# Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Class\_\_\_\_\_\_\_

# Organic Chemistry - Polymer Webquest

Some sources that may be helpful:

<http://elmhcx9.elmhurst.edu/~chm/vchembook/401addpolymers.html>

<http://scifun.chem.wisc.edu/CHEMWEEK/POLYMERS/Polymers.html>

<http://elmhcx9.elmhurst.edu/~chm/vchembook/402condensepolymers.html>

<http://www.dec.ny.gov/chemical/8817.html>

<http://www.ci.redding.ca.us/solwaste/r_plastics.htm>

Answer the following questions. Please type responses in full sentences. You can print the document and then draw the structures or email your responses and then draw any structures on a separate sheet of paper. Your choice!

# Knowledge

1. Define monomer, polymer.

2. List 3 polymers found in nature. Draw structures for one of them. Label your structure.

# Inquiry

3. a) What 2 reactions are used to form polymers?

1. What functional groups are required on the monomers for each type of polymer? What type of compounds contains each of these functional groups?
2. Give an example of each type of polymer.

4. a) What is meant by a synthetic polymer?

1. List 3 common synthetic polymers, and what they are used for. Describe the properties of them that make them useful to serve their purpose.
2. Draw the structure for one of them, and label your structure.

# Application



5. List the 7 classes of polymers, and explain what they are usually used for. Summarize your information in the following chart.

|  |  |  |  |
| --- | --- | --- | --- |
| Code  | Material and Abbreviation  | How Normally Used  | Can Be Recycled As  |
| 1 | Polyethylene terephthalate PET, PETE | Soft drink bottles, peanut butter jars  | Rope, pillows |
| 2 |   |   |   |
| 3 |   |   |   |
| 4 |   |   |   |
| 5 |   |   |   |
| 6 |   |   |   |
| 7 |   |   |   |

* 1. What are some problems associated with recycling plastics?
	2. What are biodegradable plastics? What are the advantages and disadvantages of biodegradable plastics?
	3. BONUS: Bring in a sample of each type of plastic in Question #5.