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

**Module 1: Physical Aquatic Science**

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Activity: Density Bags

Why did you choose to do this activity?

This activity was chosen to follow the soda activity. The class was wondering what would happen if the sodas were dropped into a different liquid, such as salt water. Also this activity was a targeted activity, but it fit.

What are your classroom learning goals?

My classroom learning goals are to develop inquiry skills, problem solving and critical thinking skills using real life learning situations and/or models to develop content concepts and to develop team work amongst all individuals. I also want to add, to foster and develop the general learner outcomes in all students that are simultaneous learning.

How does this activity tie into your classroom learning goals?

This activity ties into Standard 1, Scientific Inquiry

Standard 3 Life and Environmental Sciences,

Career development,

Oral communication,

Written expression,

Reading skills,

Mathematics skills

What date do you plan to start this activity?

We started this activity on November 8, 2012. But we are not finished, yet

*If applicable:* HIDOE standards this lesson will address

6.1.1, 6.3.1, 6.6.3, 6.6.5

**Ocean**

1. Describe how you will connect this activity to the ocean: I opened the activity with a question, ‘Why do some things float and some things sink?’ Which was followed by 5 questions asking the students if they could use a coconut to keep them afloat? How about a banana? If they could help you float, how many would you need? Would it make a difference if you are wearing a lot of clothes? Would it make a difference if you were in fresh or salt water? I then directly connected to the ocean with facts about the ocean, sea water, circulation, what makes the water saline. In part II I used the ocean literacy brochure and had the students think about ocean literacy is an understanding of the ocean’s influence on you and your influence on the ocean. The students came to the conclusion, that the ocean gives we use but we do not take care what goes into the ocean. I asked them what literacy meant and they did not know.
2. 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.

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

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

X 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**

1. How will you prepare your students for this activity? (For example, review of prior knowledge.) I opened the activity reading a quote from the Ocean Literacy brochure/pamphlet, ocean literacy is an understanding of the ocean’s influence on you and your influence on the ocean.
2. 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.)

My struggle comes from not telling them what I understand and have experienced and listen to what they understand so that I may assess if their misconceptions or lack of experience is changed at the conclusion of the activity. Students do not see that the ocean is a major influence on weather and climate, that we are interconnected with the ocean, that the ocean makes the earth habitable.

I will address these issues, through encouraged discussions with peers, videos, reading materials.

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

X Experimentation

Product evaluation

Technology

X Replication

Induction

X Deduction

Transitive Knowledge

**Questioning and Assessment Strategies**

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

I ask students to share their partners learning and if their comments are not clear then I ask them to explain what that means.

If they do not know what their partners are saying, then they need to continue the conversation.

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

To assess students learning, I will observe how they work together, share information, develop their understanding, and convey their learning from the task. I will assign students the tasks of creating a lab report for the activity and give them an opportunity to share out their learning.

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.