Building a Coral Reef

Learning Level
Pre-K to First Grade

Duration
Part 1: ~ 15 minutes
Part 2: ~ 30 minutes
Part 3: ~ 30 minutes

This lesson encourages learners to create models of the various aspects of a coral reef for display. The completed project will mimic the sensation of swimming through a reef.

Objectives
Learners will understand:
• That there are living and non-living aspects of a coral reef ecosystem

Learners will be able to:
• Identify the organisms in a coral reef habitat.
• Identify features of living things
• Discuss interactions between living and non-living things in a coral reef

Materials
Part 1: Coral Craft
• Paper Towel, Coffee filters, or tissue paper
• Something to hold the paper up [pipe cleaners are best – can also use a pencil, pen, wooden clip, etc.]
• Toothpicks or scissors
• Tape
• Optional: Markers, food coloring and large bowl (about 1 inch of water), Wax Paper

Part 2: Anemone Craft
• Toilet Paper Rolls
• Tissue Paper
• Scissors
• Glue
• Optional: Glitter/confetti/decorations

Part 3:
• Construction Paper or paper and coloring
• Coloring pencils/markers/crayons
• Fish Outline – or draw your own!
• Scissors

Vocabulary:
• Habitat
• Biodiversity
• Coral
• Photosynthesize
• Algae
• Polyp
• Anemone
• Tentacles
• Mouth
• Hard Base (skeleton)
• Pedal Disk
Building a Coral Reef

Background Information

Coral reefs are one of the most diverse habitats in the ocean. The coral provide habitat for numerous life forms. About a quarter of ocean species use reefs in some way (either food, shelter or a nursery ground), yet they take up only two percent of the ocean floor. Many refer to coral reefs as the rainforests of the sea.

With so many organisms calling reefs home, the biodiversity is abundant. Biodiversity refers to all the different living organisms within a given area. Even the coral providing this diverse habitat is living and part of the diversity.

Procedure

- Prior to beginning the art portion of this activity, have everyone observe a picture of the various animals you are constructing. Pictures are provided at the end of this document.
- Make vocabulary labels for the different parts of each animal on index cards, or paper.
- Make your reef (the art part!)
- Once you complete your reef, use the vocabulary cards to work in pairs or teams to label the different parts of the reef animals.

Part 1: The Coral

Coral can look like a big rock, but is actually made up of lots of smaller parts that work together to make one big community. Each small animal is called a polyp. Each polyp contains an algae that gives coral its beautiful color and can photosynthesize to produce food for the coral from the energy of the sun. Let’s make a colorful coral!

1. When you’re ready to assemble the corals, cut a hole in the center of the paper towel/coffee filters with a toothpick or some scissors.

![Image of cutting hole in paper towel]

2. Hand out several paper towels/filters to each person. Have each person color their paper towel/coffee filters.
Building a Coral Reef

3. Hand out one pipe cleaner/pen/pencil and instruct everyone to string some coffee filters/paper towels on a pipe cleaner/pen. Loop one end of the pipe cleaner so the filters do not fall off, or tape the paper towels in place.

4. As you place each filter, give them a squeeze so they end up being cone-shaped.

5. Assemble all of the polyps you designed together to create your coral animal.

6. Optional for extra fancy coral: Color your paper towel or coffee filters. You can either color them with markers or with food coloring. For food coloring: place desired food coloring in various bowls of water and mix until well combined. Dip a small stack of coffee filters (curly side down), tissue paper, or paper towels into the bowls. Remove coffee filters when color almost reaches top and place on wax paper and lay out to dry overnight.
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Part 2: Sea Anemone

Anemones catch food with stinging **tentacles** and bring the food to their **mouth**, which is in the middle of their body. They are an animal, even though they look more like a plant! While anemones typically live attached to something, they can move by sliding their **pedal disc**, kind of like an extra-slow snail foot.

1. Give each person a toilet paper roll and a piece of tissue paper/paper towel. If using a paper towel, be sure you cut it in half.

2. Decorate half of the tissue paper (the half that will not be attached to the toilet paper roll). Optional: use glitter or other decorations. Allow a few minutes to dry.
Building a Coral Reef

4. Cut stripes on the decorated half (these will represent the tentacles).

5. Glue one edge of the tissue paper/paper towel to the toilet paper roll (you should have extra hanging off the top).

6. Roll the tissue paper up until the end and glue to the toilet paper roll. Squeeze the “tentacles” down against the tube.

7. Add your anemones to the coral reef, or place them in a different section.
Building a Coral Reef

Part 3: Fish

1. Cut out fish template on paper or construction paper.
2. Color the fish. You can give them patterns too!
3. Hang fish up in the coral reef.
4. Using the vocabulary index cards, label the different parts of all animals in the coral reef.

Discussion Questions

• How do these animals live in the coral reef?
• Do all of the animals move on the reef? Which ones move? How do they move?
• What part of the reef is living? Are there any non-living parts? How do we tell the living from non-living?
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CLOWN FISH

BUTTERFLY FISH
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Living Parts

- Fish
- Coral
- Anemones

Non-Living Parts

- Water
- Sunshine