



CoastWatch Survey

Objective:

Students will explore the beach and become familiar with intertidal organisms while collecting some basic observational data. They will build community awareness of the importance of our local marine habitats and gather data to detect long-term trends in biodiversity and the effects of human impact.

Concept:

CoastWalk is a unique community science and stewardship program that encourages students and community members to participate in general observations about their coastal environments. Stewardship programs promote a better understanding of the environment and a sense of responsibility for its future.

Materials:

- ⊙ Handout: CoastWalk Data Sheets
- ⊙ Handout: ICC Data Sheets
- ⊙ Clipboards
- ⊙ Map of your stretch of beach
- ⊙ Pencils
- ⊙ Binoculars
- ⊙ Identification guides
- ⊙ Thermometer
- ⊙ GPS (optional)

Preparation:

Choose a site based on "Choosing and Mapping a Site" in the background information of the Alaska Coast Watch Curriculum (https://www.akcoastalstudies.org/data/CoastWatch_Activity_Guide_Feb_2014_with_background_info.pdf). Contact the Center for Alaskan Coastal Studies at info@akcoastalstudies.org for up-to-date versions of the data sheets. Make copies of data sheets for students.

Introduction:

Review the data sheets with the class to familiarize yourself with what you might see on your field trip. Review the tide zones so that students are sure of where they are to be conducting their surveys.

Make sure all of your students are dressed appropriately for the weather. Take a GPS location and mark it on your datasheet.

Activities & Procedures:

Pass out CoastWalk and ICC Data Sheets and clipboards. Divide the class into two teams, with one team walking the high tide and the other team walking the low tide zone.

Instruct groups to walk a zig zag path along the high and low tide lines. You can also walk the low tide line out and the high tide line back if you need to.

Ask students to use tally marks in groups of five, then total when finished.

For large groups of organisms, students can count ten organisms. Using the amount of area taken up by those ten organisms, they can estimate the total count for the larger area.

Remind students that if they are not sure of the identity of an organism, they should check with you. If you don't know it, don't record it.

Walk your designated zone recording your data on the data sheets. Take pictures of organisms and unusual sites for documentation.

If you encounter a dead or stranded animal, make a note of its location and leave it alone.





CoastWatch Survey Continued

Record atmospheric data (temperature, wind, etc.) at the midpoint of the survey.

Pay attention to and record evidence of human impact as well.

Pick up trash along the way and take it to a local dumpster or recycling center.

Wrap-Up:

When you return to the classroom begin by asking students to describe the following in their science notebooks:

- The most interesting thing you saw
- Something that surprised you
- An observation that tells you the beach is healthy or unhealthy
- An organism you would like to learn more about
- A question you have about your observations
- One category (type of animal, atmospheric data, specific categories of human impact, etc) you think should continue to be monitored on the beach, and why you chose this category

Discuss their responses as a class.

Go over your data as a group. Discuss human impact issues that may have come up on your stretch of the beach.

Return your completed data sheets to the Center for Coastal Studies.

Submit atmospheric data to the GLOBE program (<http://www.globe.gov>).

Extensions & Lesson Connections:

Work with students to design an inquiry as a class or in teams of students. See the background information for guidelines.

Do the "Graphing Marine Debris" lesson to analyze your data and compare it to other areas of Alaska.

Keep some of your more interesting trash finds and hold an art contest back in the classroom. Challenge the students to come up with the most creative display of beach debris art.

Use the marine debris you collected for the "Marine Debris Masks" lesson or "Gyre Dangles" and "Top of the Ocean Mat" stations of the "Effects of Marine Debris Station Rotations" lesson.

Evaluation:

Observe student participation and adherence to stewardship and safety guidelines during the CoastWatch Survey. Assess data sheets for completeness, neatness, and accuracy. Review science notebooks for insightful questions and understanding of what types of long-term monitoring are useful.

