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

**Module 1: Physical Aquatic Science**

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Activity: Practices of Scientists.

Why did you choose to do this activity?

Now that students have practiced science in the classroom. I would like to explore what science is with the students. I would like the students to make a connection between what they are doing and the actions of a professional scientist. I would like for them to become more scientifically literate by learning about the disciplines and demeanors of scientists.

What are your classroom learning goals?

1. Students will identify the practices of scientists and apply these practices to their own study of science.
2. Increase their awareness about the nature of science and the process of scientific research.
3. Connect the practice of science to their daily lives.

How does this activity tie into your classroom learning goals?

This activity will get the students thinking about the practices of science and how they can replicate the demeanors of scientists in their daily lives. It will take a humorous look at some of the misconceptions about scientists and the practices of science.

What date do you plan to start this activity? 10/09/12

*If applicable:* HIDOE standards this lesson will address

Standard 1 – Scientific Investigation -

Discover, invent, and investigate using the skills necessary to engage in the scientific process.

**Ocean**

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

In the lesson we will talk about scientists that study the ocean. We will talk about investigations that we will be performing in the marine science class and will require the demeanors of scientists. We will discuss that ocean exploration is truly interdisciplinary and requires collaboration among many different types of scientists and innovative ways of thinking.

Many of the students in the class like to fish. I will make the point that being a good fisherman is like being a good scientist. Good fisherman are organized and systematic about how they go about catching fish. They have to know the right bait to use and where and when to fish for a particular species. They also have to have a passion for what they do.

1. 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.

X 6. The ocean and humans are inextricably interconnected

X 7. The ocean is largely unexplored

**Preparation**

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

I will have them come up with a list of experiences where they have played the role of a scientist both in the classroom and in their daily lives.

1. 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.)

Sometimes it is hard to generate meaningful student discussion where everyone participates. In order to overcome this, I will call on students randomly using popsicle sticks marked with their names.

Some students may be confused on the differences between the discipline and demeanors or even what those words mean. Students will read through the definitions of each as a class.

1. Select the TSI Mode(s) of Inquiry that you will focus on for this activity. (check all that apply)

X Curiosity

X Description

X Authoritative knowledge

□ Experimentation

□ Product evaluation

□ Technology

□ Replication

□ Induction

□ Deduction

□ Transitive Knowledge

**Questioning and Assessment Strategies**

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

Students will be questioned orally by randomly calling their name.

Students will also respond confidentially to questions and polls generated on www.polleverywhere.com

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

Students will be assessed on participation in class discussions.

Students will be assessed in pairs on the quality of their work including their drawings/word lists/ and code of conduct which lists expectations of behavior in science class.

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.