LESSON PLAN

Testing Water: Data Analysis

Objectives

Students will share their data and enter any missing data into their worksheets. Students will understand that there are one or more reasons for their results.

Prerequisites

Students should have completed the Testing Water lesson series before starting this lesson.

Duration

40 minutes

Materials

- Student Worksheets from Testing Water series

Introduction

Have students take out their worksheets from the Testing Water lesson series. Separate students into groups of 2-3 and have them share their information. If someone could not perform a test, have them fill in any missing data using other students' results.

Procedure

NOTE: Remember that the stream appearance and water quality may change along its length (especially if your teams surveyed in different areas along the stream).

1. Discuss any differences and similarities between data. Also discuss how repeating the same test or experiment increases the reliability of results.
2. If a group reported different water qualities in the benthic-macroinvertebrate survey, have students combine everyone's results together and determine the water quality.
3. Have students discuss why they think they received the results they did.
   Example: If you recorded low dissolved oxygen levels, it could have been caused by:
   a. the decay of organic waste (an oxygen-demanding substance)

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b. high water temperature (it holds less dissolved oxygen, respiration increases, etc.)
c. tests conducted in the morning (before photosynthesis was fully active)
d. few aquatic plants and algae in the water (low photosynthesis levels)
e. poor natural aeration (less atmospheric oxygen entering the water)
f. sampling error (inaccurate test results)

It might be possible to find the main cause, but it can be very difficult. At best, you might be able to speculate about the main cause.

Extension

For an extension, students create a poster or digital product that they can share to other classrooms or in a public space for the public that show the data that they recorded and any action steps they think can be done to mitigate pollution.

Examples: Posters, short PSA, pamphlet with information, digital flyer

Applicable TEKS

Science TEKS

- **6th Grade** – §112.26.b. 1A-H; 5A-G;12A
- **7th Grade** – §112.27.b. 1A-H; 5A-G; 12B
- **8th Grade** – §112.28.b. 1A-H; 5A-G; 12C