

What's Down There?

Instructor: Jean Cunningham

Workshop: World Oceans

Targeted Grade Level(s): Third Grade

Content Area(s) Covered: Science

Anticipated Duration: One extended class period of approximately 90 minutes

Rationale:

My students often take for granted that everything they read in books or see in the media is complete and accurate information. This activity is designed to open children's minds to the possibility that there are a lot of unknowns and incomplete information. There is still a lot to explore!

Objectives:

1. Students will gather and examine samples from the school outdoor environment.
2. Students will compare and contrast their samples with those of other students.
3. Students will record the results of their observations.

Sunshine State Standards:

SC.H. 1.2.2: The student knows that a successful method to explore the natural world is to observe and record, and then analyze and communicate the results.

SC.H. 1.2.3: The student knows that to work collaboratively, all team members should be free to reach, explain, and justify their own individual conclusions.

SC.H. 1.2.4: The student knows that to compare and contrast observations and results is an essential skill in science.

Resources/Materials Needed:

Books:

1. Cole, Joanna (1992). *The Magic School Bus on the Ocean Floor*. New York: Scholastic Publishing, Inc.
2. Sacks, J., Goodman, P., and Parker, S. (2002). *Arty Facts: Oceans and Art Activities*. Ontario: Crabtree Publishing (for follow-up activities)
3. Fowler, Allan (1995). *The Earth is Mostly Ocean*. Chicago, Illinois: Childrens Press, Inc.
4. Markle, Sandra (1999). *Down, Down, Down in the Ocean*. NY: Walker and Company.
5. Pallota, Jerry (1986). *The Ocean Alphabet Book*. Watertown, MA: Charlesbridge Publishing.

Other materials:

1. a variety of outdoor areas
2. small containers to collect samples
3. notepads, pencils, newsprint

Procedures:

1. Gather the students on the carpet, chairs, or at desks for a read-aloud. First facilitate a discussion accessing prior knowledge about the oceans and ocean exploration. Read and/or browse the listed books with the exception of *Arty Facts*, which is a resource for follow-up lessons. Encourage students to share their experiences as you read.
2. Explain that the students will be scientists from another world who have never seen the surface of the earth. This is an analogy for the scientists who are exploring the ocean floor. Be very specific in making that clear to the students. Brainstorm the challenges involved in trying to gather information about an immensely vast place you cannot visit. Revisit the information about the variations on the ocean floor.
3. Assign students to small groups or partnerships, depending on class size.
4. Explain the steps in collecting and examining samples:
 - stay within your assigned area (you will assign outdoor areas that have different properties, such as the sandy playground area, grassy areas, leafy areas)
 - use your container to collect samples by dragging it across the surface, not filling it by hand
 - return to the staging area with your partner/group at the assigned time
 - examine your samples with your group
 - record your observations
5. Once the students have completed recording their observations they will share their findings with the entire class.
6. Compare each group's observations.
7. Discuss the challenges inherent in trying to describe the vast and varied ocean bottom.

Informal/Formal Assessments:

- Assessment consists of teacher observation of student participation as well as student records of their observations.

Evaluation/Reflection:

- Students were very actively engaged and quite serious about analyzing the samples they collected. They were quite interested in seeing what the other groups collected. However, this is a difficult abstract concept that was a stretch for some of the students.
- The lesson would benefit from additional student preparation to provide greater background knowledge about the ocean floor. Videos would be a great addition.
- Follow-up lessons using the *Arty Facts* book would also enhance student engagement.