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Gee-A-Tube!

Social Studies Post Activity for 7th Grade

This activity meets the following benchmarks:
113.23 Social Studies, Grade 7
7.9 (C)
7.10 (A)
7.23 (A) (B)

112.23 Science, Grade 7
7.14 (B) (C)

Objectives:
- Students will be able to explain the function of geotubes.
- Students will be able to list the problems with geotubes.
- Students will be able to provide a potential solution to the geotube problems.

Synopsis:
In this activity, students will be brainstorming ideas to address the problems associated with geo-textile tubes.

Time: 30 - 60 minutes

Materials:
- Background Sheet
- *Damaged Gee-A-Tube Wroksheet* for each student
- Scissors
- Water
- Plastic container
- 'geotube' from pre-activity

Procedure
1) Review geotubes, subsidence, and seagrass beds. *See Background Information Sheet*.
2) Break students into their same groups. Let them use the same container and 'geotube'.
3) Have students follow directions and answer questions to each of the experiments on the *Damaged Gee-A-Tube* sheet.
4) After destroying the Gee-A-Tube have students brainstorm for 10-15 minutes for solutions to fix the geotube. Have them keep in mind relative costs, labor, simplicity, and endurance of the solution.
5) Have each group present their ideas.
6) Discuss as a class the advantages and disadvantages of each idea and decide which idea is best.

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Damaged Gee-A-Tube Worksheet

There are multiple ways that geotubes are destroyed. Below are 2 different major damage-causing problems that occur with geotubes. Read the problem and then follow the steps of how to replicate this problem on your made geotube of sock and sand.

Problem 1:

Many boaters will drop anchor on to the geotube in order to stay in one location. These anchors rip apart the fabric holding the sand. Even after local agencies placed Warning signs about anchoring, the boaters continue to throw anchors on to the geotubes.

Steps:

1) Cut 4 holes in ¼ - ½ inch diameter into the sides of your geotube.
2) Place a round object under the container.
3) Roll the container back and forth on the object, gently, to create waves.
4) Do this for 30 seconds.
5) Observe. Did anything happen to the geotube? If so, what happened?

Problem 2:

Birds have found the geotubes as a perfect place to rest. Even better, they thought the material of the geotube would be perfect for nests. It is much softer than branches, twigs, and grass. The birds began to use their beaks to rip away material and take it to their nests. This tearing of the fabric left holes.

Steps:

1) Cut 3 slits 1-1½ inch long on top of the geotube.
2) Place a round object under the container.
3) Roll the container back and forth on the object, gently, to create waves.
4) Do this for 30 seconds.
5) Observe. Did anything happen to the geotube? If so, what happened?

Brainstorm with your group for solutions to fixing the geotube. Keep in mind the amount of labor that would be needed for your solution, costs, simplicity of your solution, and the endurance of your solution. You want your solution to be simple, cheap, fast at fixing, and last for a long time.

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