Materials Science Presentations

Background
Discovering and utilizing the properties of materials is a quickly advancing field. The careful selection of the type and design of a material at the atomic level, has allowed technology to progress rapidly over the last few decades. Technology and science depend on one another. As we gain more knowledge, we can develop better technology. This then leads us to advancing our knowledge again. Often the path to discovery is driven by a need to solve a modern day problem that we are facing.

Problem
How do materials impact our world?

Materials
- Computer or device with internet access

Instructions
Research the following information about your material.

<table>
<thead>
<tr>
<th>Category</th>
<th>Ideas for Writing</th>
<th>Value</th>
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<tbody>
<tr>
<td>History and Discovery of the Material</td>
<td>-What is the material? &lt;br&gt;-When/where was it discovered/created? &lt;br&gt;-Who discovered/created it? &lt;br&gt;-Why was it discovered/created? (What problem was trying to be solved? Was it created on accident?)</td>
<td>5 points</td>
</tr>
<tr>
<td>Science of the Material</td>
<td>Provide as many of these things as you can find: &lt;br&gt;-Chemical Formula (elements) &lt;br&gt;-Structure / model of compound &lt;br&gt;-Intermolecular forces, type of compound &lt;br&gt;-Physical properties (MP, BP, molecular mass, color, flexibility, etc...) &lt;br&gt;-Chemical Properties (combustible, etc...) &lt;br&gt;-How is it created?</td>
<td>10 points</td>
</tr>
<tr>
<td>Current Use and Technology</td>
<td>-What is it currently being used for? &lt;br&gt;-What problems is the material solving? Why is it a problem? (cost-benefits) Who and what does the problem affect? What is the cause of (or reason) for the problem? &lt;br&gt;-To what extent is the solution solving the problem? How is the solution making a difference? &lt;br&gt;-What technology can it be found in? &lt;br&gt;-How is it used in your life?</td>
<td>15 points</td>
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| Future Uses and Technology | - What could we use it for in the future?  
- How is it being studied for new inventions?  
- How could it be improved even more? | 5 points |
|----------------------------|-------------------------------------------------------------------------------------------------------------------|----------|
| Implications of Using the Material | -What are some arguments for / against the solution?  
-What are the consequences (both good and bad) of the science applied with one of these aspects: moral, ethical, social, economic, political, cultural, and environmental? | 5 points |
| Scientific Content | -Are chemistry terms used correctly?  
-Are there any grammar and spelling errors?  
-Can a reader understand the concepts presented? | 5 points |
| The student has documented sources completely, including in-text citations when appropriate. | -Are there citations, as appropriate?  
-Is there a Works Cited page with at least 3 sources documented correctly with MLA or APA format?  
- Did you support with evidence from credible sources? | 10 points |
| Presentation Length | 4-5 minute presentation (8-10 min if in a group) | 5 points |
| Presentation Skills | eye contact, voice clarity, posture, etc... | 5 points |
| Visual Aid | neatness, images, appropriate length, overall effort | 10 points |
| **Total Points Possible:** | **75 points** | 75 points |

**Tips for making an Effective Power Point**

1. Write a script.
   a. Use your outline to generate a script of information that should be included.
   b. Use this to make notecards as a reference for your presentation.

2. One thing at a time, please.
   a. Try not to put too much on one slide. “Chunk” your information.

3. No paragraphs.
   a. Use shortened phrases and sentences on the power point.
   b. Explain and give detail verbally to support your power point information.

4. Pay attention to design.
   a. Font should be large enough to see in the back of the room.
   b. Choose a background that makes the font visible.

5. Use images sparingly.
   a. Images should support your presentation, not distract the audience.
   b. If you include the image, reference it when you speak.

6. Think outside the screen.
   a. You should talk about more than just the words written on the power point.
   b. The screen helps your presentation; it does not “stand alone”.
**Presentation Note-Taking**  
Use the following outline to help guide you through your research.

A. Notes on the **history and discovery of the material** you chose:

   Web Source(s):

B. Notes on the **science of the material**:

   Web Source(s):

C. Notes on **current uses and technology** for the material:

   Web Source(s):
D. Notes on the specific problem the material is solving:

Web Source(s):

E. Notes on future uses and technology for the material:

Web Source(s):

F. Notes on the implications (both good and bad) of the science applied to solve the problem with ONE of these aspects:

- **Moral**: having to do with personal beliefs about right and wrong
- **Ethical**: having to do with what society considers to be right or wrong
- **Social**: having to do with people interacting and sharing a common location
- **Economic**: having to do with money
- **Political**: having to do with politics, policies, laws, government
- **Cultural**: having to do with beliefs, behaviors, objects, and other characteristics common to the members of a group or society
- **Environmental**: having to do with the environment

Web Source(s):
**Don’t forget to make an MLA or APA formatted Works Cited Slide!**

**Analysis**  
While other students are presenting, take notes about their material being presented.

<table>
<thead>
<tr>
<th>Material</th>
<th>Properties</th>
<th>Uses</th>
<th>Implications</th>
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Conclusion

After presenting and watching others present, answer the following reflection questions.

1. Do you feel that your/your group effectively presented all of the requirements of the project? Why/why not?

2. Were there any groups that you thought were very effective in communicating all of the requirements of the project?

3. If you could re-do your presentation, what would you want to change? Why?