



Lesson: Campus Debris and the Ocean

Based on "Plastics in the Ocean" Benicia Water Education Program developed by Oikonos for the City of Benicia

Objectives

- ü Describe the impacts of marine debris on marine animals.
- ü Follow a scientific procedure to survey campus debris.
- ü Relate campus debris to marine debris using the concept of watersheds.
- ü Compare the debris found on campus to debris collected at the California Coastal Survey.
- ü Create a public service campaign to raise awareness of the danger of debris to a marine ecosystem.

Follow the steps below to learn more about marine debris.

- **Go to: www.signalsofspring.net/aces**
- **In the 'Issues & Ways to Protect the Environment' circle, click on 'Exploring Pollution Solutions.'**
- **Click on 'Marine Debris.'**
- **Read the information and answer the questions below.**

1. What does most marine debris consist of? Why?



- 2. Give at least 3 examples of marine animals that are affected by marine debris. Explain how each is affected.**

- 3. What is the major source of marine debris? How does it get to the ocean?**

- 4. What are the Pacific Garbage Patches?**

Campus Debris Data Sheet

Date:

Time start:

Time end:

Name of Data Collectors:

What do you think will be the most common type of debris found on campus?

Hypothesis:

Item	Number	Class Total	Notes
Food wrappers			
Plastic bottles			
Plastic caps//lids			
Plastic bags			
Beverage cans			
Straws/stirrers			
Cups/utensils			
Other			
GRAND TOTAL			



Campus Debris Questions:

1. What was your debris rate? You can calculate this by using this formula:

$$\text{Total \# items} / 15 \text{ minutes} = \underline{\hspace{2cm}} \text{ items / minute}$$

2. Which items can be recycled?

3. What was the source of the most common items?

4. What campus location had the most debris?

5. Which items could entangle marine life?

6. Which items could be eaten by marine life?

Campus Debris Data Summary

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For Oikonos and ACES

Instructions:

Enter the number of items you found on your campus debris survey in the column entitled "Number of Items."

List the START time of the survey here:
List the END time of the survey here:
Enter BEFORE or AFTER lunch here:

Enter

Food wrappers
Plastic bottles
Plastic Caps/lids
Plastic bags
Beverage cans
Straws & stirrers
Cups & utensils
Other

Number
of items

Grand Total

Enter *Debris-Rate* (Total # items/unit of time) here:

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Comments and Interpretation:

List three solutions here:

Name:

Date:

Class:

School:

Instructions:

As you enter the numbers in the yellow column graph bars should appear on the graph below

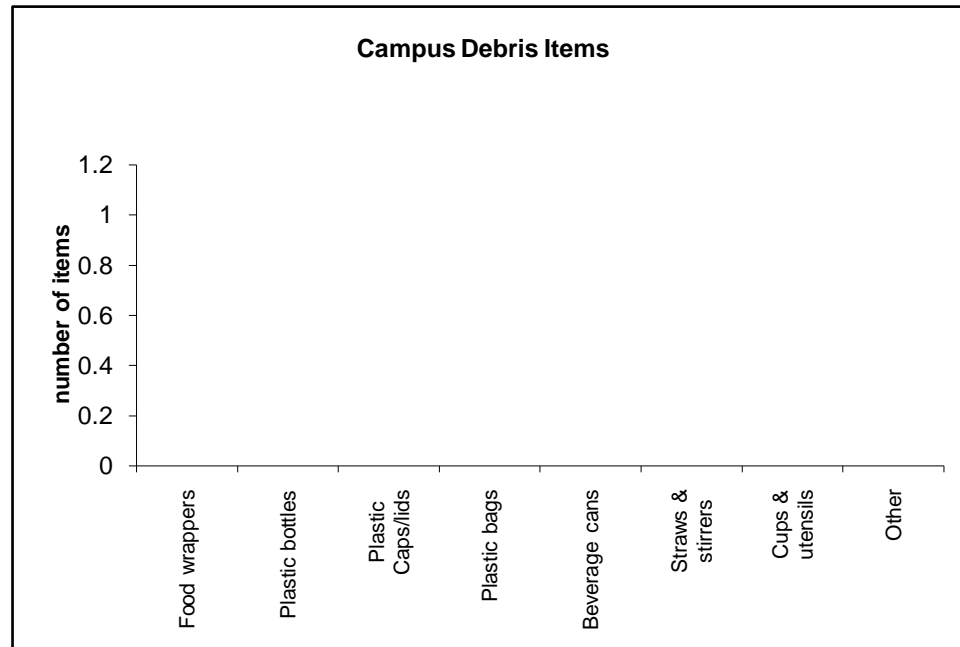
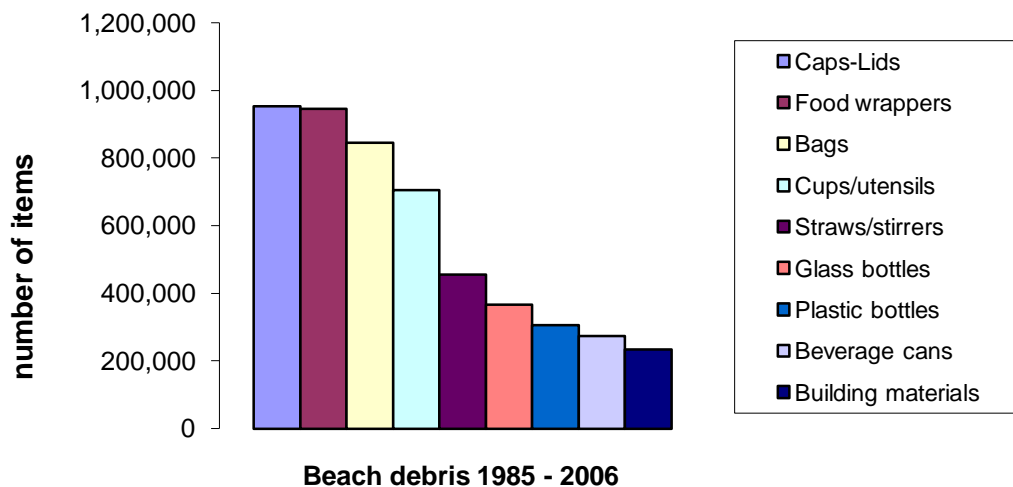


Figure .

The table and graph below depict debris collected in California during a Coastal Cleanup Study from 1985-2006.

California Coastal Cleanup Data 1985-2006

Type of Trash	Amount
Cigarette Butts	42,871,104
Caps/Lids	954,882
Food Wrappers	947,218
Bags	846,320
Cups/Utensils	706,531
Straws/Stirrers	455,796
Glass Bottles	367,448
Plastic Bottles	306,067
Beverage Cans	274,608
Building Materials	234,954



Create a public awareness campaign that:

1. Advocates keeping your school campus clean and debris-free
2. Uses information from this lesson and gives reasons for keeping the area clean
3. Explains how local debris ultimately affects the ocean and the organisms that inhabit it.

Be creative! Your campaign could take many forms including:

- Posters
- Brochures
- Podcasts
- Videos
- Other ideas?