Primary Source Learning Activity

Section I

1. **Title of Lesson:** Metric Vs. Imperial Measurement System

2. **Overview:** This lesson will begin with an image that depicts an adult being confused by conversions from the standard system to the metric system, which leads to the question of why is the United States one of the only countries using the standard system of measurement? In this lesson students will be researching the standard system of measurement and the metric system of measurement. The students will then be asked to write an essay that discusses the attributes of each of these systems, compares and contrasts the systems and finally argues their position as to which system should be used in the United States. Students will be utilizing both primary and secondary sources to support their arguments.

3. **Learning Goals:**
   - SWBT summarize the similarities and differences between the standard and metric systems of measurement.
   - SWBT argue their opinion of which system of measurement is better for the United States
   - SWBT identify and describe the attributes of both the standard and metric systems of measurement
   - SWBT analyze articles and identify key points/points of view using examples from the text
   - SWBT develop an opinion based on research and previous knowledge

4. **Time Required/Duration of Activity:** This lesson should require three 90-minute blocks to complete.

5. **Recommended Grade(s):** Grade 8

6. **Subject:** Mathematics and Science

7. **Credits:** Melissa Lupinacci- Langston Hughes Middle School, Fairfax County Virginia

8. **LDC Teaching Task:**
   **Task #3 (Argumentation/Comparison)** Should the United States continue using the imperial system of measurement, or switch to the metric system of measurement? After researching primary and secondary sources on both the imperial and metric systems of measurement, write an essay in which you compare the attributes of both systems of measurement and argue which system of measurement you believe the United States should use. Support your position with evidence from your research.
Section II

9. PA Common Core Standards:
   - CC.1.2.8.B
   - CC.1.2.8.D
   - CC.1.2.8.I
   - CC.1.4.8.G
   - CC.1.4.8.H
   - CC.1.4.8.L

10. Materials Used:
   1.) Library of Congress Primary Source Analysis Tool
   2.) Teacher on Your Shoulder Graphic Organizer
   3.) Computer with internet access and a projector

11. Resources Used:


Section III

12. Instructional Procedures:

   Instructional Mini Task #1- Analysis of Primary Source Image:
   At the beginning of class I will project the image of 'New Math' For Adults onto the projection screen. The only information I will give to students about the image is its title. I will not give them the summary of when and why the image was created. I will then pass out to the students a paper copy of the Primary Source Analysis Tool that the Library of Congress has developed. The 3 columns on the analysis tool are: observe, reflect and question and there will be an area for further investigation at the bottom of the document. Students will receive 5 minutes to complete their Primary Source Analysis chart while observing the image on the projection screen. After 5 minutes has passed I will then give students 3 minutes to discuss their analysis of the picture with their shoulder buddy (or person sitting near them) this will help to give the students even more ideas about what the picture is about.
Once students have received their 3 minutes to conference with a peer I will give them this short writing prompt to be completed individually: “Have your parents ever been confused by your homework? Do you think you are learning different information than your parents learned when they were in school? Write 3 to 5 sentences on your experience and opinion about this topic.”

**Students will develop these skills:**
- Ability to look at a picture and write about what they are seeing
- Practice with reflecting on an observation they have made
- Ability to share their observations and reflections with a peer
- Produce questions that build upon observations they have made

**Instructional Mini Task #2- Analysis of a Primary Source Informational Text**

Students will be given two documents to read, “Metric System of Weights and Measures” by Putnam and “Why Isn’t the U.S. on the Metric System?” Students will also be given a TOYS graphic organizer to help them read both texts. Students should start with reading the “Metric System of Weights and Measures” document beginning on page 33 and finishing on page 35 at Square Measure. The TOYS graphic organizer will have this information filled in the first 2 columns:

1.) Place to stop: Bottom of page 33. Teacher Question: “Identify the reasons the author gives to support his key point that the metric system is preferable to the imperial system”

2.) Place to stop: Page 35 at Square Measure. Teacher Question: “What is the author's point of view on the advantages of the metric system? What in the text makes you say that?”

Students will then read the “Why Isn’t the U.S. on the Metric System?” document. Students will read pages 1, 4 and 5 of the document. The TOYS graphic organizer will have this information filled in the first 2 columns:

3.) Place to stop: Read all of page 1 stopping at the bottom. Teacher Question: What’s the author’s point of view on the use of the metric system in the United States? What in the text makes you say that?

4.) Place to stop: Read pages 4 and 5. Teacher Question: Identify the reasons the author gives to support his reasoning behind why the United States isn’t using the metric system.

5.) Place to stop: After reading both documents. Teacher Question: Compare the two documents, how do they compare in their opinion of the metric system?

After students complete the 5 questions on their TOYS graphic organizer and have read both documents they will put it all together and answer their guiding investigative question of: “Do you think the United States is smart to continue using the imperial system of measurement instead of the metric system?” The final instructions for students will be: “Using information and examples from the two documents you have just read, write a short essay of 6 to 8 sentences detailing why you do or do not think the United States is smart to stick with the imperial system of measurement.”

**Student will develop these skills:**
- Ability to identify an author’s point of view and provide examples to support their opinion
- Ability to analyze and compare two documents on the same subject
- Ability to form and support their own opinion based on their research
Instructional Mini Task #3- Analysis of a Primary Source Informational Text

Students will be given the document, “Metric System of Weights and Measures” by Seaver and Walton. The purpose of having students read this document is so that students are able to understand how the metric system works and how its measurements compare to the Imperial system of measurement. Students should have already received some instruction as to how the metric system works, but this document will serve as a more complete explanation.

Students will read 5 sections of this document. As students are going through the document they are to place a check mark (√) by any pieces of information that they already know, an exclamation point (!) by information that is new to them or surprised them and a (?) by information that confuses them or they do not understand.

The 5 sections students should read are:

1.) The introduction and Measures of Length Section
2.) To Write Numbers in Metric System (Page 5 stopping at Exercises in Reading Numbers)
3.) Measures of Capacity (Page 12 stopping at Examples for the Slate)
4.) Weights (Page 13 stopping at Examples for the Slate)
5.) Table of Equivalents (Page 14)

When students are finished reading they will pair up and share what they already knew, what they were surprised by and learned and what they are confused about. Together students should reread the sections they are confused by and help each other understand what is being explained in that section.

After students have finished their think, pair, share activity the following prompt will be given to them: "Using what you already know about the Imperial system and what you have learned about the metric system, write a short essay (8 to 10 sentences) explaining 2 similarities and 2 differences between the Imperial and Metric Systems.

Students will develop these skills:

• Ability to explain the attributes of the metric system
• Ability to use prior knowledge and new knowledge to compare and contrast the two measurement systems
• Ability to analyze a text and determine what they already know, what they have learned and what they need help with
Section IV

13. Assessment:

Formative Assessment Method: I will use the following rubric to assess mini task #1:

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contextualization</td>
<td>Student is able to analyze the image and infer 3 possibilities of what the image is depicting.</td>
<td>Student is able to analyze the image and infer 2 possibilities of what the image is depicting.</td>
<td>Student is able to analyze the image and infer 1 possibility of what the image is depicting.</td>
<td></td>
</tr>
<tr>
<td>Content Knowledge</td>
<td>Using their prior knowledge and experiences the student will be able to cite 3 examples to defend their answer to the writing prompt.</td>
<td>Using their prior knowledge and experiences the student will be able to cite 2 examples to defend their answer to the writing prompt.</td>
<td>Using their prior knowledge and experiences the student will be able to cite 1 example to defend their answer to the writing prompt.</td>
<td></td>
</tr>
<tr>
<td>Critical Thinking</td>
<td>Using prior knowledge and the image the student is able to successfully hypothesize what the effect the image had on society.</td>
<td>Using prior knowledge and the image, the student is able to somewhat hypothesize what the effect the image had on society.</td>
<td>The student is unable to create a hypothesis of what effect the image had on society.</td>
<td></td>
</tr>
</tbody>
</table>

Date Created: Jan 26, 2014 03:39 pm (CST)

Summative Assessment: I will use the Argumentation Teaching Task Rubric to assess my students final products.