# Student Reading Comprehension Questions

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Directions**: Use the article to answer the questions below.

1. What was the original use for duct (duck) tape? What was the problem with the tape previously used?
2. Explain the differences between a monomer and a polymer.
3. Briefly state the process of making lime mortar. What other substances were added to make the mortar stronger?
4. What monomer is polymerized to make acrylate? What is the chemical name for this popular polymer?
5. Why is it a good idea to press on tape to make it stick to a surface?
6. State the components of the first two adhesives made by humans.
7. Consider two main differences between the terms cohesive and adhesive. Why are adhesive forces needed for tape? Why are cohesive forces needed?
8. Briefly describe ionic and covalent bonds. Compare the strength of these bonds to van der Waals forces, and explain any differences.
9. Consider the phrase “like dissolves like.” What makes a nonpolar substance better at dissolving sticky polymers than water? What type of substances dissolve well in water?
10. If you read the directions on commercial adhesives, they typically state that the surface must be clean and dust free. How would a dirty surface affect the adhesive properties?
11. Why would adhesives like DOPA work better than other adhesives underwater?
12. What makes carbon an ideal element to make polymers?