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**Synthetic Polymers: The Good, the Bad, and the Ugly**

(Part 1)

(Part 1)

**Polymers**

You’re surrounded by Polymers every day, everywhere you go. They are found in the clothes you wear, the houses you live in, the cars we drive, even the gum you chew.

A polymer is a very large molecule made from a chain of smaller, often identical, molecules called monomers, linked together. Every polymer has its own distinctive properties and these properties are dependent on how the atoms and molecules of which they are composed are arranged. In this assignment you will investigate some of these polymers that we come in contact with each and every day.

**Task:**

You and your partner are to choose one synthetic polymer and create a visual display containing the following information:

1. The Physical Properties of the polymer
2. The chemical properties of the polymer
3. The uses of this polymer (This section should include an explanation of how the physical and chemical properties of your polymer make it ideal/appropriate for these uses.)
4. A 3-D model of the basic unit/monomer of your polymer
5. A list of references that you have consulted during the course of this project.

**Rubric**

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| **Category** | **Level 4** | **Level 3** | **Level 2** | **Level 1** |
| K/U | - demonstrates a thorough knowledge of the physical and chemical properties of the polymer  - demonstrates a thorough knowledge of the main uses of the polymer | - demonstrates a considerable knowledge of the physical and chemical properties of the polymer  -demonstrates a considerable knowledge of the main uses of the polymer | - demonstrates some knowledge of the physical and chemical properties of the polymer  -demonstrates some knowledge of the main uses of the polymer | -demonstrates a limited knowledge of the physical and chemical properties of the polymer  -demonstrates a limited knowledge of the main uses of the polymer |
| T/I | -uses 3 or more reputable resources of which one or more are print  -resources are properly referenced using APA formatting | -uses 2 reputable resources of which one is print  -resources are referenced with considerable attention to APA formatting | -uses 1 reputable print resource  - resources are referenced with some attention to APA formatting | -uses 1 reputable resource  -a list of references is provided with little to no attention to APA formatting |
| APP | -demonstrates a thorough understanding of how the physical and chemical properties of the polymer affect its use | -demonstrates a considerable understanding of how the physical and chemical properties of the polymer affect its use | -demonstrates some understanding of how the physical and chemical properties of the polymer affect its use | -demonstrates some understanding of how the physical and chemical properties of the polymer affect its use |
| Com | -constructs a sturdy and accurate 3-D model of the molecule investigated in which the atoms are clearly identified  -communicates information and ideas with clarity and precision | -constructs a 3-D model that represents the polymer with considerable accuracy in which the atoms are clearly identified    -communicates information and ideas with considerable clarity and precision | - constructs a 3-D model that represents the polymer with some accuracy in which the atoms are clearly identified  -communicates information and ideas with some clarity and precision | -constructs a 3-D model that represents the polymer with limited accuracy  -atoms are not identified  -communicates information and ideas with limited clarity and precision |