Name: M. Leiba & J. Ferguson
Lesson Title: What is Cholera?
SSI Topic: Cholera Conodrum

Lesson Length (class periods): Mon-Thursday 2 class periods (90 minutes)
Fri & Mon Wrap-up and Review
Grade Level(s): 7th grade regular, advanced & gifted

Appropriateness for Middle/High School Students
Teaching strategies used: Jigsaw, student discussion, Think -pair-share and lab activity

Background

Florida State Standards (NGSSS)
List the Florida Sunshine State Standards (SSS) that directly applies to your objectives, as well as the NGSSS for relevant grade level(s) that you will connect the lesson content to.
SC.7.N.1.7-Science and Society (Explain that scientific knowledge is the result of a great deal of debate and confirmation within the science community).

Performance Objectives
I can explain how the work of scientists throughout history has affected society.

Materials List and Student Handouts
jigsaw (engage) Lab Activity
~Article on cholera ~Water Samples
~Question and Answer handout ~Dip sticks

5E Lesson Template

In the left column, list all activities you are planning. Also include information on how the class will be organized (grouping; individual work). The right column contains only probing questions you intend to ask of your students to guide their learning. For each phase, complete a brief (2-3 sentence) overview of what will occur in the space provided.

Consider the following during the Engage:
• Include an interesting attention grabber that focuses students’ interest and attention on the lesson content and activities.
• Introduce a guiding question that students should be able to answer at the end of the lesson.

Probing Questions:
• Elicit prior knowledge and students’ experiences.

<table>
<thead>
<tr>
<th>Activities (Teacher or Student Actions)</th>
<th>Probing Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>DE streaming</td>
<td>*What Is Public Health?</td>
</tr>
</tbody>
</table>

ENGAGE

Overview: History of John Snow- Public Health

Adapted from UFTeach
Consider the following during the Explore:

- Explain how your students will explore the concept(s), relating specifically to SSI elements when appropriate, including students’ interests shared during the Engage.

Probing Questions:

- Design questions that guide student explorations, evaluate student understanding, and facilitate student interaction and group collaboration.

### EXPLORE

**Overview: Cholera Jigsaw activity**

<table>
<thead>
<tr>
<th>Activities (Teacher or Student Actions)</th>
<th>Probing Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher will group students in groups and provide paper handouts of the same information from the CDC website.</td>
<td>What is Cholera? What causes Cholera? How do you become infected with Cholera?</td>
</tr>
</tbody>
</table>

Consider the following during the Explain:

- Have students share and explain the results of their investigation. Connect to relevant SSI elements.
- Add additional content, including definitions, explanations, and new vocabulary in the context of concepts explored.

Probing Questions:

- Ask probing questions to deepen students’ conceptual understanding and skills of the concepts that the lesson is based upon.

### EXPLAIN

**Overview: From the information gathered on the topic students will share with other students the most relevant information.**

<table>
<thead>
<tr>
<th>Activities (Teacher or Student Actions)</th>
<th>Probing Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group presentations on topic</td>
<td>What was your topic? What was the most important information from your topic?</td>
</tr>
</tbody>
</table>

Consider the following during the Elaborate:

- Opportunity to provide students with the chance to transfer and extend (apply) the concepts and skills they have just learned to their interests and new situations.

Probing Questions:

- Connect and apply the lesson to students’ interests outside the classroom.
### ELABORATE

#### Overview Part 2 Lab (Testing the Water)

<table>
<thead>
<tr>
<th>Activities (Teacher or Student Actions)</th>
<th>Probing Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lab Testing of Water Samples</td>
<td>How important is it to be able to test for the presence of Cholera?</td>
</tr>
<tr>
<td>Instruction Sheet/Rapid Test Kit-dip sticks and water samples</td>
<td>How many camps was Cholera present?</td>
</tr>
</tbody>
</table>

#### Consider the following during the Evaluate:
- Utilize the grading rubric you designed for the formative assessment tool to assess the students’ mastery of all benchmarks.

### EVALUATE

#### Overview Lab questions and written report.

<table>
<thead>
<tr>
<th>Activities (Teacher or Student Actions)</th>
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<tbody>
<tr>
<td>Lab questions on activity sheet</td>
<td>What patterns do you notice on locations of cholera found?</td>
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<tr>
<td>Lab report (discusses all aspects of lab-5 paragraphs)</td>
<td>What are antigens?</td>
</tr>
<tr>
<td></td>
<td>What are antibodies?</td>
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