Communicating through Engineering Information Technology (EIT)

Lesson Plan

Objectives: The learner will demonstrate analysis of prior labs by keeping a lab notebook.

The learner will demonstrate application of the lab notebook by sharing it electronically with other classrooms.

The learner will demonstrate evaluation of other lab notebooks within the same classroom and those from other classrooms involved in Engineering Information Technology (EIT).

National Science Education Standards: UCP2, SI1, SI2, ST1, ST2, NHS1

Benchmarks: 1B, 3A, 3B, 3C, 8D, 8E

Materials:
1) Scanner
2) Logitech Digital Pen
3) Digital Notebook
4) Digital Camera
5) Web Camera
6) Internet Connections
7) Classroom e mail addresses
8) Adobe Acrobat Professional v.6.0 (optional)

Background: Scientists are working all around the world on a variety of projects at any given moment. With major research in a number of different location, modern technology has improved the quality of information being shared between these research locations. There are teams of scientists stationed around the world working on similar projects. It is through information sharing technologies that these scientists communicate their questions and findings in order to complete successful research projects. While e-mail is a familiar information sharing tool to students, they may not realize the full potential of its use in academic areas, as well as the use of other technologies. This lesson introduces students to a variety of information sharing technologies and their uses. In addition to
teaching students about such technologies, the partnerships which this lesson is based on will provide students with the opportunity to communicate with others about their findings. Not only can this be helpful to students in their classroom endeavors, but is also a skill which students will be able to take with them into a variety of real world situations.

**Warm Up:** Name two ways that scientists around the world communicate.

**Procedures:**

1) Students will use a digital notebook instead of a regular notebook during the labs.
2) Instruct students how to download the information from the Logitech Digital Pen to the computer.
3) Using the classroom e mail instruct the students to send their lab notes by attaching the file.
4) In the e mail students will use at least 5 of the “Discussion Starter Questions” to begin dialog about the lab notes being sent.
5) Students may also take pictures or scan their work and use these as information sharing tools in the e mail.
6) As e mails are received, students can discuss the contents of the e mails and then reply.
7) This may continue throughout the year.

**Follow Up Activities:**
Students and teachers can meet at the end of the year to discuss in person the science which they communicated digitally.

**Assessments:**
Students will be assessed throughout the lesson by sitting in on student discussions and reading the e mail correspondences. They should demonstrate evidence of email etiquette, appropriate responses and proper usage of EIT tools.
Discussion Starter Questions for E Mail Communication

Please use at least 5 of the following “starter questions” when emailing your cooperative school. You may also add more of your own questions or comments in the email.

What did you find difficult about doing this lab?

What new questions did this lab make you think of?

How did your ideas change as the lab went on?

What don’t you understand?

What do you understand but want to know more about?

How did the ideas of group members differ?

What was helpful about working in your group?

What would you like to ask another group?

Name something you didn’t expect to find/learn.

What problems did you encounter?

How do the answers of different groups compare?

Was your hypothesis correct?

How did you have to change your hypothesis?

What were some of the sources of error in this lab?

How could you improve the lab?

What ideas did this lab give you for further experimentation?

What was your favorite part of this lab?

Did your group also have problems with...?

List any questions or comments you have for the other school regarding this activity.