POLYMER WORKSHEET

(Answer on a separate sheet of paper.)

1. Name three common natural products and three synthetic products made of polymers.

2. Some automobile engine parts are made of polymers. Do you think these polymers are thermosetting or thermoplastic? Explain your answer.

3. Classify each of the following as thermosetting or thermoplastic:
   a. linear polymer
   b. branched polymer
   c. cross-linked polymer

4, What are two reactions by which polymers can be formed?

5. What is the structural requirement for a molecule to be a monomer in an addition polymer?

6. Explain the structural molecular differences between the following three types of polyethylene: HDPE, LDPE, and CLPE.

7. What is the difference between a plastic CD case made of polystyrene and a Styrofoam® cup made of polystyrene?

8. Give a molecular explanation for the fact that natural rubber melts when it is heated but vulcanized rubber does not.

9 Why is polyester wrinkle resistant? What classification of polymer must it be?

10. Why are some polymers recyclable and some are not. How can a consumer tell the difference?

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