The ABC’s of the Dichotomous Key

Grade 6 level Indicators-

A. Scientific Inquiry

1. Use a simple key to classify objects, organisms, and/or phenomena.

B. Scientific Ways of Knowing

1. Understand that some aspects of reasoning have fairly rigid rules for what makes sense; other aspects don’t. If people have rules that always hold, and good information about a particular situation, then logic can help them figure out what is true about it.
2. Understand how scientific investigations usually involve the collection of relevant evidence, the use of logical reasoning, and the application of imagination in devising hypotheses and explanation to make sense of the collected evidence.

Objective:

1. The learner will demonstrate knowledge of a dichotomous key by correctly identifying macroinvertebrates.

Materials:

1. Pencil and science notebook
2. Copies of the Dichotomous Key
3. Copies of the dichotomous key answer sheet
4. Copy of CD lesson

Prior Knowledge:

1. Knowledge of classification systems.
2. Reasons for classifying.
3. Know that living things can be grouped according to their features.
4. Know that there are many different types of living things.

Procedure:

1. Review prior knowledge information
2. Assign Lab partners
3. Pass out worksheets
4. Review worksheet directions with students
5. Start CD program
6. Proceed at pace appropriate to individual class

Assessment:
1. Evaluate completed worksheets with students
2. Assess comprehension by assigning journal topic, ”What did you learn from this activity. Demonstrate creative thinking by inventing your own simple dichotomous key (minimum of 4-6 steps).

Extended Thinking Activities:
1. Journal examples of utilizing a dichotomous key in everyday life.
2. Create more complex dichotomous keys
3. Practice skills by creating puzzles, matching games, and board games.
4. Online activities (choose your own adventure).

Web Sites:
1. A unit with lesson plans on classifying animals using a dichotomous key; www.learn.co.uk
2. A study of macroinvertebrates in streams and using a dichotomous key for identification; www.people.virginia.edu
3. A group activity on constructing and using dichotomous keys; www.iit.edu
4. A simple lesson plan for constructing a dichotomous key to identify groups of objects; www.enchantedlearning.com
5. A step-by-step lesson plan for developing a simple key; www.umd.umich.edu
6. A Dichotomous Key Game; www.kent.k12.wa.us
7. Examples of innovative dichotomous keys and an example of a rubric to grade the final project; www.edquest.ca