# Chapter 2 : Polymers

## Section 2.1 – Addition Polymers

Define the following:

1. Monomer, Dimer (section 2.2), Polymer, Polymerization
2. How is the formula of a polymer represented?
3. Draw an example of a polymer, its monomer and its formula.
4. What needs to be present for an addition polymer to form?
5. Where do the monomers attach?
6. Define Plastics.
    a. Describe the physical and chemical properties
    b. Describe the intermolecular forces
7. Substituted groups – modifying the monomer
    a. What are some benefits of modifying the monomer?
    b. What problems may occur – use the carbonyl group as an example
8. Crosslinking - define
    a. What is the role of double bonds?
    b. How can sulfur be used
    c. How does crosslinking influence the structure of a polymer?
9. What is the chemical differences between thermoplastics and thermoset plastics?

## Condensation Reactions 2.2

1. What functional groups are required to form a condensation reaction?
2. Why do dimers form?
3. What is the difference between addition and condensation polymers?
    a. Intermolecular forces
    b. Physical and chemical properties
    c. Crosslinking
4. Make an ester polymer and identify the monomers
5. Make Nylon 4,4 and identify the monomers