

OIMB GK12 CURRICULUM

4th Grade

45-60 minutes

KELP DETECTIVE

Oregon Science Content Standards:

4.1 Structure and Function: Living and non-living things can be classified by their characteristics and properties.

Ocean Literacy Essential Principles:

5. The ocean supports a great diversity of life and ecosystems.

Goal: In this lesson, students learn how to make good scientific observations and to write clear, useful descriptions of an organism.

Concepts:

- Organisms are grouped or classified based on a variety of characteristics.
- Clear observations describe objects according to their physical properties.

Materials:

- At least ten different kinds of seaweed of all colors and sizes
- Overhead and worksheet of bull kelp (to label)
- Enough half sheets of blank paper for each student to have two
- Large trash bags
- Measuring tapes and rulers
- Popsicle sticks with students' names on them, or some other means of selecting students
- Scoreboard (optional)

Lesson Plan:

1. Set up two seaweed stations in the room, preferably far enough apart that students are not crowded into one another. Large black plastic trash bags cut open and laid flat work well to contain the mess.
2. The lesson begins with a review of kelp anatomy, and students label a drawing of Bull Kelp.
3. Students are then split into two groups and told to go look at the seaweed at their station and write down their observations of a single specimen on a half sheet of paper.
4. When the students report back, tell them that they're going to play a game. They are detectives and they need to provide clues to help another team of detectives find specific seaweeds. Explain that for each turn, a person will be chosen from each team. One person will provide the clue, and the other will use the clue to identify the 'missing' seaweed. If the clue is clear and the detective is able to locate the correct seaweed, both teams get a point. The case is solved when a

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certain number of points is reached. The teams are not competing against each other. Extra points are given for encouragement and for good listening skills when the clues are read.

5. After explaining the rules, do a practice round. Usually the first set of observations is not concise, using words like “smelly” and “slimy,” rather than good descriptives. At this stage, the detective is often thwarted and no points are gained. After one or two examples, reconvene and talk about what makes a good description (color, length, number of Pneumatocysts, etc.), and encourage use of the vocabulary from labeling the anatomy (e.g. blades, stipe, holdfast).
6. Give students measuring devices and more time to rewrite their clues.
7. The fellow or teacher is the lead detective, and at the start of each turn draws a name of one student from each team. One student is the detective. The other student’s clue is read aloud. The role of detective is alternated between each team at each turn. Points are recorded on the scoreboard. At the end of the round, everyone discusses what makes good observations.
8. If there is time, a bonus round can be done with drawings of the seaweed. Prizes (like stickers) can be awarded to all detectives at the end of the game.

Assessment: Bull Kelp drawing, descriptions and discussions.

Reflection:

This lesson can easily be adapted to organisms or objects other than kelp. For teachers in non-coastal communities, flowers, plants or leaves would be a great alternative. It would also be possible to use shells, preserved specimens or photos.

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