Monday, September 24th, 2012

Unit: Scientific Inquiry Topic: M&M lab	Date: 9/24/2012 Class: Biology

Michigan Biology Objectives:
B1.1A Generate new questions that can be investigated in the laboratory or field.
B1.2A Critique whether or not specific questions can be answered through scientific investigations.
B1.1C Conduct scientific investigations using appropriate tools and techniques (e.g., selecting an instrument that measures the desired quantity—length, volume, weight, time interval, temperature—with the appropriate level of precision).

Illinois Objectives:
11.11.01 Understand and follow procedures relating to scientific investigations, including understanding the design and procedures used to test a hypothesis, organizing and analyzing data accurately and precisely, producing and interpreting data tables and graphs, performing appropriate calculations, applying basic statistical methods to the data, identifying appropriate conclusions, making predictions, and evaluating competing models.
11.11.03 Identify possible sources of error in an experiment.
11.11.04 Distinguish and define the following components of typical experiments: constants, variables, experimental group, control group (or control setup).
13.11.04 Understand that scientists must be responsible about how they conduct their experiments
11.11.08 Given a description of a test to be performed on a model, select from a list of options what are the possible sources of error in conducting the test.

My Lesson Objectives:
- Record both quantitative and qualitative observations.
- Ask a testable question.
- Design a simple procedure to test question with the available resources in the classroom.

Activities:	Materials/Equipment:
● Object/Inference game: 5 minutes ● Whosawhatzit: Spongebob Activity (Spongebob) ○ 20 minutes ● M&M lab 25 minutes ○ Students make observations about the M&Ms (bag, candies, etc)	● M&M's ● copies of Whosawhatzit ● copies of M&M lab

○ Then they ask a testable question ○ Students write a procedure for how they could test their question in class.	

Assessment: (Embedded, Formal)
Embedded: Students write a testable question. I will assess their understanding of how to start an experiment with a testable question. If students are struggling I will work with them to develop a question that they could likely test in about 50 minutes.