Effective Use of Computer Simulations in the Inquiry-Based Science Classroom
Presenter: Jenay Sharp Leach

Personal Formative Assessment:
1. I use inquiry-based activities in my science classroom:

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2. I use computer simulations in my science classroom:

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3. I define inquiry as:

4. I define simulations as:

Guidelines for Incorporating Simulations into Your Classroom
(Bell, Gess-Newsome, & Luft, 2008; de Jong & van Joolingen, 1998)

1.) Computer simulations are a supplement to other forms of instruction, not a replacement.

2.) Simulations are an ideal follow up for science lessons that involve variables that are difficult to manipulate in real-life settings as a result of resource, safety, or practical considerations.

3.) A simulation should allow the student to perform tasks that would be impossible without the simulation.

4.) Ensure that the link between the simulation and its real world applications are clear for the students.

5.) A simulation activity that is teacher led should still engage the students with questioning, prediction generation, and conclusion drawing.

6.) Be sure to identify the limitations of a simulation.

7.) Familiarize your students with the technology before allowing them to navigate a simulation on their own.

8.) Provide students a few minutes to explore the simulation prior to engaging in class goals (students will explore whether you give them time to do it or not so it is better to build it into the instruction).

9.) Closure is essential to a lesson that incorporates a simulation! Students should be given time to reflect and discuss the connection between the simulation and the real world.
Experimental Design Diagram

Question:

Hypothesis:

Independent Variable:

Dependent Variable:

Constants:

Procedure: