There’s an Epidemic at our School.

A lesson plan for grade 7
Science
21st Century Interdisciplinary Theme: Health Literacy
By: Valerie Mulé of Meadowview Middle School

This lesson utilizes documents from the North Carolina State Government Publications Collection. Ensuring Democracy through Digital Access, a NC LSTA-funded grant project.

Learning Outcome

Essential Question: “What do we need to do to prevent or control an outbreak of yellow fever at our school if it occurred today?” Students will work in small collaborative groups to examine the problem of epidemics in past and modern times. Students will develop their own public health policy that reflects the challenges of a modern day outbreak of yellow fever at school. Students will present their findings in the form of a written letter/report (electronic or hard copy) multimedia presentation to the class and to the Principal.

Time Required:

Type of Activity: Problem solving, critical thinking, investigative research, KWL, oral presentation, report writing, multimedia presentation, 21st Century technology skills.

Materials/Resources Needed

1. Book: Fever 1793 written by Laurie Halse Anderson
2. Laptop or Computers for each student or group, Internet and MSOffice software
3. Notebook/Paper/Pen/Pencil
4. NC State Government Publications website. Search the titles re: yellow fever:
7. Group Work Rubric, Rubric for Letter
8. KWL chart, sample letter, letter outline form
Activity Sequence

Problem based learning is a collaborative learning experience designed to reinforce the kinds of problem solving skills students should be able to demonstrate in the 21st Century workplace. Time per step will vary from group to group.

1. Teacher introduces the topic of Yellow Fever with the You Tube clip:  [http://youtu.be/auOmUqo7C5k](http://youtu.be/auOmUqo7C5k)
2. Teacher will then read aloud the Appendix on page 244 in the book *Fever 1793*
3. Teacher will model KWL chart with “What do we know need to prevent/control epidemics today?” and “What do we want to know?”
4. Teacher will divide students into small groups and provide paper, pencils, pens, rubrics, laptops and Internet Access.
5. Students will read the following documents and take notes on the characteristics of how communities/government tried to prevent the spread of epidemics. Students may divide up the reading selections and report their findings to the group.
6. Students will Think-Pair-Share in their small groups re: preventative public health policies for epidemics/yellow fever and complete KWL.
7. Teacher will provide a rough draft outline, sample letter and rubric.
8. In small groups students will complete a written public health policy report to the Principal suggesting steps to eliminate/prevent an epidemic of yellow fever at school. This written report can be presented to the class in the form of a group letter or multimedia report to the Principal.
   a. A written rough draft of your group’s public health policy – rough draft must be shown to the teacher first.
   b. The group must agree on the items in the report.
   c. Policy can be revised and edited by your group as new information is discovered, or “old” information is discarded.
   d. Include sources cited to demonstrate your process as well as outcome.
   e. List public policies in sequential form. What should be done first, second, etc. List all steps needed to prevent an epidemic.
   f. Order them from most important to least important (Create a timeline).
9. The group will choose a recorder to create a policy draft. The public health policy must be in the form of a written report – a letter to the Principal. (Electronic letter is ok)
10. As a group each student will present at least one public health policy item listed in the letter, discuss, answer questions or elaborate on it for the class.
   a. Reflect upon how well you as an individual contributed to the success of your group’s work.
   b. Reflect as a group on what you did well and learn from what you have not done well.
c. Students will then submit their finished written report, KWL notes, rubrics and rough draft stapled together so that there is only one stack submitted per group to the teacher.

Assessment

Teacher will provide two rubrics at the beginning of the assignment. One rubric will assess each student’s participation in group work and another rubric will assess the written report to the Principal. Completion of the assessments will be by student peers and reviewed by teacher.

Author’s Notes

This lesson is part of an ongoing series of lesson plans from an integrated Literature unit that incorporates Language Arts, Social Studies, Science connected to the book Fever 1793 by Laurie Halse Anderson.

North Carolina Essential Standards

8.RIT.8 Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient; recognize when irrelevant evidence is introduced.

8.RIT.9 Analyze a case in which two or more texts provide conflicting information on the same topic and identify where the texts disagree on matters of fact or interpretation.

8th Grade Common Core – Language Arts: Writing. Text Types and Purposes

8.W.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)

8.W.5 With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.

8.W.6 Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas efficiently as well as to interact and collaborate with others.

8th Grade Common Core – Language Arts: Writing. Research to Build and Present Knowledge

8.W.7 Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
8.W.8  Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.

8.W.9  Draw evidence from literary or informational texts to support analysis, reflection, and research

North Carolina ELD (English Language Development) Standards:  WIDA standards

Grade 6-12:  http://www.wida.us/standards/6-12%20Standards%20web.pdf

This lesson meets ELD Standard 1, 2, 4 and 5.

ENGLISH LANGUAGE PROFICIENCY STANDARDS - WIDA

Standard 1: English language learners communicate for Social and Instructional purposes within the school setting.

Standard 2: English language learners communicate information, ideas and concepts necessary for academic success in the content area of Language Arts.

Standard 3: English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.

Standard 4: English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.

Standard 5: English language learners communicate information, ideas and concepts necessary for academic success in the content area of Social Studies.
<table>
<thead>
<tr>
<th>Group Work Rubric</th>
<th>Student: _______________________________________</th>
<th>Teacher: <strong>Ms. Valerie Mulé</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Skills</strong></td>
<td><strong>Basic</strong> 1</td>
<td></td>
</tr>
<tr>
<td>Contributions</td>
<td>Seldom cooperative, rarely offers useful ideas. Is disruptive.</td>
<td></td>
</tr>
<tr>
<td>Participation</td>
<td>Sometimes cooperative, sometimes offered useful ideas. Rarely displays positive attitude.</td>
<td></td>
</tr>
<tr>
<td>Commitment</td>
<td>Cooperative - usually offered useful ideas. Generally displays positive attitude.</td>
<td>Always willing to help and do more, routinely offered useful ideas. Always displays positive attitude.</td>
</tr>
<tr>
<td>Cooperation</td>
<td>Did not do any work – does not contribute, does not work well with others, usually argues with teammates.</td>
<td>Could have done more of the work – has difficulty, requires structure, directions and leadership, sometimes argues.</td>
</tr>
<tr>
<td>Focus on task</td>
<td>Often is not a good team member. Does not focus on the task and what needs to be done. Lets others do the work.</td>
<td>Sometimes not a good team member. Sometimes focuses on the task and what needs to be done. Must be prodded and reminded to keep on task.</td>
</tr>
<tr>
<td>Team role</td>
<td>Participate in few or no group meetings. Provided no leadership. Did little or no work assigned by the group.</td>
<td>Participated in some group meetings. Provided some leadership. Did some of the work assigned by the group.</td>
</tr>
<tr>
<td>fulfillment</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Score</strong></td>
<td><strong>Sound</strong> 2</td>
<td></td>
</tr>
<tr>
<td><strong>Thorough</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Extensive</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td>Listening</td>
<td>Information sharing</td>
</tr>
<tr>
<td>---------------</td>
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<td>--------------------</td>
</tr>
<tr>
<td>Always listens to, shares with, and supports the efforts of others. Provided effective feedback to other members. Relays a great deal of information – all relates to the topic.</td>
<td>Always listens to, shares with, and supports the efforts of others. Provided effective feedback to other members. Relays a great deal of information – all relates to the topic.</td>
<td>Usually listens to, shares with, and supports the efforts of others. Sometimes talks too much. Provided some effective feedback to others. Relays some basic information – most relates to the topic.</td>
</tr>
<tr>
<td>Rarely listens to, shares with, or supports the efforts of others. Is always talking &amp; never listens to others. Provided no feedback to others. Does not relay any information to teammates.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**K-W-L Chart Sample**

<table>
<thead>
<tr>
<th>What do I know?</th>
<th>What do I want to find out?</th>
<th>What did I learn?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total: ________
Format for written public health policy report:

[Date]

[Principal’s Name, school, address and phone number]

Dear Principal,

Introduction .................

Suggestion #1 ..................................................

Suggestion #2 ..................................................

Suggestion #3 ..................................................

Conclusion ..................................................

Sincerely,

[Your name, address and phone number]
Dear [name of contact],

In the first paragraph you should briefly explain who you are and why you are writing to them. Name the public health policies that you would make. While it’s fine to start this paragraph with ‘I’, try not to start every paragraph in the same way. Never forget to mention all the policies you would make.

Explain why you think you are qualified to make suggestions for these policies based on your experience as a student and research you have done on yellow fever. Mention your most important suggestion in this paragraph.

In this paragraph, explain why you would like to make these health policy changes to our school now, showing that you have done research regarding the topic. Your audience wants to know that you’re interested in them and the topic. Understand what their position is and what they want to change about health policy on epidemics.

Lastly, politely request that they consider your suggestions, conveying your appreciation for their time. Being polite and enthusiastic will help to create an overall good impression.

Sincerely yours,
[Signature] If you have the technology to do so, scan your signature and insert it into the document.

Print full name
Your street address
Suburb State Postcode
Tel:
Mobile:
Email:

Rubric for the Friendly Letter

Student: _______________________

<table>
<thead>
<tr>
<th>Score</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Layout/ Design</strong></td>
<td>Letter is unattractive or inappropriate. Text is difficult to read. It does not have proper grammar or punctuation for a friendly letter.</td>
<td>Letter appears busy or boring. Text may be difficult to read. May have some grammar and or punctuation that indicates it is a friendly letter.</td>
<td>The letter is eye-catching and attractive. Text is easy to read. Grammar, style, and punctuation is indicative of a friendly letter.</td>
<td>The letter is creatively designed with easily read text. Grammar, style, and purpose all excellent for a friendly letter.</td>
</tr>
<tr>
<td><strong>Information, style, audience, tone</strong></td>
<td>Information is poorly written, inaccurate, or incomplete.</td>
<td>Some information is provided, but is limited or inaccurate.</td>
<td>Information is well written and interesting to read.</td>
<td>Information is accurate and complete, is creatively written, and is cleverly presented.</td>
</tr>
<tr>
<td><strong>Accurate Parts of the Friendly Letter</strong></td>
<td>Improper form is used.</td>
<td>Most friendly letter elements out of place or missing.</td>
<td>Some friendly letter elements may be missing.</td>
<td>Letter is complete with all required elements.</td>
</tr>
<tr>
<td>Grammar, Punctuation, and choice of words for the friendly letter</td>
<td>Grammar, punctuation, and choice of words poor for a friendly letter.</td>
<td>Information mislabeled or missing. Inaccurate punctuation or grammar.</td>
<td>Style, purpose, audience, grammar, and punctuation all fair and indicative of a friendly letter.</td>
<td>Excellent job on presentation, style, grammar, and punctuation.</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Following Classroom Guidelines and Directions</td>
<td>Students are often out of their area without permission and are disruptive to the class.</td>
<td>Students occasionally leave area without permission.</td>
<td>Students stay in their area and talk quietly to their own partner only.</td>
<td>Students are always on task, stay in their own area, and work quietly. Students followed project directions and classroom directions.</td>
</tr>
</tbody>
</table>

**Multimedia Project Rubric:**  *There’s an Epidemic at our School*  

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>SCORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presentation</td>
<td>Well-rehearsed with smooth delivery that holds audience attention.</td>
<td>Rehearsed with fairly smooth delivery that holds audience attention most of the time.</td>
<td>Delivery not smooth, but able to maintain interest of the audience most of the time.</td>
<td>Delivery not smooth and audience attention often lost.</td>
<td></td>
</tr>
<tr>
<td>Sources</td>
<td>Source information collected for all graphics, facts and quotes. All documented in desired format.</td>
<td>Source information collected for all graphics, facts and quotes. Most documented in desired format.</td>
<td>Source information collected for graphics, facts and quotes, but not documented in desired format.</td>
<td>Very little or no source information was collected.</td>
<td></td>
</tr>
<tr>
<td>Attractiveness</td>
<td>Makes excellent use of font, color, graphics, effects, etc. to enhance the presentation.</td>
<td>Makes good use of font, color, graphics, effects, etc. to enhance to presentation.</td>
<td>Makes use of font, color, graphics, effects, etc. but occasionally these detract from the presentation content.</td>
<td>Use of font, color, graphics, effects etc. but these often distract from the presentation content.</td>
<td></td>
</tr>
<tr>
<td>Requirements</td>
<td>All requirements are met and exceeded.</td>
<td>All requirements are met.</td>
<td>One requirement was not completely met.</td>
<td>More than one requirement was not completely met.</td>
<td></td>
</tr>
<tr>
<td>Mechanics</td>
<td>No misspellings or grammatical errors.</td>
<td>Three or fewer misspellings and/or mechanical errors.</td>
<td>Four misspellings and/or grammatical errors.</td>
<td>More than 4 errors in spelling or grammar.</td>
<td></td>
</tr>
<tr>
<td>-------------------------------</td>
<td>----------------------------------------</td>
<td>-------------------------------------------------------</td>
<td>------------------------------------------------</td>
<td>--------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Content</td>
<td>Covers topic in-depth with details and examples. Subject knowledge is excellent.</td>
<td>Includes essential knowledge about the topic. Subject knowledge appears to be good.</td>
<td>Includes essential information about the topic but there are 1-2 factual errors.</td>
<td>Content is minimal OR there are several factual errors.</td>
<td></td>
</tr>
<tr>
<td>Organization</td>
<td>Content is well organized using headings or bulleted lists to group related material.</td>
<td>Uses headings or bulleted lists to organize, but the overall organization of topics appears flawed.</td>
<td>Content is logically organized for the most part.</td>
<td>There was no clear or logical organizational structure, just lots of facts.</td>
<td></td>
</tr>
<tr>
<td>Originality</td>
<td>Product shows a large amount of original thought. Ideas are creative and inventive.</td>
<td>Product shows some original thought. Work shows new ideas and insights.</td>
<td>Uses other people’s ideas (giving them credit), but there is little evidence of original thinking.</td>
<td>Uses other people's ideas, but does not give them credit.</td>
<td></td>
</tr>
</tbody>
</table>

| TOTAL SCORE                   |                                        |                                        |                                                |                                           |