

Polymer Structure, Property, and Lifecycle Evidence

g12_u04_w13

Purpose and boundary

Compare original fictional polymer and lifecycle evidence cards. No fabrication, chemical handling, processing, disposal instruction, or product recommendation is requested.

Targets: I can relate a stated repeat-unit model to supplied property evidence and describe lifecycle tradeoffs. **Vocabulary:** repeat unit, polymer, crosslink, chain interaction, property, lifecycle, tradeoff. **Prerequisites:** bonding, intermolecular forces, materials models, evidence boundaries.

1. What is a repeat unit in a polymer model?

2. Why does a repeat unit not fully specify a material property?

3. What does crosslinking represent in a stated model?

4. Why can chain arrangement affect a supplied property card?

5. What is a structure–property relation?

6. Why is correlation between a structure card and property card not automatic proof of cause?

7. Name one factor a simple polymer card may omit.

8. What is a lifecycle evidence card designed to compare?

9. Why should a lifecycle claim name its boundary?

10. What does a tradeoff mean in a materials comparison?

11. Card A shows more stated crosslinks than Card B. What cautious comparison is allowed?

12. What property claim is not allowed without supplied evidence?

13. Why can a recycled-content label leave important questions unanswered?

14. Name one additional fictional evidence card relevant to a durability comparison.

15. Why should a material-selection claim include criteria?

16. What text feature makes a polymer diagram accessible without color?

17. State one environmental claim a fictional lifecycle card cannot prove.

18. Compare a material model with a product recommendation.

19. Write a one-sentence tradeoff statement for two fictional material cards.

20. Write a two-sentence evidence-bounded conclusion for Card A.
