



Cabrillo Marine Aquarium Lesson Plan

Grade Level: Fifth and Seventh Grades

Title: An Albatross Mystery

Objective: Students will: (1) learn the life history of albatross including where they live, what they eat, and where they nest; (2) investigate the human impact on albatross populations.

California Science Standards: 5th: 2c, 4b, 6b 7th: 7b, 7d

Time to Complete: 50 minutes to introduce the topic, and then time to allow students to conduct research and present their findings

Materials Provided by CMA Ocean Discovery Kits: *Reading Handout: Ka'ena Point*, Examples of Albatross Boluses, Albatross Bolus Contents

Materials Provided by Teacher: Copies of *Reading Handout: Ka'ena Point* for each student or group of students, Internet access

Vocabulary: Albatross (Laysan), dry sack, remote, slogging, terrain, solitude, vague, silhouette, wildlife biologist, pelagic, courtship, thermoregulate, delirious

Teacher Preparation: Set aside examples of albatross boluses to show the class. Queue videos you'd like to show your class.

Lesson Outline:

Introduce students to albatross through the *Reading Handout: Ka'ena Point* and showing videos of Albatross courtship dances. Have students examine albatross boluses without revealing what boluses are. Through students' research and investigation in groups, they will solve the mystery of what the boluses are and why there are plastic fragments found inside them. Groups will communicate their findings to the class through poster presentations.

Lesson Procedures:

1. Have students read the *Reading Handout: Ka'ena Point*. Students can either read to themselves, out loud in small groups, or read together as a class.
2. Discuss the article as a class. Here are some example questions you can ask:
 - a. Would you walk through mud and rain like the author Evi Meyer did to see something in nature?

- b. Is there anything important enough to you that you would be willing to walk through mud and rain to see?
 - c. How do you think she felt when she met the wildlife biologists on the trail?
 - d. How do you think she felt when she arrived back at the car?
 - e. Do you have a special memory about something you might have experienced in nature?
3. Show students video clips of albatross showing off their courtship dances. Videos can be found on YouTube.
4. Introduce a mystery to the students by telling them that scientists who explore and conduct research in the albatross nesting areas find these strange clumps of material all over the place. Show the students the intact albatross bolus contained within the resin mount without explaining to them what a bolus is. Teachers may need to explain that the purpose of the resin is to preserve the material inside for viewing. Then show students the dissected bolus displayed in the riker mount so that they can observe the pieces of plastic and squid beaks found inside the boluses. The dissected display in the riker mount contains materials found in one bolus.
5. Allow time for the students to make their own observations and make guesses about what the strange clumps of materials are and what the contents of the clumps might be. You may have students pass the intact bolus and riker mount around. After they were able to observe the specimen(s) and passed it (them) along to the next student, have them write down what they observed, what types of materials they think they saw, and what they think those strange clumps of material are. Students will most likely be able to identify that there are pieces of plastic found inside the clumps.
6. After the students have had time to examine the bolus specimens and have individually hypothesized about what they might be, break the students into groups and ask each group to conduct research to explain the following:
 - a. What exactly are those strange clumps of material?
 - b. Why do the scientists studying albatross find these clumps of material around the birds' nesting grounds?
 - c. Why are there pieces of plastic found inside the clumps?
 - d. What else besides plastic is found inside the clumps?
 - e. Do you think the environment where the albatross are nesting is healthy or not healthy? Explain why or why not.
7. You can have students conduct research as homework, visit the library, or use a computer lab. Students can create posters to display their findings.
8. After students have finished their research and posters, have groups present their findings to the class.

Lesson Wrap-Up:

1. Show trailer to the movie "MIDWAY Message From the Gyre". Please preview

the trailer before showing it to your class. Some of the images and scenes may not be appropriate for younger students. <http://www.midwayfilm.com/>

2. Discuss what can be done as a school, as a class, and as individuals about plastic pollution.

Lesson Extensions:

- Have students write a story about a personal experience or an adventure they had in nature.
- Use Google Maps to locate the northwestern tip of Oahu and investigate how plastic fragments wind up there using maps of oceanic surface currents.

References:

- Midway Films
<http://www.midwayfilm.com/>