



Live Dive: Fourth Grade Post-Program Activity

After the Live Dive

To reinforce the concepts introduced during your program, have students participate in the activity outlined below.

Materials Open area, about 30 x 60 feet, marked off by boundary lines/cones
Poker chips, math manipulatives, or any similarly sized items (to determine the number needed, multiply the number of students playing by three, then subtract six)

Time 20 minutes

Procedure At one end of the activity area, disperse the items somewhat evenly. Line students up at the other end of the activity area. Explain that the items represent the kelp forest, and they are sea urchins looking for a meal. They have to get to the other end, pick up one item, and return. They have to do this **three** times.

Now choose four to six students to be sea otters and have them stand in the middle of the activity area. Explain that the sea otters may tag sea urchins, one at a time, and take them to the sidelines, representing the food the sea otters gather to survive.

Let the activity proceed for about three minutes. Then ask students to stop and review what happened. How many urchins collected enough food (three items) to survive?

Have students predict what would happen if the predators disappeared from the ecosystem. Then play again, this time with **all** students acting as sea urchins. Were their predictions correct? (All the kelp should have disappeared, leaving some urchins without enough food to survive.) What do they think would happen to the sea otters if all the urchins disappeared? What would happen to the kelp?

Discuss the importance of a balanced ecosystem and some factors that might disrupt that balance—such as hunting sea otters for their fur, harvesting sea urchins for food, or pollutants and/or heavy storms impacting kelp forests.

Extensions For an advanced interaction with scientific research done in the kelp forest in Channel Islands National Park, do Exercise 4.3 (Diving For Data) in *From Shore to Sea*, Story 4: www.nps.gov/chis/forteachers/classrooms/from-shore-to-sea-curriculum.htm