

Beacon Lesson Plan Library

Oyster Shell Observation

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Description

Students use oyster shells to observe and identify specific attributes and communicate those in writing to other classmates. This activity helps students to master proper scientific observation and communication .

Standards

Florida Sunshine State Standards

SC.H.1.4.1

The student knows that investigations are conducted to explore new phenomena, to check on previous results, to test how well a theory predicts, and to compare different theories.

Florida Process Standards

Effective Communicators

02 Florida students communicate in English and other languages using information, concepts, prose, symbols, reports, audio and video recordings, speeches, graphic displays, and computer-based programs.

Critical and Creative Thinkers

04 Florida students use creative thinking skills to generate new ideas, make the best decision, recognize and solve problems through reasoning, interpret symbolic data, and develop efficient techniques for lifelong learning.

Cooperative Workers

08 Florida students work cooperatively to successfully complete a project or activity.

Materials

- 3x5 index cards (one for each student)
- Oyster shells (at least one per student)

Preparations

1. Secure shells ahead of time so that they are properly cleaned. Oyster shells may be obtained from oyster bars and seafood restaurants.
2. To clean the shells, they should be placed in an estuary or pond for at least a week to allow small fish and other creatures to clean remaining flesh on the shells. After this, they should be soaked in a strong bleach solution overnight to brighten them and complete the cleaning process. This activity is much more enjoyable if you have clean, fresh smelling shells.

Procedures

BACKGROUND INFORMATION:

Proper scientific observation and communication are two of the most important skills that a student of science can develop. Students must learn that even what seems to be the most insignificant detail may later turn out to be very important as investigation continues.

Even the most thorough observations are of little or no use to the reasearcher if they cannot be communicated in short, concise statements to fellow scientists. In science, as in other disciplines, the development of skills requires a great deal of practice. This simple activity is designed to demonstrate to students the importance of thorough observation and proper communication of those observations to those who follow.

In this activity, oyster shells are used because they seem to “all look alike.” There are, however, subtle differences that make them ideal for our purpose.

PROCEDURES:

1. Each student is given a single valve (top or bottom half). The bottom valve is heavier and seems to work best.
2. Along with the oyster shell each student is given a 3x5 index card upon which to write their observations.
3. The students are given the following instructions:
 - a. You are to study your shell before you write.
 - b. Write your name at the top of your 3x5 index card.
 - c. On the 3x5 index card you may write only five statements.
 - d. With these five statements you must communicate to someone else exactly how your shell is unique.
 - e. At the end of this exercise who ever gets your card must be able to pick your shell out of a pile of others' shells using only your five statements.
 - f. You may not mark your shell in any way.
 - g. This is a written exercise, therefore, you may not trace the outline of your shell.
 - h. You have ten minutes to complete your statements.
4. This should be a timed exercise, however, you may wish to adjust the time to fit your needs.
5. After the time is up, collect all of the shells and cards. Dump the shells on a table (you may wish to use two separate tables for large classes in order to avoid congestion).
6. The index cards should be thoroughly shuffled and passed out to students with the instructions that if a student should get their own card, they should trade with another student.
7. The student should then be allowed to browse through the piles of oyster shells on the table and try to identify the shell described on the card.
8. Once the shell is selected, it can be shown to the original observer for positive identification. All shells, once identified, should be returned to the pile so that students who are slow to choose will not have an advantage.
9. This activity should be repeated to allow students to practice their skills. The teacher may wish to discuss with the students some of the factors that they should have observed. Care should be taken to allow students to give their own ideas of how their observations could have been improved. Some examples of what to look for are size, shape, markings, marine growth attached to the shell, marks left by oyster drills, and marine worms that drill into the shell.

Assessments

The student will be assessed on whether he/she can effectively communicate five distinctive characteristics about their shell.

Extensions

When repeating this activity more than twice, you should decrease the time limit to five minutes and add extra shells to the piles. This makes it a little more interesting.