Welcome to the Inquiry Zone!

John Taylor and Douglas Hunnings
Friday, October 29, 2021: 8:00-9:00
Oregon Convention Center, E145
NSTA Portland, Oregon
Session Takeaways

Learn an approach to decrease the load or stress for elementary teachers to help them feel more comfortable implementing inquiry.

Learn how literacy is foundational to a robust cross-curricular science inquiry approach.

Learn how to provide evidence for an integrated science programming which administrators can support.

Learn an approach to help students "think like a scientist."
What is the Inquiry Zone?

An Approach to help teachers and students learn to think like a scientist all day, through all subjects.

The Steps of the Science Inquiry Process

- Step 1: Making Observations
- Step 2: Creating Questions
- Step 3: Choose one Question as your focus.
- Step 4: Making a Hypothesis for your investigation.
- Step 5: Creating Procedures and Collecting Data
- Step 6: Analyzing your data and creating your Conclusion
- Step 7: Presenting your findings to others.

What Occurs During the PD Sessions?
The initial Science Inquiry Training will consist of 7 Modules: 7 PD Sessions.

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<th>SESSION</th>
<th>MODULE(S)</th>
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<td>Module 1: Overview of Science Inquiry</td>
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<td>Modules 2 &amp; 3: Observing/Questioning/Hypothesis vs Prediction</td>
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<td>Module 6: Experience an inquiry!</td>
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<td>Module 7: How to Present Your Findings</td>
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<td>Discussion on ETHOS Science Kits in relation to Science Inquiry Process and to ELA and Math Integration.</td>
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WHAT OCCURS DURING THE SCIENCE INQUIRY PD?

1. Each session is a small, manageable dose, which can help take something off the plate for teachers.
2. Sessions 1-4 and 6 will last no longer than 45 minutes. Sessions 5 and 7 last 60 minutes.
3. ETHOS Staff will teach a Mini-Content Lesson.
4. Teachers will be practicing the inquiry skills within the time allotment.
5. Inquiry Integration Tip
   • A tip on how to integrate that day’s Inquiry Step into other subject areas.
6. Exit Slip/Wrap Up for the day.
Defining the Terms...

“Observations” and “Questioning”

▪ To make an **observation** is to make a statement about the world using your five senses (sight, hear, touch, smell, and taste).
  ▪ The stuffed toy felt soft.
  ▪ The table was brown.
  ▪ The music was playing loudly.
  ▪ The lemon tasted sour.

▪ **Questioning** is the process of creating questions based on what you observed.
  ▪ Based on the observation that the lemon tasted sour, I could create the following question:
    ■ How can I make the lemon taste less sour?
Let’s practice!

- There are items to observe.
- Observe the items, and make a list.
- Generate questions based on your observations.
- You have 2 minutes!
How to Create Observations:

- We use our senses to help us learn and discover our world.
- When you *make a statement or acknowledge what you notice*, you are making an observation.
  - Example: The rotten fruit is changing colors, so you observe that the rotten fruit is a brownish or even white color. When you state the color, that is your observation.
When you create questions, you will make one of two types of questions: Open Questions and Closed Questions.

Open Questions...
- Are open ended
- Can not be answered with a simple “Yes” or “No”
- Need evidence to support the final answer
- Require high-level thinking

Closed Questions...
- Can be answered with a simple “Yes” or “No”
- Usually has only one correct answer or response
- Require low-level thinking (Recall or Restate)

When completing the Inquiry Process, you are encouraged to use Open Questions.
Connecting Inquiry to Your Classroom (2 parts)

When are your students Asking Questions during literacy?
When are your students Asking Questions during mathematics?
When are your students Asking Question during social studies, art,... ?

When are your students Making Observations during literacy?
When are your students Making Observations during mathematics?
When are your students Making Observations during social studies, art,... ?
Inquiry Questions

- Is there a connection between being curious and being good inquirers?
- What does it mean to be an inquirer?
- Did [character] ask the right questions to further their understanding of the situation? Can you think of any others?
- Did [character] have any good inquiry skills you can use?
- Is there a connection between being an inquirer and asking questions?
- How do you know [character] was being an inquirer?
- How did the inquiry process help [character]?
- How do you know the [character] was going through an inquiry process?
- How were the [character’s] inquirers?
- Were any of the [character’s] curious? How do you know?
- Describe how a character used their curiosity/inquiry process to solve a mystery. Could they have done anything differently?
Time to Reflect: What did you observe?

Our goals:

- Depth of instruction
- Cross curricular connections noticed
- Time content
- Teachers working with teachers
Weekly Inquiry Zone Episodes

As we receive questions from the teachers we support, we create 10-15 minute episodes, where we take time to answer teacher questions about science inquiry.

https://bit.ly/2T4hXPL
Upcoming Session:

High School Teachers and Students Working with Astronomers on Current Research
Friday, October 29, 2021
4:00-4:30
Oregon Convention Center, A103/104
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