Lesson Twelve

The Dangers of Electricity and Formative Assessments

Grade: Fourth Grade

Time: 30-45 Minutes (w/small group accommodations, prediction, and writing support. The teacher will assist any students having difficulties with the circuit or its components)

Materials: The class will be situated within a computer lab with the desktops logged on and on the Pacific Gas and Electric Company website. The teacher computer will be hooked up to the ELMO to project the website.

http://www.pge.com/microsite/safety_esw_ngsw/esw/travels/where.html

Objective: The students will analyze written text, diagrams, illustrations, and real photographs to determine the dangers of electricity. Students will then use the website for use of a formative assessment to locate the hidden dangers within an animated skit. Students will complete the above tasks through the use of the website and navigating through it successfully.

Standards: NYS/National Standards

New York State Standards: Standard One: Analysis, inquiry, and design.

- Scientific Inquiry: Key Idea One, The central purpose of scientific inquiry is to develop explanations of natural phenomena in a continuing creative process. **S1.1** Ask "why" questions in attempts to seek greater understanding concerning objects and events they have observed and heard about. **S1.1a** Observe and discuss objects and events and record observations. **S1.3** Develop relationships among observations to construct descriptions of objects and events and to form their own tentative explanations of what they have observed**. S1.3a** Clearly expresses a tentative explanation or description, which can be tested.

Technology Education: Standard Five: Computer Technology

Key idea: Computers, as tools for design, modeling, information processing, communication, and system control, have greatly increased human productivity and knowledge.

- Use the computer as a tool for generating and drawing ideas

National Standards:

NS.K-4.2 Physical Science

- As a result of the activities in grades K-4, all students should develop an understanding of the following: properties of objects and materials, position and motion of objects, and light, heat, electricity, and magnetism. Utilized to build an electrical circuit as well as being able to understand electricity and its path traveled.

Lesson Twelve (cont.)

NS.K-4.1 Science Inquiry

- As a result of the activities in grades K-4, all students should develop abilities necessary to do scientific inquiry, and understanding about scientific inquiry.

NT.K-12.5 Technology Research Tools

- Students use technology to locate, evaluate,and collect information from a variety of sources.
- Students use technology tools to process data and report results.
- Students evaluate and select new information resources and technological innovations based on the appropriateness for specific tasks.

Procedure:

1.) The teacher will explain to students today they will be learning more about the safety of electricity. The teacher will explain to students that we have already learned some information about this through the use of the textbook as well as the previous website used.
2.) The teacher will ask students to share some of their current knowledge.
3.) The teacher will then review the computer lab rules with students, and bring up the website on the ELMO projector for students to view. The teacher will remind students that the site is up on their desktops however should be view the teachers at this time only. The teacher will model clicking and navigating the site through the use of the third tab: How electricity can Hurt you, the fourth tab: In case of emergency,
4.) The teacher will explain to students that they will be reviewing the information on these pages carefully for the next fifteen minutes. The teacher will then model and review how we analyze text, diagrams, and photographs.
5.) The teacher will explain to students that they will be completing two assessments at the conclusion of this. One about locating electrical hazards, and the other about making safe choices regarding electricity.
6.) The teacher then gives students fifteen minutes to work with the website.
7.) The teacher then directs students to play the “Hidden Dangers” game (assessment of knowledge. Once they have passed this which the site will not allow a student to move forward unless they have completed successfully the student is directed to raise their hand.
8.) The teacher will individually direct the student to move to the “Safe Choices” game.
9.) This game will also check students’ work for understanding.

Conclusion:

Once students have completed both formative assessments the teacher will ask students of any new knowledge they may have learned about regarding electricity. The teacher will then record all of their new thoughts and topics on the classroom K-W-L. The teacher will be sure students are checking to assure that the information being added is newly learned.