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

**Module 3: Biological Aquatic Science**

Name: Ileta

Activity: Modeling Microevolution

1. Why did you choose to do this activity?

Mandatory activity- also one that could POSSIBLY fit into what we are doing.

2. What are your classroom learning goals?

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

Students question and test a hypothesis

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

March 14

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

|  |  |
| --- | --- |
| [*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:

Talking about the ocean doesn’t really get my students engaged so unless I can think of a direct tie- I usually don’t tie it to the ocean.

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.

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.)

I will prepare students for this activity by providing some background information about bacteria. This will include information about where they live, how they reproduce, their interactions with humans.

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 think my students will have some difficulty keeping things organized and knowing what part they are on.

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

I plan to circulate to each group and beginning questioning by asking them if they think that they would get the same exact results each time they roll. I will then ask them to connect this to a real-life scenario.

|  |
| --- |
| 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 |

|  |  |  |  |
| --- | --- | --- | --- |
| **INTERPRETATION** | | **INITIATION** | |
| Teacher | Lead class discussion about their results | Teacher | Presenting information about microevolution and bacteria. |
| Student | Will discuss with group and record answers in the designated area. | Student | Providing information and listening |
| Assess | Read their packets to see their understanding. | Assess | Students’ response to questions. |
| **INSTRUCTION** | | | |
| Teacher | Explaining the activity, or reviewing instructions for what students will be doing based on various rolls. | | |
| Student | Students will take notes when told to and will follow along with the instructions | | |
| Assess | Student notes on instruction sheet, able to judge by the questions that are asked during the activity if student was listening to instructions. | | |
| **INVESTIGATION** | | **INVENTION** | |
| Teacher | Circulating the classroom checking in with each group to first make sure they are conducting the activity correctly. Asking questions as we go through the activity | Teacher | Walks around to groups to see everyone has a hypothesis written down before they can begin their investigation |
| Student | Rolling, counting paperclips, filling in table, etc. | Student | Working in a group setting to create a hypothesis for what will happen in the activity. |
| Assess | Can students answer questions that are asked. | Assess | Check student hypothesis before allowing them to continue on through 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 provide students with some background information about bacteria and I will model what they will have to do. Students will then pair up and work together to create a hypothesis and begin testing their hypothesis. We will then discuss how environmental pressures may change the results they have and we will discuss what they saw in their experiment.

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

Authoritative knowledge – from teacher and reading

Replication – because every time the activity is done, the numbers will likely change

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.