



Coral Reefs and Beyond Pre-Visit Information

Thank you for scheduling the *"Coral Reefs and Beyond"* program! This program is approximately 45 minutes. I will guide your students through the fascinating underwater world of our oceans with an emphasis on coral reefs.

Title: Coral Reefs and Beyond

Focus: Ocean creatures

Target Audience: Grades: K-3

Focus Question: In what ways can we study the ocean and why is studying the ocean important?

Learning Objectives:

- Oceans are vast, unexplored areas on our own planet and there are many challenges associated with exploring and existing in ocean environments
- Wide ranging adaptations are necessary for survival in various ocean zones
- Coral reefs are the rainforests of the seas brimming with living creatures all dependent on tiny coral polyps for their habitat and survival
- The coral reef is a balanced system where all things have their special place and function and all the plants and animals of the reef depend on each other for one reason or another
- Coral reefs are important to all of us even if we don't live near one

Background Information:

Students will explore the adaptations, symbiotic relationships and habitats of this diverse environment through hands-on exhibits, experiments, live specimens (hermit crabs), and a multi-media presentation.

You can "set the stage" for my visit by:

- introducing your students to the different oceans of the world
- discussing the vast amount of creatures the oceans hold

I will arrive at least **15 minutes prior** to the scheduled time in order to prepare for the presentation.

Please provide:

- a **large table** for the display of specimens while I am in each class room
- a **movie screen, a blank wall**, or white dry erase board will also do – I need it to show the power point slides on

School Staff supervision is required during the program. Please confirm my visit with the school office and any other faculty involved.

Standards and Curriculum:

IOWA STANDARDS: 3-LS1-1, LS2-1, LS3-2, LS4-3

ILLINOIS STANDARDS: 12.A.2a, 12.B.2a, 12.B.2b

Further Activities for your Classroom:

Make a Model Coral Reef the Edible Way

Materials: different kinds of cereal, licorice, carrots, marshmallows, fruit rollups, graham crackers, icing, etc.

Directions: Have students look at images of coral reef. Then gather in small groups and have students construct their model reefs. Be sure to guide them in discussions of the principals of natural communities. Remember that the reef is a shelter for animals of all kinds. While fish gather around the tops of the coral reef, animals such as anemones, lobsters, crabs, octopuses and giant clams may hide and take shelter underneath overhangs and in nooks and crannies. Have students solve the problems of "Who belongs where doing what?" Have them report on their conclusions as to how coral-reef communities are organized.

Starfish Art

Materials: cardstock, scissors, glue, crayon, birdseed or oatmeal, Cheerios

Directions:

- 1) Teach students how to make a five sided star. Have them draw the star on cardstock.
- 2) Have students flip the star over and write their name on the blank side.
- 3) Students should cut out the star.
- 4) Have teachers or assistants punch a hole in the top of the star and tie on a string.
- 5) Put glue on the name side of the star.

- 6) Add birdseed or oatmeal for texture.
- 7) Glue Cheerios onto the back side of the star. These are the suckers on their tube feet.
- 8) Set on table to dry.

Create a Motion Ocean

HOW DOES IT WORK?

Water is denser than oil. Plus, the two liquids never mix. So when the water moves, it pushes the oil around, making shapes like waves.

YOU WILL NEED

- Clear jar with lid
- Water
- Blue food coloring
- Glitter
- Baby oil
- Plastic floating toys

1. Fill the jar halfway with water.
2. Add drops of food coloring until you like the color you see. Shake in a little glitter.
3. Pour in baby oil until the jar is three-quarters full.
4. Place a floating toy on top of the oil, then screw on the lid tightly.
5. Shake the jar gently to set your ocean in motion.

Text by NG Kids staff

More Information:

A fun interview with oceanographer Dr. Sylvia Earle.

<http://kids.nationalgeographic.com/kids/stories/peopleplaces/sylvia-earle/>

An article on cleaner crabs. There are also lots of amazing photos on the right side-bar.

<http://kids.nationalgeographic.com/stories/animalsnature/crabs-clean-up/>

An awesome video of Cuttlefish and their camouflage.

<http://www.sciencefriday.com/video/08/05/2011/where-s-the-octopus.html>