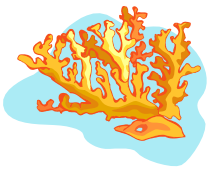


EGG CARTON CORAL

Egg cartons can be used to construct models of coral colonies showing many aspects of the coral's natural history – including the structure of coral polyps and the coral colony's colonial life style.

Materials: Egg cartons, paper, tape, scissors, markers (especially green)

To make the model:

1. Begin by cutting the top half and the closing flap off an egg carton, leaving just the section with the twelve egg cups. Place this upside down on a table and punch a hole in the bottom of each egg cup with scissors. To shorten the activity, cut the egg cup tray into thirds, giving each student a section of 4 egg cups rather than all twelve.

2. Cut a sheet of paper into three strips horizontally. Each strip will become a coral polyp. Roll each strip into a tube about the diameter of your finger. Tape the tube to keep it from unrolling and tape the bottom of the tube shut.

3. To make the tentacles of the polyp, make several cuts from the top of the tube, ¾ of the way to the bottom of the tube. Get the tentacles to bend/curl by running each fringe over the blade of a scissor or a metal ruler.

4. Insert one polyp tube in each egg cup, pulling it partway through the hole. Tentacles should be on the top of the egg carton.

5. Using markers you can add small dots on the polyp to symbolize the zooxanthellae. Although they all have chlorophyll, like other plants, zooxanthellae can have a variety of other pigments giving them different overall colors. It is the zooxanthellae that give reef building corals their color; the calcium carbonate skeleton is white, and the coral polyp itself is largely colorless.

Using the models:

You can talk about many aspects of coral as you construct the models with students. Some important concepts include:

- A reef is built by the skeletons of thousands/millions of individual polyps. Although each polyp is a separate animal, the polyps are linked in a colony. The shape of the egg carton suggests the channels that link neighboring polyps. Polyps in the colony share food.
- Corals get food in two ways. Small zooplankton are captured by stinging cells on the tentacles. They are then brought into the polyp where they are digested. You can simulate this with the model. The simple digestive cavity of the polyp is basically a hollow cavity, with one open end (surrounded by the tentacles). Coral also get food from their symbiotic algae, the zooxanthellae, which live in their tissue.
- During daylight hours, coral polyps pull back as far as possible into their skeleton. Living tissue always covers the entire coral colony. During the night the tentacles extend to feed. You can show this by pulling the tube back.

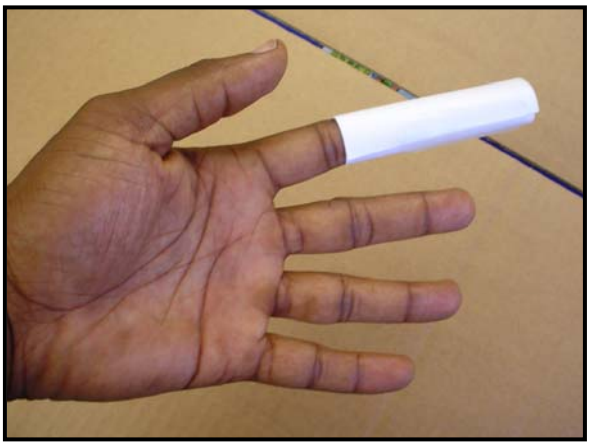
Extensions:

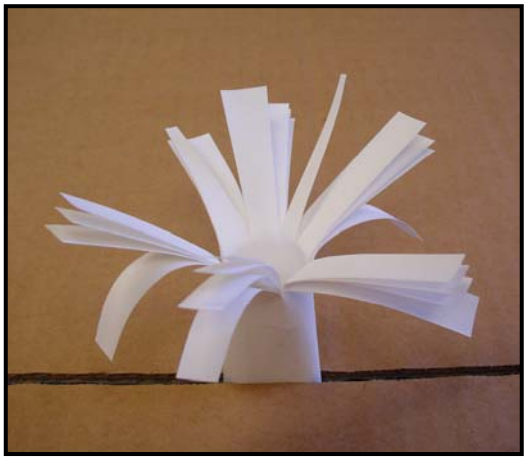
- The egg carton corals can be arched and taped together to show a larger reef.

EGG CARTON CORAL

Trim the egg carton and poke holes into the bottoms of the egg cups.

Roll the paper into a tube (about the width of a finger) and tape it on the side and bottom.





Make several cuts ¾ of the way down the side of the tube and bend/curl paper tentacles back.

Dot the tentacles with marker to represent zooxanthellae and place polyp in carton.