

# Self-Healing Gelatin Pre-Assessment

Please answer the following questions and review the answers. Once you are finished please shut your Chromebook so that I know you are finished.

Your username will be recorded when you submit this form.

\* Required

1. **Chemical compounds made up many long, repeating chains of molecules are called? \***

*Mark only one oval.*

- Monomer
- Dimer
- Trimer
- Polymer

2. **What is the ionic charge of a single Calcium ion? \***

*Mark only one oval.*

- 1 +
- 2 +
- 3 +
- 1 -
- 2 -
- 3 -

3. **Which of the following is not true about Alkyds? \***

*Mark only one oval.*

- They were introduced in the 1920's.
- They are derived from an alcohol and an acid.
- They are the polymer used to make plastic bottles.
- They are used in paints.

4. **What is the 4th step in the engineering design process? \***

*Mark only one oval.*

- Brainstorm solutions
- Identify the problem
- Select a design
- Build a prototype
- Optimize the design
- Test and evaluate
- Share the solution

5. If I wanted to prepare a 1 M solution calcium lactate and I have 10 mols of calcium lactate what volume of water would I need (assume the 10 mols of calcium lactate take up 1ml of volume of the entire solution). \*

Mark only one oval.

- 10 ml
- 9.999 L
- 9.999 ml
- 1 L

6. What are the individual molecules that make up polymers called? \*

Mark only one oval.

- Monomers
- Dimers
- Trimers
- Tetramers

7. The individual long chain of a single polymer is held together by \*

Mark only one oval.

- Ionic Bonds
- Covalent Bonds
- Metallic Bonds
- Crosslinking

8. A self-healing material can recover its properties after suffering damage restoring the materials performance. \*

Mark only one oval.

- Yes
- No
- Maybe

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