Science Intro Puzzle Activity

This is such an old activity, that I only had a typewritten copy of it. While making an electronic version, I used the opportunity to think about revisions regarding the Nature of Science and Science Inquiry themes.

Time: 1.5-2 class periods
Skills: Background knowledge of jigsaw puzzles; hand-eye coordination
Grade Level: 6-8
Materials: 6-8 puzzles (100 pieces each)

This activity was adapted from an activity entitled “Using Puzzles to Teach the Scientific Method” presented by Nancy Toll during ESRA in 1994. The objective in Nancy Toll’s puzzle activity was to help students define the nature of science; list, identify and describe steps in the scientific method; and discuss why the study of science is important. Nancy Toll adapted the activity from the environmental education curriculum Outlook on Ground Water. In its initial context, the objective was to show that people need to work together in order to solve environmental problems and that education is an important part of achieving this goal.

The Activity:

1. Prior to class, mix the pieces of all the puzzles together and divide them among the puzzle boxes.
2. Begin the activity by telling the students that you want to see how well they can “do” science.
3. Break the students up into groups and give each group a puzzle box. Tell them they will have 20 minutes for their class to put as many puzzles together as they can. They are competing with all the other science classes you teach.
4. Without further instructions, allow the students to begin, noting the starting time. Watch carefully as to each student’s style of solving the problem.
5. Most students will realize that their puzzles are not complete, and that they will have to work together to complete the given task.
6. Stop the students at the end of 20 minutes and estimate how many puzzles are complete by adding the fractions of each of the puzzles. Record the data on a chart.
7. Tell the students that they were just DOING science and ask the class to come up with a definition of what science is. Continue the discussion by asking students how the puzzle activity fits into this definition.

Students of a competitive nature will have to wait a day to see how their class did when compared to other classes in terms of putting the puzzles together. Invariably this leads to discussions about how the process of science can take a long time, experiments and results need to be duplicated, too many variables producing misleading results, etc.

Nancy Toll continues her lesson with a discussion about using a scientific method to solve problems, and how the puzzle activity relates. It is at this point that I picture using the first lesson in Bell’s book to bring in the Nature of Science and inquiry facets to the discussion. I also would introduce the Science Inquiry Map poster from SCALE at this point as well. We traditionally do this activity on the first day of school so this will hopefully set the stage for many future discussions around Nature of Science and Science Inquiry in my classes.