Global Color Conference Workshop Presentation Guide

Background
All paint is composed of four basic components:
- P: pigment
- B: binder (resins)
- S: solvent
- A: additives

Overview
- Your class has been chosen to attend the PPG-sponsored Global Color Conference!
- Your class will present a workshop during the Conference about *The Basics of Paint Components*.
- Your class will be broken into teams.
- Members of each of the teams will become experts on one of the four paint components listed above.
- Your team will research the assigned paint component.
- Each member of the team will collect background information guided by an Internet Scavenger Hunt provided by the Conference organizers.
- Your team will organize the information collected, develop a plan, and create a presentation about your general paint component following the Guidelines below.

Guidelines
Your presentation will consist of two parts:
1. **Background Information**: Your team will make a presentation organizing the information from the Internet Scavenger Hunt.
2. **Environmental Issue Solution**: Your team will propose a possible solution to an environmental issue caused by your paint component.

Web Resources
Use the following resources to help you complete the Background Information Scavenger Hunt:
- [http://www.sas.upenn.edu/~carrolld/SpecProjectPages/Paints.html](http://www.sas.upenn.edu/~carrolld/SpecProjectPages/Paints.html)

Background Information Scavenger Hunt
Use the following questions about your paint component as a guide for your investigation:
1. What is the importance of your paint component? What is its role in the composition of paint? For instance, *why is a binder important? What is the role of a binder in paint?*
2. What is the function of your paint component? For instance, *how does a solvent work?*
3. List and describe three properties of your paint component that assist its function in paint.
4. How has your paint component’s role in paint changed throughout history? Explain.

5. List 3 specific compounds or substances that can be used as your paint component and give a short description of each substance’s properties or function within the paint.

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<th>Compound or Substance</th>
<th>Property or Function</th>
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6. Are these compounds listed in question 5 natural, synthetic, or both?

7. What safety issues are involved in the use, disposal, or preparation of the compounds listed in question 5?

8. How is the environment impacted by each of the compounds listed in question 5?

9. How can that environmental impacts listed above be reduced or eliminated?

10. What was the most interesting thing that you discovered in your research?

11. Was there anything that surprised you?

12. Cite your sources below:

Environmental Issue Solution
1. Choose any environmental issue that could be caused by a specific substance or type of substance that is used in your paint component.

2. Describe how and why the substance causes this environmental issue, and propose a possible solution to the problem.

Visual Representation
After viewing each presentation, your group will complete a culminating activity. Your group will prepare a visual model that illustrates the interactions which are occurring at the molecular level. Choose a symbol to represent each paint component. For instance, Pigment could be represented by a square. Using what you have learned throughout the student presentations, create an illustration which depicts what is occurring at the molecular level including all of the paint components.

The following web resources may help your group with creating molecular representations:
- [https://physics.aps.org/articles/v9/30](https://physics.aps.org/articles/v9/30)
- [http://www.howeverythingworks.org/supplements/paint.pdf](http://www.howeverythingworks.org/supplements/paint.pdf)
3-2-1 Exit Slip
Complete the tasks below and submit to your teacher.

List 3 new facts you learned:

List 2 interesting things you want to know more about:

List 1 big question you still have:

Summary
Include a short paragraph that summarizes the information you have learned about your paint component.