

# Create a Coral Polyp



## Objective

Students will explore the structure, colonial lifestyle, and feeding strategy of a reef-building coral.

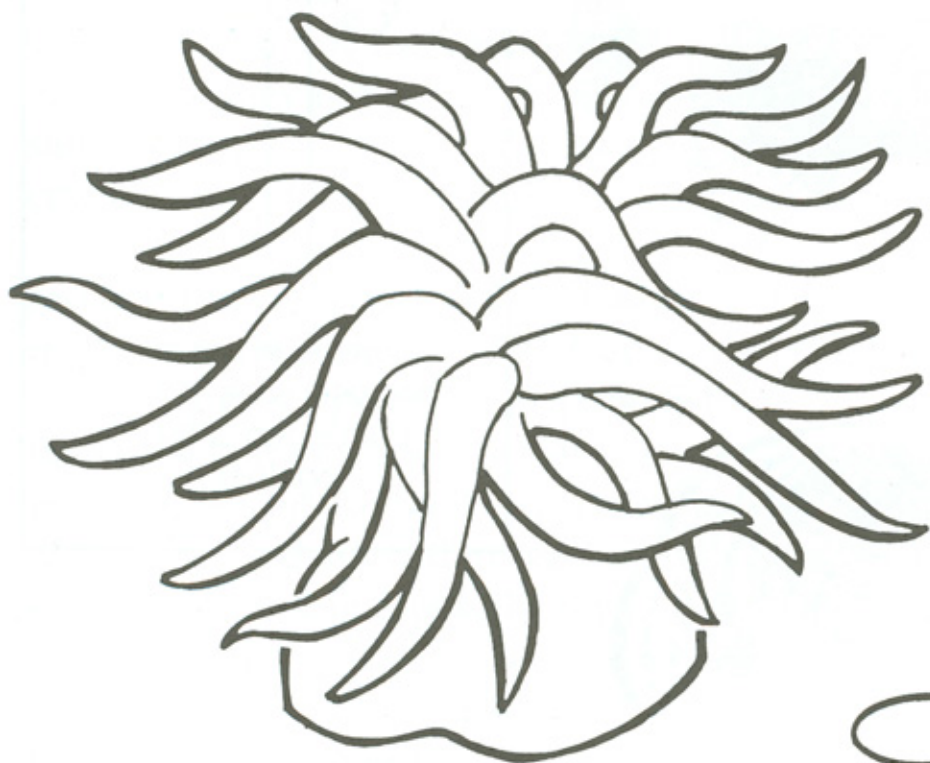
## Materials

- modeling clay
- paper cups-one per student
- one copy of the drawings at the bottom of this page (optional)
- popsicle sticks (optional)

## Action

1. To help your students visualize what they'll be creating, use the drawings on page 2 as a guide and draw each part of the coral polyp as you describe it. Cut out the coral polyp drawings of the base, mouth, and tentacles, and post them at the appropriate time. Keep the sea anemone drawing in one piece, but set it aside until later in the lesson.
2. Give each student a ball of clay. Instruct them to divide it into two balls (approximately 2/3 and 1/3 pieces.) Explain that they'll be building a coral polyp as you describe it
3. Have students use the larger ball of clay to make the polyp's base, a thick column that is wider at the bottom than at the top. Describe the base as a tubular, saclike structure that houses the stomach cavity and the nervous system. In most corals, the base is attached to a hard substrate (a rock, for example) and remains there for life.
4. Direct students to make the polyp's mouth--a rounded opening in the middle of the top of the base. Explain that the polyp's mouth not only takes food into the body, it's also where wastes are excreted.
5. Have students pinch pieces off the smaller ball of clay and roll them to make the coral polyp's tentacles. Share with them that reef-building corals, also called stony corals, have tentacles in multiples of six. Soft corals have eight tentacles. Invite students to give their polyp six, twelve, or eighteen tentacles. Remind them to try to save a little bit of clay.
6. While students are adding tentacles, explain that coral polyps come in a range of colors such as white, red, orange, yellow, green, blue, and purple. A type of algae called zooxanthellae that lives in the tissues of reef-building corals gives the polyp a green, brown, or orange color.
7. Draw or post a picture of a sea anemone on the board. Invite students to help you identify the similarities and differences between the two animals (body shape, tentacles, mouth.)
8. Have every five students join their polyps together to make a colony. Explain that this is how reef-building corals grow. When the polyps on the outer layer of a coral structure die, their skeletons remain. The next generation attaches to this hard surface. Coral reefs are a result of layer upon layer of successive generations of a single species of coral.
9. Give each student a paper cup. Have them place their polyp into the cup to demonstrate the calcium carbonate cup that protects the polyp. Have each student make a slot in his/her cup and insert a popsicle stick, then have them gently push and pull the stick to demonstrate how a coral polyp withdraws into its cup during the day and comes out at night to feed. Describe the way the cup protects the polyp: when the polyp contracts, it's almost completely inside the skeletal cup.

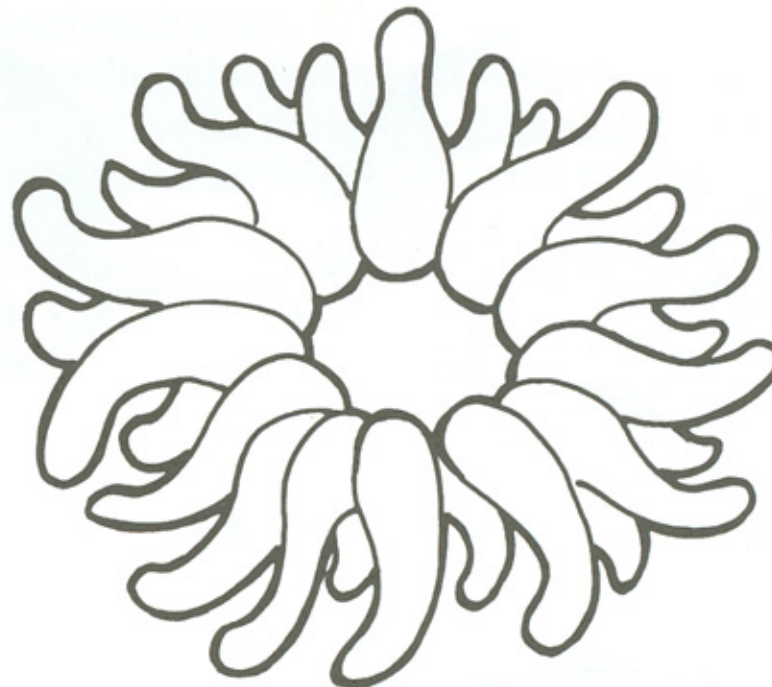
# Create a Coral Polyp



sea anemone



polyp mouth



polyp tentacles



polyp base