Reading the River 2004

Banklick Creek – Is It A Healthy Stream?

Grade 3 Science

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Boone County

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Essential Question – Is Banklick Creek a healthy stream?

Objectives

1. The students will be able to take a habitat survey on a third grade level.
2. The students will be able to identify some macro invertebrate and decide which ones are associated with clean water.
3. The students will be able to decide if that section of Banklick Creek is a healthy stream.

Unit Outline

I. The creek
   1. Where does the water come from?
      a. The watershed area.
      b. What the water brings to the creek.
      c. Learning about water runoff.
   2. Where does the water go?
      a. Learning about water flow.
      b. What the water takes away.

II. The Habitat
   1. Water and Air Temperature.
   2. Learning about the stream substrate.
      a. Gravel.
      b. Clay.
      c. Silt.
   3. Learning about the cover for animals (Riparian Zone)

a. Rocks and Tree Roots.

b. Logs and water plants.

c. Trees shrubs and vegetation.

III. Banklick Creek – The Field Trip

1. They will take the air and water temperature in four separate areas.
2. While in these areas they will also assess the area with the habitat survey.
3. They will search for macroinvertebrate with nets and basins.
4. After finding macroinvertebrate we will compare organisms and talk about what was found.
5. We will decide which organisms are a sign of a healthy stream.
6. By comparing information we will see which parts of the Banklick Creek are healthy and which parts are not.

Activity Procedure

1. Put students in groups of four with one chaperone leader for each group. (Group A, B, C, D).
2. Each Group will be assigned a specific area to assess
3. Each group will take the water and air temperature. They will record their findings.
4. Using the habitat assessment field data sheet, the students will assess the area with the habitat survey. They will record their findings with the help of their leader.
5. Using their nets, they will search for macroinvertebrate and put them in the basin.
6. They will use the Beginners Protocol Picture Key to help identify the organisms in the basin.

7. After identifying their organisms they will use the Stream Quality Assessment Form to tally their macroinvertebrate.

8. They will decide which organisms are a sign of good water quality and which organisms are a sign of poor water quality.

9. All the groups will share their information that they have collected. As one large group they will decide which of the four sections of Banklick are healthy and which sections are not.

Materials Needed

1. Clipboards, pencil and paper
2. Thermometer
3. Habitat Assessment Field Data Sheet
4. Habitat Survey
5. Nets and Basins
6. Macroinvertebrate Identification Chart
7. Stream Quality Assessment Form
8. Dry Erase board

Rubric for Evaluating Section _____ of Banklick Creek

1. The students worked as a group

   □ good □ fair □ poor

2. Air and water temperature taken and recorded

   □ yes □ no

3. The students assessed the habitat

   □ all parameters □ most parameters

   □ some parameters □ few parameters

4. The students identify macroinvertebrate

   □ all □ most □ some □ few

5. The students tally their macroinvertebrate

   □ good □ fair □ poor