Source: **Coral Forest Teacher's Guide**. Coral Forest, 400 Montgomery Street, Suite 1040, San Francisco, California 94104 Tel: (415)788-REEF Fax: (415)398-0385 e-mail: coral@igc.apc.org Used with permission.

42. CORAL REEF ZONES COLOR PAGE AND 3-D MURAL

Objective: The students will be able to identify the following coral reef zones:

a) Lagoon:
   - Beach
   - Mangroves
   - Patch Reef
   - Seagrass

b) Reef Crest

c) Reef Face:
   - Upper Zone
   - Lower Zone

They will also be able to name at least one life form found in each zone.

Interdisciplinary Index: Science, Language Arts

Vocabulary: coral reef zones, lagoon, reef crest, reef face, mangroves, beach, seagrass, patch reef, coral reef plants and animals

Materials:

For the Color Page:

Coral Reef Zones handout for each student
crayons, colored pencils, and/or markers

For the 3-D Mural:

overhead projector
transparency of **Coral Reef Zones** handout
scissors
glue
tempera and watercolor paints
paint brushes
butcher paper (all colors)
construction paper, tissue paper (optional)

Presentation:

For the Coral Reef Zones Color Page:

1. Pass out a copy of the **Coral Reef Zones** to each student.
2. Provide each student with markers, crayons, or colored pencils.
3. Explain to the students that there are many parts to the coral reef, and that all of these parts are interconnected. We call the different parts "reef zones" (areas where different plants and animals live). Direct the student's attention to each reef zone and have him/her add animals and plants and color in each zone as you discuss it.
   a) The seaward facing slope of the reef is called the reef face. This is where life on the reef is most abundant. It is home to corals, fishes, sharks, turtles, and many other creatures.
   b) The reef crest is the highest and shallowest part of the reef. At low tide, shallow pools of water form among the coral and are home to nudibranchs, marine snails, crabs, sea stars, worms and small fishes.

c) The lagoon is the protected body of shallow water between the beach and the reef. Many coral reef plants and animals live here on patch reefs and among the seagrass, like fish, lobsters, sea turtles, and small sharks. The seagrass serves as a nursery for young fish.
d) Mangroves grow in the area where the land meets the sea. Mangrove roots grow in the saltwater and serve as an important habitat for many marine animals.
e) Beaches are often formed from the breakdown of coral skeletons. Animals, such as sea turtles and certain birds, use the beaches to lay their eggs and build nests.
f) Tropical rainforests often border the beaches. These rainforests are the home of thousands of plants and animals, such as parrots, monkeys, fruit bats, and snakes. Protecting the tropical rainforests also helps to protect the coral reefs. When rainforests are cut down, the sediment that was once held down by the plants and tree roots washes into the water and out to the reefs where it smothers and kills the coral.
g) Have students draw a picture of their favorite coral reef creature in the box.

For the 3-D Coral Reef Zones Mural:

1. Make a transparency of the **Coral Reef Zones** handout.
2. Use an overhead projector to project the transparency onto white butcher paper (3 feet by 6 feet). Trace the **Coral Reef Zones** handout onto the paper, deleting the box and words. (If you do not have an overhead projector, lightly trace the **Coral Reef Zones** handout onto the paper.)
3. Let the students work in groups of 6-8. This works well as a learning center activity. You will be creating three or four murals, depending upon the number of students in your class.
4. Have students use watercolors to paint in the water and sky.
5. Let other students use tempera to paint in the corals and other creatures on the sea floor.
6. Using brown butcher paper (or white paper painted brown), twist the paper into long strips that the students can form into mangrove roots and branches. Glue these onto the mural.
7. Have students design a coral reef creature of their choice on construction paper. Color the creature. Place the colored sheet on top of a plain sheet of construction paper and cut both sheets out together into the shape of the creature. Have students glue the outlines of the creatures together, leaving an opening to stuff in newspaper. Stuff in the newspaper and completely glue the two sheets together. The finished creature should look 3-D, sort of like a pillow.
8. Let students put their finished creatures in the appropriate reef zones. (**Suggestion:** You might want to assign different creatures to each student corresponding to different parts of the reef zone. For example, some students might make only young reef fishes that live among the mangrove roots. Other students might make fish that feed on corals. Other students may create worms and sea stars that live on the reef crest, etc.)
9. Discuss the different reef zones and the interdependence of life in these zones.

Follow-Up/Extension:

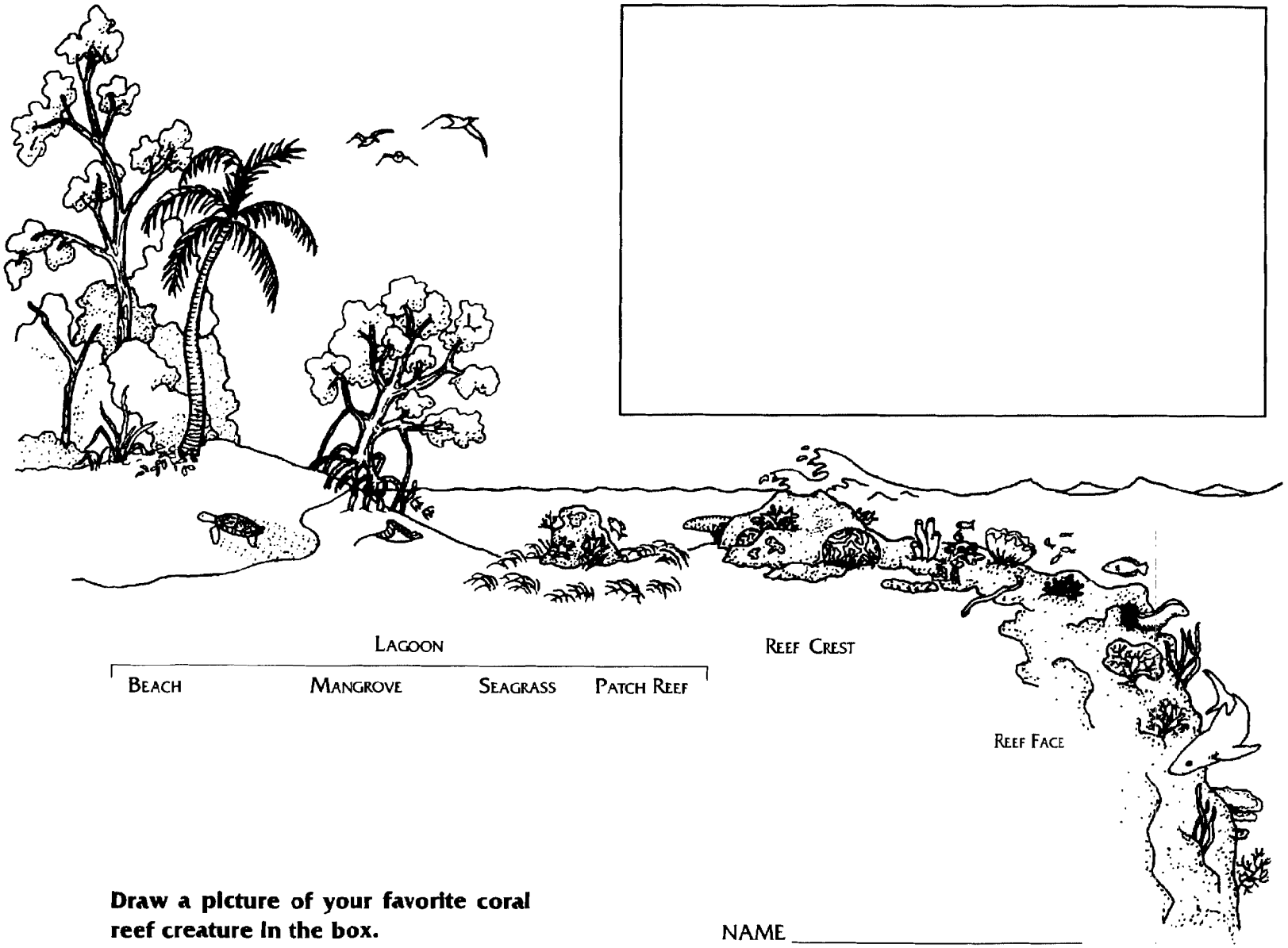
1. Have students do reports on their creatures.
2. Have students look up more information on each of the coral reef zones and report to the class.

Correlation to National Standards from McREL (http://www.mcrel.org) :

Life Sciences

6. Understands relationships among organisms and their physical environment

CORAL REEF ZONES



Draw a picture of your favorite coral reef creature in the box.

NAME _____