Student Activity Sheet

Inquiry A: The Scientist

Objective:
Students confront their prior conceptions about the nature of science and scientific inquiry.

Procedure:

1. List examples of what you consider to be scientific truths.

2. After your discussion of # 1, examine examples of scientific and non-scientific knowledge (provided by the instructor) and in your group label those examples as scientific or non-scientific.

3. After your discussion of #2, how accurate was your group in distinguishing between scientific and non-scientific knowledge?

4. Based on the tenets of science developed in discussions, re-examine your list of scientific truths and with the help of the group, make any changes necessary (in a different color of ink, preferably).

Formative Assessment of Inquiry A

1. What new concepts have you learned regarding the nature of science?

2. What misconceptions regarding the nature of science did you possess before today's class? Collect the list of scientific truths each student wrote and then modified (if modification occurred!).

Student Activity Sheet

Inquiry B: *The Fly*

Objective: Students design an approach to solving a particular problem using the scientific method as they understand it prior to class and then modify their approach following a discussion during class which will clarify the nature of the method and its proper use.

Procedure:

1. After guided discussion, devise an investigation that addresses this question/problem that will be turned in at the end of class. The design of this experiment must ultimately include the following:
   Personal observations of flies
   Question upon which they are basing their hypothesis
   Written hypothesis
   Experiment to test the hypothesis (includes a control, replication, etc.)
   Predicted outcome
   Other experiments based on predicted outcomes

Formative Assessment of Inquiry B

1. Re-evaluate your 10-second definition, and working with your group, decide how or if you would modify their respective definitions.

Student Activity Sheet

Inquiry C: *The Raven*

Objective: Students read initial scientific observations from actual case studies and develop their own investigative strategies for each case study. Appropriate case studies are used as introductions to various topics throughout the course and the procedure for this activity may be used at that time.

Procedure:

1. Design an investigation to solve the problem presented in case study presented as a guided discussion by your instructor.

Formative Assessment of Inquiry C

1. What was the most difficult part of writing your investigation for this case study?

2. How was your investigative design different from the case study's author?