

## Coral Bleaching Activity Description

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The last 10 slides of the “Ocean Temperature and Coral” presentation are to be used in the activity/game that the students will play. Divide the class into 2 groups (down the middle is most convenient). One group will represent the **Mexico** coral community and the other group will represent the **Florida** coral community. The two areas of your coral communities are circled in red on each of the provided maps in the last 10 slides of the included Powerpoint presentation. These maps represent real temperature data derived from satellites during August and September 1998 (a year that had particularly bad bleaching;

[http://www.osdpd.noaa.gov/ml/ocean/cb/hotspots\\_1998.html](http://www.osdpd.noaa.gov/ml/ocean/cb/hotspots_1998.html)). What is shown here is the difference between actual temperature and normal or average temperature. So one degree (purple area) on the map means that an area has experienced 1 degree higher temperatures than normal.

### To set up the coral communities:

Each student will become a coral polyp – together the students in a group form a coral community (reef). Each polyp will have parts to represent the soft polyp (glove), skeleton (half of a paper cup), a mouth, and zooxanthellae (stickers).

- Give each student one cotton glove, the top half of a paper cup (see note below), a washable marker to draw on the mouth (markers can also be shared among several students), and a set of small stickers (small, colored stickers work well).
- Students will start by putting on the glove and drawing the mouth of the polyp on the palm of the glove. Then, the students will put their hand through the cup so that the skeleton is surrounding their wrist.
- Give students a brief amount of time to put some of their zooxanthellae (stickers) onto their polyp (glove). It works best if students don't have quite enough time to put *all* of the stickers on.
- Now the coral communities are set and ready to go through the warming scenario.
- Maps and instructions for each slide are in the Powerpoint presentation slides (instructions for each slide are repeated below). On each map, you'll see the color inside the two circles that indicate where the coral communities live (either Mexico or Florida). The color tells you if the ocean temperature is too warm for the zooxanthellae or if the temperature is normal and there is no threat to the zooxanthellae.

NOTE:

The make the skeleton part of the coral polyps, cut paper cups in half and use only the top half as the skeleton.

Instructions for student coral communities:

<b>Time frame</b>	<b>Mexico</b>	<b>Florida</b>
8/1	Mixed, no change	Too hot, <b>lose 1</b>
8/4	Mixed, no change	Too hot, <b>lose 1</b>
8/8	Mixed, no change	No threat, no change
8/11	Too hot, <b>lose 1</b>	Mixed, no change
8/15	Mixed, no change	Too hot, <b>lose 1</b>
8/18	Too hot, <b>lose 1</b>	Too hot, <b>lose 1</b>
8/22	Too hot, <b>lose 1</b>	Too hot, <b>lose 2</b>
8/25	Too hot, <b>lose 1</b>	No threat, no change
8/29	Too hot, <b>lose 2</b>	No threat, recovery, <b>add 1</b>
9/1	Too hot, <b>lose 2</b>	No threat, recovery, <b>add 1</b>
9/5	Too hot, <b>lose 1</b>	No threat, recovery, <b>add 1</b>
9/8	Too hot, <b>lose 1</b>	No threat, no change