Thomas A. Edison: The Failures within Success

WebQuest Description: This webquest is an exploration of Thomas Edison's inventions with an emphasis on the failures he encountered on his way to revolutionary successes.

Grade Level: 3-5
Curriculum: Social Studies
Keywords: Thomas Edison, Electric Light Bulb, failures, Motion Picture Camera, Electricity Distribution
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Introduction

Thomas Edison has etched his place in history with his inventions. He was awarded over 1,000 patents and changed the world. His inventions include the electric light bulb, the motion picture camera and even devised a system for the distribution of electric to houses and businesses. We remember him for the inventions and celebrate his genius but the part of Thomas Edison that seems to go unnoticed were the qualities that made him different from his peers...Determination. Thomas Edison failed more than succeeded. This webquest is designed to highlight the value of work ethic and determination. Imagine the world today if people like Thomas Edison did not persevere through the trials and tribulations of failure? "Our greatest weakness lies in giving up. The most certain way to succeed is always to try just one more time". Thomas A. Edison

Tasks

Your task is to research the assigned Thomas Edison invention and detail the efforts the invention required prior to the project being seen as successful. You will be assigned a partner to conduct research with and the team will create a presentation highlighting the process of the assigned invention. The presentation will include the time frame in which the process was started, an explanation of the errors and missteps taken in the process, the resources used and time frame in which the project was completed. "Opportunity is missed by most people because it is dressed in overalls and looks like work". Thomas A. Edison

Process

You will be assigned a Thomas Edison invention, a partner and computer in order to conduct research via the links provided using the internet. You must collaborate in the development a presentation using Prezi that highlights the assigned invention, the starting time frame of that invention, the failures encountered while in development and the ending time frame of the invention. You will deliver, as a group, your findings to the rest of the class as an oral presentation while using the Prezi presentation you developed as supporting information. The presentation and the use of technology will be assessed with the aid of a rubric. The oral presentation will be at least 3 minutes in length as a minimum and 5 minutes in length as a maximum. All members of the group must participate in the development of the Prezi presentation and in the oral presentation. Each student will receive an individual grade based on their contributions to the electronic and oral presentations.

Evaluation

<table>
<thead>
<tr>
<th>Category and Score</th>
<th>Below Average (1-3 pts)</th>
<th>Average (4-6 pts)</th>
<th>Above Average (7-8 pts)</th>
<th>Excellent (9-10 pts)</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization</td>
<td>Audience cannot understand presentation because there is no sequence of information.</td>
<td>Audience has difficulty following presentation because student jumps around.</td>
<td>Student presents information in logical sequence which audience can follow.</td>
<td>Student presents information in logical, interesting sequence which audience can follow.</td>
<td></td>
</tr>
<tr>
<td>Content Knowledge</td>
<td>Student does not have grasp of information; student cannot answer questions about subject</td>
<td>Student is uncomfortable with information and is able to answer only rudimentary questions</td>
<td>Student is at ease with content, but fails to elaborate</td>
<td>Student demonstrates full knowledge (more than required) with explanations and elaboration.</td>
<td></td>
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</table>
“I have not failed. I've just found 10,000 ways that won't work”. Thomas A. Edison Throughout the history of man there have been epic failures prior to success. Thomas Edison provides an example of the value of perseverance and determination. He helped revolutionize the world through his inventions but he had to rise to the challenge in the face of adversity. As you progress through the semester, remember the example that Thomas Edison has provided by continuing to work and overcoming all the challenges you face.

I use this lesson at the beginning of the semester to not only initiate the learning process, introduce standards and expectations but also to indoctrinate the students into a culture of effort and determination in the face of adversity. Thomas Edison, one of the greatest minds in the history of man, faced adversity and failure consistently throughout his life. He sets a wonderful example of the "never quit" attitude.

Standards
This webquest addresses the Ohio Department of Education standards for:

Grade 4- Social Studies- History Strand
Content Statements for Historical Thinking and Skills
1. The order of significant events in Ohio and the United States can be shown on a timeline.
2. Primary and secondary sources can be used to create historical narratives

Content Statement for Heritage
3. Various groups of people have lived in Ohio over time including prehistoric and historic American Indians, migrating settlers and immigrants. Interactions among these groups have resulted in both cooperation and conflict.
8. Many technological innovations that originated in Ohio benefited the United States.

Credits
All images and quotes were selected from copyright free resources.

Other
Thomas Edison Failure Examples (Copy and Paste link into browser)
Iron from Low-Grade Ore
http://www.uh.edu/engines/epi523.htm

Light Bulb
http://web.mit.edu/invent/iow/edison.html

Combinations of Failures
http://web.mit.edu/invent/iow/edison.html

Failure at School
http://www2.hesston.edu/Physics/Edison/thepaper.htm

Electric Distribution
http://www.jhu.edu/gazette/2004/06jul04/06brody.html

Conclusion

Below Average
- Student's presentation had four or more misspellings and/or grammatical errors
- Presentation had three misspellings and/or grammatical errors

Average
- Presentation has no more than two misspellings and/or grammatical errors
- Presentation supported most of the topic

Above Average
- Presentation has no misspellings or grammatical errors
- Presentation fully supported topic

Score

Mechanics

Use of Presentation Software

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<tbody>
<tr>
<td>Mechanics</td>
<td>Student's presentation had four or more misspellings and/or grammatical errors</td>
<td>Presentation had three misspellings and/or grammatical errors</td>
<td>Presentation has no more than two misspellings and/or grammatical errors</td>
<td>Presentation has no misspellings or grammatical errors</td>
<td></td>
</tr>
<tr>
<td>Use of Presentation Software</td>
<td>Student's use of Presentation Software did not support topic</td>
<td>Student's use of Presentation Software partially support topic</td>
<td>Presentation supported most of the topic</td>
<td>Presentation fully support topic</td>
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<td>Total Score</td>
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Teacher Page