Eco-Explorers Virtual Field Trip

Aquatic Resources Education Center, 2520 Lighthouse Road, Smyrna, DE 19977

Water Quality - Teacher Notes

This unit helps students explore some water quality indicators that are used to assess the health of bodies of water such as those in the tidal salt marsh. The activities contain instructions for students to build their own water testing instruments and try some simple tests.

Students should view the **Water Quality** vocabulary words PowerPoint, which explains the vocabulary words used in this unit.

After they view the vocabulary words PowerPoint your students should watch the **Water Quality** video. There is a link to the **Water Quality** video on the last slide of the **Water Quality** vocabulary words PowerPoint.

After viewing the video, students can do the following activities:

1. What Floats Your Boat - Hydrometer Activity - Make your Own Hydrometer

This activity would be easy for students to do at home, but it can also be done in the classroom. Students will make a hydrometer out of a soda straw and observe the difference in density between a sample of fresh water and a sample of salty water.

Materials needed:

- **What Floats Your Boat - Make Your Own Hydrometer** PowerPoint with activity instructions
- **What Floats Your Boat** Worksheet
- One empty 16-ounce water bottle or another bottle of a similar size and shape
- The bottle cap
- One plastic soda straw
- Three small paper clips
- One ½ inch binder clip or some chewing gum
- 16 ounces (two measuring cups) of tap water
- One tablespoon of salt
- A sharpie or other permanent marker

2. Clear as Mud! - Make Your Own Secchi Disc

This is another experiment that can be done at home. Students will be able to make a Secchi disc and use it to test the turbidity of water samples with some soil mixed in.

Materials needed:

- **Clear as Mud! - Make Your Own Secchi Disk** PowerPoint with activity instructions
- **Clear as Mud! - Make Your Own Secchi Disc** Worksheet
- A piece of flat rigid white plastic such as a plate, a milk jug, a lid, etc.
- Black permanent markers (one thick, one thin)

- Scissors
- Ruler
- Stick ~2’ long, ~1” in diameter
- Saw or pruning shears to cut stick
- Thumbtack
- Bucket

3. Suggested Activity – If you can provide your students with litmus paper, they could test some common liquids at home, such as lemon juice, vinegar, dish soap, etc., to observe differences in pH. Or try the home pH experiment from 3M, found in the **Links to Other Resources** in the Wrap Up Unit. It shows students how to make indicator solutions from vegetables.

Assessment

Quiz on water quality

Resource Material:

Water Quality Indicators PowerPoint – background information for students

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