Course Requirements for ED 5640 (CRN 14617) Teaching Environmental Education Workshop Series

Title: Field trip to River Rouge Park

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School: Coffey Learning Community in Detroit

Date: Sept. 20, 2010

Target Grade: 8th

Duration: 2 class periods @ 55min. each.

Unit Question: What Affects the System of Fluid Earth?

Focus Question: Why Are Earth’s Fresh Waters Important?

Grade Level Content Expectation (GLCE): Grade 8

E4.1A: Compare and contrast surface water systems (lakes, rivers, streams, wetlands) and groundwater in regard to their relative size as Earth’s freshwater reservoirs and the dynamics of water movement (inputs and outputs, residence times and sustainability).

E4.1B: Explain the features and processes of groundwater systems and how the sustainability of North American aquifers has changed in recent history, qualitatively using the concepts of recharge, residence time, inputs and outputs.

E4.1C: Explain how water quality in both groundwater and surface systems is impacted by land use decisions.

Lesson Objective:

- Students will be able to describe how Earth’s water is distributed.
- Students will be able to describe a river system.
- Students will be able to explain how ponds and lakes form.
- Students will be able to describe common types of freshwater wetlands and important functions they serve.

Vocabulary / Word Wall:

Aquifers, biosphere, freshwater reservoirs, groundwater, hydrogeology, hydrosphere, inputs, land use, outputs, recharge, rivers, streams, surface water lakes, sustainability, water quality, wetlands, residence times.

Materials:

- Journal and Scientific notebook and pencils.
- Text: Earth’s Waters
- Large pans, buckets, boots, nets, GPS unit, gloves, aquatic identification chart, magnifying glasses, tweezers & calculators.
- Field trip to Rouge Park as an outside activity.
Do Now / Journal Question:

1) Why does your body need water?
2) Name as many things that you can think of that need water.

Schedule of Activities:

- 9:00 am. Students will be transported to River Rouge Park by school bus system with equipment to sample river contents.
  1. Teacher will discuss journal entry during transporting of students to the park as start of lesson and re-examine the objectives of the two day lesson agenda.
    - 10:00am – 12:00am. Students will unload equipment and four students will suit up with boots, gloves and nets and wander onto the shallow banks of the river system, collecting samples.
    - All remaining students will be separated into 3 to 4 students per groups.
    - Other group of students will move about the marsh land (near the river) to also collect samples of the area.
    - The remaining group of students will be responsible for charting our exact location with the supplied GPS unit, setting up tables, labeling our water samples, taking and recording the temperature of the water samples.
  - 12:00 – 12:30pm. Lunch
  - 12:30 – 1:30pm Students will identify the aquatic samples taken from the water and identify the specimens implementing the aquatic identification chart.
  - 2:00 – 2:30pm Students will arrive back to school.

Cross Curricular Connection: Writing, Social Studies, Math

Career Pathways: Marine Biologist, Oceanographer

Evaluate / Assessment (what will allow you to determine if the objective was mastered?)

- Teacher will review with students, what types of marine life they found, why it is important for the survival and health of this river system. Students will evaluate their findings and make a preliminary determination on how healthy is the river system at the location taken with the GPS unit.

Homework: What will you assign to continue / expand learning at home?

- Students will write their individual observations and explanation in paragraph form on their findings and be prepared to give an oral presentation to their class.

Special Comments or Tips: The water samples that the students collected on the previous day, will be tested for pH, transparency, temperature and the number and species of aquatic life that was found.