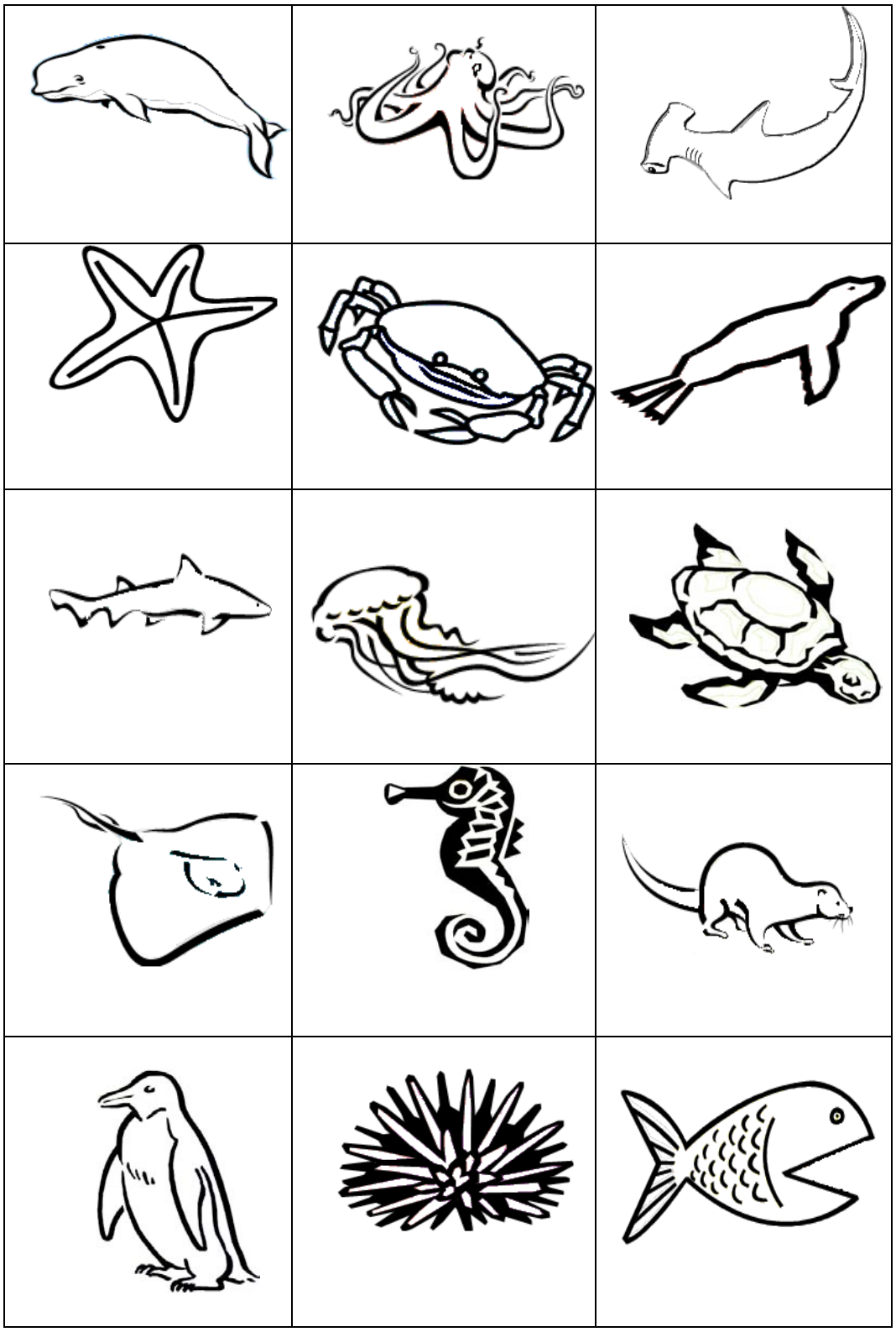
Have the students group pictures of various animals using the criteria listed above.

Resources:

Animal Bytes. 26 Sep. 2007. Sea World. 26 Sep. 2007 http://www.seaworld.org/animal-info/Animal-Bytes/index.htm.

Learning Quest. 2007. Dolphin Quest. 26 Sep. 2007. http://dolphinquest.org/learningquest/index.php?aID=3.

Wade, Laura. Sea and Sea Life, Knowledge Master Series. London: Chrysalis Children's Books.2004



Create a Critter (Post-visit activity)

Grades: K-2

Objective: Students will create an animal and include features that will help the animal meet its basic needs.

Duration: 30-45 minutes

Vocabulary: basic needs, features

Background

All animals have unique features that define who and what they are. For example fish have gills; mammals have lungs. Even though animals may share a common feature, individual species may have different adaptations of the same feature (i.e. fish have gills under their operculum, sharks have 5-7 gill slits) to allow it to best meet their basic needs: shelter, water, air, and food.
For example:
1. Beluga whale- blowhole to breathe, flippers to swim, white skin to blend/hide in its surroundings, mouth, and eyes. Their home would include cold water/icebergs. Their food would be fish.
2. Fish- Gills to breathe (use oxygen), fins to swim, scales to blend/hide in its surroundings, mouth, and eyes. Their home could be the open ocean, coral reef, or freshwater (river/lake). Their food could be plants or smaller animals.

Materials

Piece of construction paper (one per student)
Crayons, markers, colored pencils
Photocopy of three different habitats (for extension)

Procedure

1. Review with students the animals that they saw at the aquarium.
2. Review some of the features they observed while visiting.
3. Tell the students that they will be creating their own aquatic animals.
4. Tell students that their animal needs to include:
    a. Gills, blowhole, or nose (to breathe)
    b. Skin, fur, or feathers for mammals; scales for fish (animal coverings to hide/blend into its home)
    c. Fins or flippers (to move)
    d. Eyes (to see)
    e. Mouth (to eat)

5. Ask students to begin brainstorming what they want their animal to look like.
6. Hand out paper and crayons.
7. Students will draw a picture of their animal.
8. Explain that different animals with different features (characteristics) meet their basic needs differently (i.e. large animals live in large spaces; small animals live in small spaces). State that all animals have basic needs and that they must be met in order for that animal to survive.
9. Basic needs for survival include shelter, water, air, and food.
10. Once their animal is created, ask students to add the following to their drawing:
    a. Home for the animal
    b. Food for the animal (fish/plants)
    c. Water

Assessment:

Have each student display their picture to the class and describe out loud how their animal meets their basic needs (shelter, water, air, and food).

Extension:

Display photocopies of aquatic habitats. Reflecting on their own animals, students will be asked in which habitat they'd survive and why.

Resources:

Fish. Eyewitness Guides. DK Publishing, 2005.
ISBN 9780756610746

Pond & River. Eyewitness Guides. DK Publishing, 2005
ISBN 9780756610852

Whale. Eyewitness Guides. DK Publishing, 2004
ISBN 9780756607395

Sea Life Survivor (Post-visit activity)

Adapted from G8 Sea Island Summit 2004.

Grades: K-2

Objectives: Students will identify the four basic needs of an animal and visually interpret it.

Duration: 30-45 minutes

Vocabulary: basic needs, shelter, survival

Background:

All living things have basic needs for their survival. Every animal meets these needs differently. Much can be learned by identifying the basic needs of an animal and how they are obtained. For example, while all animals need oxygen from some source it is obtained differently. Sharks use their gills to breathe from the water while mammals use their blowhole to breathe air.

Materials

Ocean resources (visit school or local library or use the internet).
Sea Life Survivor worksheet.
Crayons, markers, colored pencils.

Procedure:

1. Review the basic needs of animals (shelter, food, water, air) and how these needs affect an animal's survival.
2. Have students research a sea animal of their choice using the "Sea Life Survivor worksheet to answer the following questions.
    a. Where the animal lives
    b. What the animal eats and why the animal needs water (swim/drink/breathe)
    c. How does the animal get oxygen (gills extract oxygen; blowhole, or nose gets oxygen from air)
3. Instruct the students to first draw the animal of their choice in the appropriate box.
4. Instruct the students to draw or write how their animal meets their basic needs in the appropriate boxes.

Assessment:

Have students present their drawings to the rest of class explaining what the basic needs of their animals are.

Extensions:

2nd grade extension: Have students research the life cycle of their animal and draw or write them on the bottom or the back of their Sea Life Survivor worksheet.

Resources:

Diane Snowball, Cynthia A. Belcher (Illustrator), Cynthia A. Belcher (Illustrator), Miriam Katin (Illustrator) Exploring Freshwater Habitats. Mondo Publishing, 1994.

John Bonnett Wexo Aquatic Animals 8 Book Set (Zoobooks Series). Wildlife Education, Limited, 2002.

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I'm a Sea Life Survivor!

Choose any sea animal and find out about how it meets its basic needs.
Fill in the boxes below by either writing or drawing.

Where does it live?

What does it eat?

Draw the animal here.

How does it breathe?

How does it use water?