**Teaching Science as Inquiry (TSI) Lesson Plan**

**Module 3: Biological Aquatic Science**

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Activity: TSI Modes of Inquiry

1. Why did you choose to do this activity?

This is one of the mandatory activities. It reinforces the TSI modes of inquiry for my students

1. What are your classroom learning goals?

Students will think about and reflect upon their scientific process.

3. How does this activity tie into your classroom learning goals?

My goal is for students to understand the TSI modes of Inquiry and to think about their learning. This activity gives them the opportunity to chart their learning process.

4. What date do you plan to start this activity? March 8, 2013

*5. If applicable:* HIDOE standards this lesson will address

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| **Topic** | Scientific Inquiry |
| **Benchmark** [**SC.PS.1.5**](http://165.248.30.40/hcpsv3/imr/report_by_code.jsp?code=SC.PS.1.5) | Communicate the components of a scientific investigation, using appropriate techniques |

**Ocean**

6. Describe how you will connect this activity to the ocean:

We will discuss, as a whole class, the animals that live in the ocean.

7. Select the Ocean Literacy Principle(s) that you anticipate this activity will address. (check all that apply)

x□ 1. The Earth has one big ocean with many features.

□ 2. The ocean and life in the ocean shape the features of the Earth.

□ 3. The ocean is a major influence on weather and climate.

□ 4. The ocean makes earth habitable

x□ 5. The ocean supports a great diversity of life and ecosystems.

x□ 6. The ocean and humans are inextricably interconnected

x□ 7. The ocean is largely unexplored

**Preparation**

8. How will you prepare your students for this activity? (For example, review of prior knowledge.)

We briefly went over the TSI modes of Inquiry in a previous lesson. We will review the terms and definitions.

9. Explain any instructional struggles that you foresee and how you will address these issues. (For example, student misconceptions, classroom discussion, aspects most difficult for students to grasp, etc.)

Students will struggle with applying the terms to their thought and learning processes. I will reaffirm the concepts as they work through the activity.

10. What ***TSI inquiry*** *questioning strategies* will you use to help your students meet your learning goals?

I will ask clarifying questions to help with understanding of the Modes vocabulary.

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| Use the following table to plan your lesson using TSI.  For each phase:   * **Teacher:** Describe what you will be doing * **Student:** Describe what your students will be doing * **Assess:** Describe how you will assess your students in this phase so you can monitor their progress through the activity |

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| **INTERPRETATION** | | **INITIATION** | |
| Teacher | Discuss with students the Modes and descriptions. | Teacher | Question the whole class about metacognition. |
| Student | Working together in a small group answers questions about Modes of Inquiry | Student | Listen, respond, discuss the term metacognition |
| Assess | Student work for comprehension of the terms for Modes of Inquirty | Assess | Look and listen for student engagement |
| **INSTRUCTION** | | | |
| Teacher | Show students the terms for Modes of Inquiry. Go over the descriptions for the terms that we will be focusing on in this activity | | |
| Student | Will read the terms and listen to the descriptions. They will read the terms and descriptions on a hand-out | | |
| Assess | Look for student focus and engagement | | |
| **INVESTIGATION** | | **INVENTION** | |
| Teacher | Show the students how to begin to fill out the chart for Inquiry Modes as the do their activity. | Teacher | Describe the worksheet for TSI Modes of Inquiy. |
| Student | In small groups fills out the form on Modes of Inquiry for their activity | Student | Will fill out the form for the Modes of Inquiry as they go through the activity |
| Assess | Look for students collaboration in writing in the terms for TSI Modes of Inquiry as they work through the activity. | Assess | Look for students prepared to complete the TSI Modes of Inquiry form as they go through the activity |

11. Briefly describe how you will guide your students through the TSI Phases of Inquiry. (You are the research director of your classroom, and thus guide or facilitate the learning in your classroom, even if an activity is very student-directed).

I will begin with Instruction and Description of the Modes of Inquiry. I will guide them through completing the worksheet as they carry out the investigation.

12. What *overarching* TSI mode(s) will you focus on for this activity? Why?

Modes: Curiosity, Description, Authoritative knowledge, Experimentation, Product evaluation, Technology, Replication, Induction, Deduction, Transitive knowledge

The overarching TSI Modes will be Description. Students will be describing the TSI Modes of Inquiry as they do an investigation.

Please provide any additional comments that will help you prepare to teach this activity or help the TSI facilitators understand how you plan to teach this activity.