

STREAM EXPLORATION

Lesson By: Yasuka Chounan

Grade Level: 4th grade

Focus: This lesson will address an overall understanding of stream biodiversity.

Objectives:

1. Students will be able to use water testing equipment and talk about water quality.
2. Students will be able to understand the relationship between erosion, runoff, water quality, and biodiversity.

Standards:

EL 4.7.1 2006

Ask thoughtful questions and respond orally to relevant questions.

SC 4.1.1 2000

Observe and describe that scientific investigations generally work the same way in different places.

SC 4.2.5 2000

Write descriptions of investigations, using observations and other evidence as support for explanations.

SC 4.3.2 2000

Observe, record and compare the physical characteristics of living plants or animals from widely different environments. Describe how each plant or animal is adapted to its environment.

SC 4.4.3 2000

Observe and describe that organisms interact with one another in various ways, such as providing food, pollination, and seed dispersal.

Background:

Background material is found in the Teacher's Guide.

Materials:

1. Work sheet (Explorer Guide)
2. Pencil
3. Water Testing Kits and Equipment

Procedure: (45-60 Minutes Total)

Part 1 [10-15 Minutes]

1. Take the students to the stream.
2. Explain the general habitat of the stream and how its connected to other habitats.
3. Let the students find two different species of something like a plant, insect, etc. in the stream area and instruct them to sketch it on the worksheet.
4. Next discuss both the student's sketches and how they are all connected in the stream ecosystem. You can use the questions on the worksheet. Discuss if the drawings are of the same kind like they are either animals or both plants. Discuss if one would eat the other one and ask them what level they would be on the food chain. For example a plant

would be on the lower level as a produce while an insect would be higher.

Part 2 [20-30 Minutes]

5. For the next activity the students will measure water quality of the stream.
6. Divide the students into groups of 4-5 and make each group get their own water sample.
7. Just like the Pond Exploration activity the two water quality indicators that they are observing is dissolved oxygen and dissolved solids. Dissolved solids determines how many material is already dissolved in the water and dissolved oxygen determines how much oxygen is available for aquatic plants and animals to use.
8. The instructions for these tests should be in the water testing kit itself.
9. Next discuss about erosion and runoff. Along the stream there are many tree roots exposed because of the soil being washed away from water. This is an example of erosion which simply means displaced soil. Discuss with the students if runoff came from city areas with a lot of trash and debris, would that make this stream a suitable place for aquatic life.

Evaluation:

1. The explorer's journal will act as an evaluation for the students. Make sure each student is carrying and filling out their journal throughout the day and activities.
2. Instructors will evaluate the comments, participation, and the connections made in the class discussion.