



Activity 6.1a – Material Properties Display

Purpose

All materials have similarities to each other. The search for the correct material to make something from requires us to be familiar with the properties that make them different from each other. While conducting the search people have found new uses for materials and when they couldn't find the material that provided them with the desired traits they invented new ones by combining others. Being able to categorize materials and identify their properties is an important skill in everyday life.

Materials

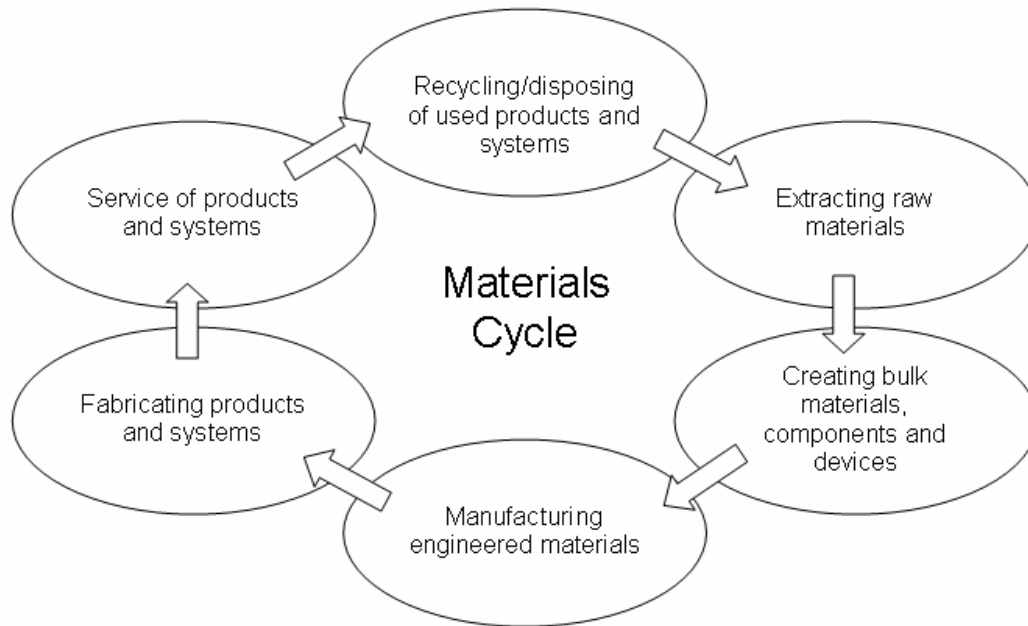
Microsoft Office products
Scrap materials
Multimeter
Metal Cleaner

Procedure

1. Students will divide into groups of four.
2. Students will conduct research on the categories of materials.
3. Students will create a list of descriptors for each category of materials.
4. Students will share lists with each other creating a large group of descriptors for each category.
5. Each group of students will be assigned to create a display of one of the categories.

The display will include:

- List of descriptors for the category
- A breakdown of the category into subsets and identifiers for the subsets
- A matrix including at least 5 materials and associated properties
- A samples area to include small examples of materials from the subsets
- A list of products that are commonly made from the material
- Research Documentation
- A list of identifiers for the category and subsets
- A sample experiment(s) for identifying which subset the material belongs in
- A list of typical properties for materials in this category
- A material life cycle of one of the materials displayed



6. Students will prepare an oral report on their chart and demonstration of their sample experiment for material identification for presentation to the class.

Conclusion

1. Your job is to select a material to construct the inside of a fireplace from. Create and prioritize a list of the properties you will need for your selection.

2. Select a product that you believe should be made from a different material and make a case for switching materials.