**Overall Outline for *Science in My Backyard* Lesson**

***Day 1: Outline Assignment and Start Brainstorming Research Question***

1. presentation of *Mystery of the Backyard Holes* ppt lecture
2. group discussions -- how could you test this hypothesis?
3. class discussion -- groups present their "research plans", and class discussion about research plans and scientific method -- any problems? -- will they test what you want?

***Homework assignment:***

Students should come prepared to class on *XXX* with written answers in your lab notebooks to the following questions/statements:

* What problem could you investigate in your own backyard, home, or workplace? Describe the problem in your own words.
* Describe the observations that led to the research question being asked.
* Write out a hypothesis statement(s) that you wish to test during your investigation. It is possible to have more than one hypothesis during your investigation, just make sure that each is stated separately and clearly. It may be helpful to number your hypothesis (if more than one) and refer to the hypothesis by number later on in your lab report.
* Come up with one way that you could test your hypothesis. Give as much detail as possible.

***Day 2: Refine Research Question***

1. group discussions -- groups discuss each persons topic, research plan, suggestions for improvement
2. Research questions approved by instructor

***Homework Assignment:***

Students should carry out their research plans over the next XXX weeks and write a formal lab report on their research investigations and results. Students should come prepared to class on *XXX* with your final lab report as well as your completed self evaluation of your lab report.

***Day 3: Turn in Lab Reports and Conduct Peer Evaluations***

1. Students turn in lab reports and completed self evaluations of lab reports
2. Instructor passes lab reports out to students to conduct peer evaluations on other students’ lab reports. Each lab report will be peer reviewed by two classmates.

***Instructor Follow-Up***

Instructor grades lab reports using the same evaluation rubric that students used to conduct their self evaluations and peer evaluations, which gives some transparency to the evaluation process. One point (out of 100 total points) is deducted from the final lab report score for failure to complete each of the following: self evaluation, peer review of student A, peer review of student B. After reading all the peer evaluations, the instructor blacks out the evaluator’s name, and passes them out to students when they receive their lab reports and instructor evaluation.