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## Fluorescent Gummy Worms Worksheet

## Questions

1. Compare and contrast the "worms" from Beakers #1, #2, and #3 before and after they were exposed to the black light.

2. Describe the appearance, form, and texture of the polymer "worms."

3. What causes the calcium alginate polymer "worms" to appear swollen and translucent?

4. Fluorescence occurs when a substance absorbs a photon from a light source. The energy from that photon causes an electron to move to an "excited" state (higher energy level). As that electron returns to its ground state, it releases another photon with a particular wavelength. Explain how this relates to the colorful glow that was seen when the worms fluoresced.

5. Polymer solutions form solid gels when numerous long-chain polymer molecules interact to build a three-dimensional "network." Explain how calcium ions bind alginate molecules together to form a network.

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