Reading the River 2003
Lesson pH Testing in the Real World
11th Grade Chemistry
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Chapter 16 Modern Chemistry

Lesson Plan
Section 16-1 Aqueous Solutions and the Concept of pH
Field Lab

Pacing
Regular Schedule –2days
Block-1day

Objectives
Record pH of a stream using LaMotte kit and pH meter
Record Conductivity of stream using meter
Analyze data and discuss factors that impact pH of a stream
Model factors back in Chem. Lab
Determine the impact of pH on stream life

Core Content
PS 1.2.4 Physical properties of Matter
ES 2.2.2 Geological cycles
SI Equipment use and data collection
A/C Environmental Quality
LS 3.5.3 Changes in Ecosystems effect populations
LS 3.5.5 Human effects of ecosystems

Activities *10-15 minutes*
Review Electrolyte solutions and pH from previous day lesson
Essential Questions 1.Name 3 types of Electrolytic solutions?
2. What does pH indicate about a solution?
B. Explain the pH of 3.
Active Reading on factors that impact pH of a stream and impact of pH on life in the stream. Active reading and questions attached. *10-15minutes*
Walk to local stream and collect data and record. pH and conductivity *30min*
Return to classroom and compare data and discuss its signifigance.*15 min*
Model Acid rain in the lab. Give each lab group a beaker of a weak base ammonia cleaner. Have them place a drop of Phenolphthalein indicator to turn the water slightly pink. Have them blow gently through a straw into the water until it clears. Take pH of solution before and after it clears. Relate to Atmospheric gases and acidity of streams. *15 min*

Assessment
Monitor use of equipment in making measurements and collect data gathered by students. 50pts
Open Response on Unit Exam-Discuss factors that might affect the pH of a stream and how this might impact the life in that stream. 10 pts
Grade Questions with active reading. 25 pts