



LESSON PLAN

Testing Water: Community Awareness Plan

Objectives

Students will brainstorm and discover any problems with their stream and their main causes. The students will develop a community awareness plan to educate their community about water pollution and ways to reduce it.

Prerequisites

Student should have completed Testing Water: Data Analysis.

Duration

Two 40-minute lessons

Materials

- Student Worksheets
- Optional: Computers and a projector

Introduction

In this lesson, we will work together to discover any problems with our stream and then brainstorm (a problem-solving process) to find the possible main cause.

Procedure

1. Before starting the brainstorming process, review your handouts from Testing Water: Data Analysis and see if you can identify any problems.
Examples: Were the dissolved oxygen levels low? Were there any unusual smells along the creek? Was the water temperature high?
2. Remember that there are no bad ideas and no wrong answers when brainstorming. While brainstorming, we will be writing down our ideas on the whiteboard.

Brainstorming Session



LP15 (Rev. 12/25)

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1. **Brainstorm:** List all possible problems with their stream. Example: high water temperatures.
2. **Select and Brainstorm:** Select one or more of the problems and list all of the possible causes.
Example: high water temperatures possibly caused by sun exposure (no shade), high turbidity, tests conducted on a very hot day, nearby point sources releasing warm water into the stream, etc.
3. **Brainstorm and Select:** Remove items from the list that are not supported by the collected data. If only one item remains, then that is the possible main cause. If more than one remains, then you may need to select one as the possible main cause. If none remain, then you may need to restart the brainstorming session or select a different problem.
Example: from the data—the water was not turbid, it wasn't a hot day, and there were no point sources nearby; therefore, the only one remaining on the list was "sun exposure (no shade)," so that is possibly the main cause.
4. **Brainstorm:** With the possible main cause known, list ways that would minimize this cause (which should resolve or minimize the problem).
Example: increase shade by planting trees, planting native plants along banks, etc.
5. **Select:** Select the most reasonable item from this list and then proceed to developing a community awareness plan.
Example: plant trees to increase shade.

Developing a Community Awareness Plan

1. The development of the community awareness plan can be a classroom activity (via brainstorming sessions) or a predefined plan you created. To help develop this plan, you should think about the:
 - a. **Target group**—who in the community can help minimize the cause?
Example: Landowners around the stream, environmental groups, or local garden clubs might help plant trees.
 - b. **Message**—what simple message can you create to explain the problem and its main cause? In your message, you could also add information about water pollution, who conducted survey, etc.
Example: Hot streams mean hot things! Caldwell Middle students need your support to increase the amount of shade on our local stream to help reduce water temperatures and protect our aquatic life.
 - c. **Message form**—how should you deliver your message to your target group? It could be in the form of flyers, posters, banners, letters, Web pages, etc.
Example: Create an informational email.
 - d. **Mission**—what is our mission?
Example: Our mission is to write an email to send to landowners, garden clubs, and environmental groups to encourage them to plant trees along our stream.
2. Looking at the mission, discuss the implementation phase of your plan:
 - a. What needs to be done?
Example: we need to develop additional language for the email, develop an email list, etc.
 - b. How and where should we work on the plan?
Example: Some students should develop the language for the email while the others work to develop the email list, and select images/graphics for the email.
 - c. Who should do what?
Example: This spreadsheet shows all the students and their tasks.
3. Once you are ready, implement your community awareness plan!

Applicable TEKS

Science TEKS

- **6th Grade** – §112.26.b. 1A-H; 3A-C; 4A-C; 5A,B,G; 11B
- **7th Grade** – §112.27.b. 1A-H; 3A-C; 4A-C; 5A,B,G; 11A
- **8th Grade** – §112.28.b. 1A-H; 3A-C; 4A-C; 5A,B,G;