



Education and Research: Testing Hypotheses

Lesson Plan—Classifying Deep-sea Organisms

Summary

This activity encourages students to take what they have learned about the principles of classification and apply it to deep-sea animals that they may have never seen before.

Key Concepts

- Features used for grouping depend on the purpose of the grouping. Animals and plants have a great variety of body plans and internal structures that contribute to their being able to make or find food and reproduce.
- In classifying organisms, biologists consider details of internal and external structures to be more important than behavior or general appearance.

Objectives

Students will be able to:

- **Determine** which characteristics are useful in sorting or classifying items
- **Create** and **explain** a classification scheme using deep-sea organisms

Materials

- Computers with Internet access (optional)
- Deep-sea organism cards (from EARTH Web site)
- Presentation materials (PowerPoint, or poster board, markers, glue, tape, etc.)

Procedure

1. Divide students into groups of 3–4. Give each group choose one set of deep-sea organism images.
2. Have each group discuss how they would group/classify the marine organisms represented in their frame grab “sample.” Students should determine what criteria can be used for classification, and then place the organism cards into piles according to these criteria. All of the organism cards should be used, but the organism groupings may change as the discussions continue.
3. Have each group maintain a list of any questions formulated during the discussion.
4. Have each group develop an organizational chart or other graphic representation of their final classification that they can present to the class. Have students clip the frame grabs together and turn them in with their organizational chart and question list.

Assessment

- **Performance**—Did student participate in discussion sessions and demonstrate an understanding of the concept of classification? Did student participate in the group activity and successfully create a classification scheme with his/her group? Did group accurately explain their classification scheme and their reasoning to the class?
- **Product**—Did group successfully create a classification scheme using their deep-sea organisms? Did group compose thoughtful questions for investigation? Did group use physical characteristics of organisms to organize them appropriately? Did group clearly and accurately represent their final classification in a diagram or organizational chart?