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

**Module 2: Chemical Aquatic Science**

Name: Ileta

Activity: TSI Phases of Scientific Process

1. Why did you choose to do this activity?

Mandatory activity

2. What are your classroom learning goals?

Help students better understand the scientific process and for them to see the non-linear motion scientists go through as they conduct experiments.

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

Students need to know how to write a lab report and understand the significance of the scientific method.

4. What date do you plan to start this activity? Jan 4 and 7

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

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| [*8.1.1*](http://165.248.30.40/hcpsv3/imr/report_by_code.jsp?code=SC.8.1.1&contentarea=SC&gradelevel=8) | **Scientific Inquiry** *Determine the link(s) between evidence and the conclusion(s) of an investigation* |
| **◊** [*8.1.2*](http://165.248.30.40/hcpsv3/imr/report_by_code.jsp?code=SC.8.1.2&contentarea=SC&gradelevel=8) | **Scientific Inquiry** *Communicate the significant components of the experimental design and results of a scientific investigation* |

**Ocean**

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

n/a

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

□ 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

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

□ 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 will discuss the definitions of the words. Also we will review the activity because many of the students have forgotten.

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.)

I foresee a lot of confusion and frustration with this activity because my students will ask why it matters and why they are doing this. I am planning on explaining that it’s important for us to know how and why we do the things we do and how this is extra important in science. I foresee the main driving force in the completion of this activity as them getting a grade.

**Questioning and Assessment Strategies**

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

Asking open ended questions such as why do you\_\_\_\_\_\_\_\_.

11. What *assessment strategies* will you use to help your students meet your learning goals and monitor their progress?

Walking around and talking to each group to find out the steps they took while conducting the experiment.

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| Use the following table to plan your lesson using TSI.  For each phase:   * **Mode(s):** List the Mode(s) of Inquiry you will incorporate * **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   \*Modes: Curiosity, Description, Authoritative knowledge, Experimentation, Product evaluation, Technology, Replication, Induction, Deduction, Transitive knowledge |

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| **INTERPRETATION** | | **INITIATION** | |
| Mode(s) | Description, Authoritative Knowledge | Mode(s) | Description |
| Teacher | Give a few examples and discuss the steps that they went through. And discuss how they filled out the chart. | Teacher | Talk about why we do the things we do. Start with how we decide what to wear in the morning. |
| Student | Reflect upon their actions during the lab and how reflection enhances labs. | Student | Think about the what and why of their actions of the lab. |
| Assess (look for) | Self definition of metacognition | Assess (look for) | Student answers to the prompt |
| **INSTRUCTION** | | | |
| Mode(s) | Description, authoritative knowledge | | |
| Teacher | I will teach the students the different phases and modes. I will guide them in how to fill out the worksheet and answer any questions that they may have. | | |
| Student | Will answer and fill out the chart. | | |
| Assess (look for) | How well they can follow directions. | | |
| **INVESTIGATION** | | **INVENTION** | |
| Mode(s) | Description, Transitive knowledge | Mode(s) | Description, Induction |
| Teacher | Explain the chart to students and | Teacher |  |
| Student | Students fill it out, while thinking reflecting on previous activity | Student | Students will fill out the charts and show/reflect how they were thinking during the lab. |
| Assess (look for) | Written identification of steps where action, communication, or thought occurred. | Assess (look for) | Written identification of steps where action, communication, or thought occurred. |

12. Briefly describe how you will direct your students through the Phases of Inquiry.

Explain the definitions and provide examples of the words.

13. What will be the *overarching* mode(s) of this activity? Why?

Induction and replication?? Students will be thinking about what they previously did will be thinking about why they did that or thought they should do the action they did. This in a way, replicates the activity they already did, but with a newer approach.

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.

Will be done after they get back from winter break and are not 100% engaged in school yet. I only have about a day to complete it so it will be rushed. Students will have to fill it out and complete as much as they can.