



Cabrillo Marine Aquarium Lesson Plan

Grade Level: First and Third Grades

Title: All Tangled Up

Objective: Students will understand how entanglement can negatively impact animals from being able to survive by potentially restricting them from eating or moving.

California Science Standards: 1st: 2b 3rd: 3a, 3c

Time to Complete: 10 minutes

Materials Provided by CMA Ocean Discovery Kits: *Photos: Entangled Animals*

Materials Provided by Teacher: Rubber bands

Vocabulary: Entanglement, survive, debris,

Lesson Outline:

Students try an experiment in which they wrap a rubber band around their fingers and across the back of their hand and try to disentangle themselves. As a class, students discuss their thoughts and reactions and relate to real animals. Older students will write a story about an entangled animal

Lesson Procedures:

1. Ask students if it would be difficult for an animal to survive if they were tangled up? You can show pictures of entangled animals to help prompt their imagination. What if a bird's beak or wing was tangled up? What if a seal had something stuck around its mouth? What if a whale had some rope tangled around its fin?
2. Introduce the term "entanglement" for older students.
3. Pass out 1 rubber band to each student. Show students how you place a rubber band around your thumb, over the back of your hand across your knuckles, and around your pinky finger. You may want to have students help each other place the rubber bands on a friend's hand, or do it yourself.
4. Then ask your students to try and remove the rubber band without using the other hand, other parts of your body, or with anyone else's help.
5. Ask the students if it is easy or difficult to remove the rubber band.
6. Explain that this mimics the experience of sea animals that become entangled.

Lesson Wrap-Up:

1. Ask students (while using the rubber bands or after finishing the experiment) to imagine a sea gull that has gotten tangled in a piece of fishing line, abandoned net or other debris. The bird is unable to eat until they are free from the debris. Ask the following questions:
 - How would the bird feel after struggling like this all morning?
 - How would the bird feel after missing breakfast and lunch?
 - What would happen if the bird kept missing meals, and spent all its strength struggling to get free?
 - What would happen if a predator were chasing the bird?
2. Discuss what students can do to help prevent animals from getting entangled.
3. Discuss why animals need a healthy environment free of pollution.

Lesson Extensions:

Six-Pack Rings:

1. Have a student come up to the front of the room and experiment with entangling his or her arms in a six-pack ring. (This activity should be carefully guided by the teacher)
2. Have a student remove the 6-pack ring, or help him or her do so.
3. Then cut the loops of each ring with scissors.
4. Invite a different student up to experiment with becoming entangled in the cut ring. Have students compare the two experiences.
5. Finish by discussing why cutting six-pack rings is a good practice.

Balloons and Balloon Ribbon:

1. Have students discuss how balloons and balloon ribbons can present problems to fish, birds, turtles, and seals.
2. Using the Internet, older students can investigate whether your state has a law against the mass release of balloons.
3. Students can make posters, or write letters to the editors of newspapers to help increase knowledge about the need to keep balloons and balloon ribbons from becoming marine debris.

Further Student Exploration:

- Grade 3: Post the “Animal Entanglement” photos at the front of the class. Ask students to select one of the animals pictured and write a paragraph from that animal’s point of view telling how it feels to be entangled in marine debris. Students can include as many details as necessary to describe their experience. Encourage students to use a range of senses and feelings in their descriptions, and to be as imaginative as possible.

References:

- NOAA Turning the Tide on Trash
<http://marinedebris.noaa.gov/outreach/pdfs/101turntd.pdf>