

# Coral Reef Habitat Diorama

At first glance, you may think that coral reefs are made up of rocks, but they are actually live organisms. These organisms are tiny little animals called polyps. Polyps live on the outside of the reef. As polyps die, they become hard and new polyps grow on top of them causing the reef to grow. Since polyps need to eat to stay alive, you can think of the coral reef as eating, too. They eat small animals called plankton as well as algae. The algae get their food from the sun by using photosynthesis. This is why coral reefs form close to the surface of the water and in clear water where the sun can feed the algae.

Besides being beautiful and an important part of planet Earth, coral reefs have a positive impact on many people throughout the world. This includes food from fishing, protection of coastlines from erosion, and even medical discoveries such as medicines. Coral reefs need warm, shallow water to form. They form close to the equator near coastlines and around islands throughout the world. A significant portion of the world's coral reefs are located in Southeast Asia and near Australia.

## QUESTIONS

- How are coral reefs made?
- Where would you expect to find a coral reef?
- How do humans damage coral reefs?

## PROCEDURE

- 1) Find a large shoebox. Remove the lid. If using a box other than a shoebox, cut out the box's front panel. Use tape or glue gun to fix any open flaps in place.
- 2) Paint the inside of the box blue. Use a water-based paint like tempera or poster paint. Painting the outside of the box is optional. Use acrylic paint if your box has a glossy finish.

## MATERIALS

- Shoebox or similar-sized box
- Cardstock or construction paper
- Crayons or colored pencils
- Blue tempera, poster paint, or acrylic paint
- White glue
- Scissors
- Paint brush
- Pencil
- Sand
- Rocks or paper bowl/egg carton
- Seashells (optional)

## Safety Instructions

Ensure safe use of the scissors while cutting out the shapes.



- 3) Draw different kinds of sea animals, including corals and bottom dwellers (e.g. starfish, crabs, clams, etc.) on white construction paper. You can also find animals from old magazines or print out animal pictures. Here are animal shapes that you can print out:

### Sea animals

<https://www.firstpalette.com/printable/sea-animals.html>

### Corals

<https://www.firstpalette.com/printable/corals.html>

### Fish shapes

<https://www.firstpalette.com/printable/fish-shapes.html>

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4) A box positioned standing up emphasizes depth, giving you more space to include a variety of creatures that live in different ocean zones or depths. Glue some animals and corals onto the background. You can also paint the details, if you like.

*Note: A vertical box orientation is just a general guide. You can always change it depending on which part of a coral reef habitat you are focused on. For instance, if you are highlighting the bottom dwellers, a horizontal position is probably better.*

5) Make side, bottom, or center tabs for your sea creatures. These will allow the animals to be attached to box walls and floor. There are a number of ways to make the tabs:

- a) L-shaped tabs - make an L-shaped paper tab and glue this at the back of the animal. Position the tab at the bottom edge of the animal to make a bottom tab or at the sides for a side tab.
- b) Draw the tabs - draw a side or bottom tab before cutting out the paper sea animal in Step 3.
- c) Center tabs - fold a short strip of paper on both ends to create a center tab. This tab allows you to attach a paper animal to the background.

6) As an option, you can add real rocks or other objects that can break the flatness of your diorama's ocean floor and provide ledges for the animals to rest on. Besides real rocks, you can make fake ones out of small paper bowls (cut into quarters), egg carton sections, or small boxes. Paint them, if you like. Glue them on with white glue or a glue gun.

7) **Position the animals:**

On top of rocks - animals without tabs can be glued on top of rocks.

On the ground - place the creatures with bottom tabs on the diorama's floor. Glue the tabs in place.

On walls - these swimming fishes have side tabs for gluing onto the sides walls. Fishes with center tabs can be glued onto the back wall. Another option for creating swimming animals is to hang them from the box's ceiling with strings.

Among corals - place a fish hiding among corals by creating a slit on the bottom edge of the fish and on the top edge of a coral. Interlock the slits to position the fish in place.

8) Once all the animals are in place, apply glue on the entire bottom surface of the box. Spoon on some sand over the glue to create a sandy ocean bottom. Position the paper starfish on the sand. Add real seashells if you have some.