

Activity A. Synthesis of a Polymer

Data Table

	Observations
Appearance and Properties of Reactants	
Observations During Heating	
Appearance and Properties of Product(s)	

Post-Lab Questions (Use a separate sheet of paper to answer the following questions.)

- 1. Polymer solutions or polymer "melts" are generally viscous—thick and slow to pour. Why do polymers have higher viscosities than monomers or smaller molecules?
- 2. Glycerol reacts with phthalic anhydride to form a *cross-linked* polyester—several polymer "chains" are tied together into a three-dimensional network. Draw a diagram that shows why using glycerol instead of ethylene glycol produces a cross-linked polyester.



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Activity B. Polyurethane

Data Table

Observations	Type of Change (Circle One)
	Chemical or Physical

Activity C. Synthesis of Nylon 6, 10

Post-Lab Questions (Use a separate sheet of paper to answer the following questions.)

- 1. Describe what happened in this experiment. Include all observations you made about the substance produced.
- 2. Why does the nylon form only at the interface of the two solutions?