

# INQUIRY SCIENCE INSTRUCTION: HOW DO I DO IT? HOW CAN I USE INQUIRY TO MOTIVATE STUDENTS AND CREATE A POSITIVE ENVIRONMENT?

North Dakota Curriculum Initiative  
Bismarck, North Dakota

June 29-30, 2009

HIGH QUALITY SCIENCE  
INSTRUCTION:  
WHAT IS IT?



Monday, June 29, 2009

## Essential Question:

- Inquiry science: How Do I Do It?

## Focusing Question:

- Does inquiry science instruction motivate students to learn?
- Are students more intellectually engaged with important science concepts when teachers use inquiry approaches?
- Does inquiry instruction support positive classroom environments?

## Outcomes: Participants will

- Become familiar with the research about how to make teaching more inquiry based.
- Be re-introduced to the elements of Inquiry and practice creating lessons that include the five features of inquiry.
- Engage in self-reflection and discussion about current teaching practices related to inquiry.
- Participate in inquiry science lessons and discuss how they help students to think scientifically while addressing student misconceptions.
- Learn how inquiry can be used to develop positive student attitudes and motivation to learn science.

10:00 – 10:15

**Welcome and Agenda Overview**

10:15 – 11:45

**Presentation:** Why Inquiry-Based Teaching? What are the instructional problems that inquiry is trying to solve? “Moving beyond Activities for Activities Sake.” Anne Tweed, NSTA President 2004-2005, NCCC Liaison to North Dakota

11:45 – 12:30

**Lunch**

12:30 - 2:15

**Features of Inquiry Instruction:** What does the research tell us about the features of inquiry and what does inquiry look like in the classroom? Participants will examine sample video lessons.



2:15 – 3:45

**Making a Lesson into an Inquiry Lesson:** Each participant will take a lesson that they have brought with them and revise it into an inquiry lesson. Peer reviews with table groups will be practiced.

3:45 – 4:00

**Sense-making and Wrap Up**

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Tuesday, June 30, 2009

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**Essential Question:**

➤ Will inquiry motivate students? How will it engage students while providing a positive classroom environment?

**Focusing Questions:**

- What is the relationship between inquiry and effective science instruction?
- How is thinking scientifically a key piece of inquiry learning?
- How can teachers improve their inquiry instruction and change the existing classroom climate to engage and motivate students?

8:00 - 9:00

**Presentation:** What is meant by Scientific Inquiry, inquiry learning and inquiry teaching? (“Minds of Their Own,” video clips and research findings.)

9:00 – 10:30

**Inquiry Lessons:** Using a sample lesson, learn how to help students think scientifically. How does this help us address misconceptions?

10:30 – 10:45

**Break**

10:45 – 11:45

**Inquiry Lessons:** How can we intrinsically and extrinsically motivate students using inquiry lessons? Sample lesson will be reviewed and discussed.

11:45 – 12:30

**Lunch**

12:30 – 1:30

**Inquiry Lessons:** How do we assess inquiry learning? Analysis of rubrics and other assessment tools.

1:30 – 2:00

**Planning and Evaluation:** Networking and discussion of what teachers can do improve their inquiry science instruction.

