

Name:

Date:

Class:

## Reflection Questions **Answer Key**

1. What measurement of ingredients gave you the best slime? (Concentration of borax.)

Answers will vary for the designer slimes.

Controlled slime

- 50 mL of glue with 50 mL of water in a bowl. This is a 1:1 ratio of glue to water.
- 2 g of borax with 60 mL of warm water - 3.33% borax solution

2. How did increasing or decreasing the borax solution change your slime?

- Increasing the concentration of borax solution makes the slime bouncier, harder, and less elastic.
- Decreasing the concentration of borax solution makes the slime less bouncy and more elastic.

3. If you were creating a slime toy for kids, what features would be most important: stretch, bounce, or smoothness? Why?

Answers will vary depending on each student's preferences. Some may value stretchiness, while others may prefer bounce or smoothness. This is why the engineering design process is so important in this situation—students will need to problem-solve and test different solutions to determine the best ratio of materials to achieve the type of slime they want.

4. How can understanding particle interactions at the molecular level help engineers design better materials?

Understanding how tiny particles (molecules) stick together or move helps engineers create better materials. For example, if engineers know how particles interact, they can design things like stretchy rubber for shoes, strong plastic for helmets, or even soft materials for toys. Knowing what happens at the molecular level helps them change how a material feels, stretches, or holds up, so it works better for its job.

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