

Name _____

Candy Reaction

Background Information: Triboluminescence is the mechanical generation of light or light (luminescence) due to friction. Triboluminescence is from the Greek word *tribein*, which means "to rub," and the Latin word *lumin*, which means "light." Luminescence occurs when energy is input into atoms from heat, friction, electricity, or other sources. The electrons in the atom absorb this energy. When the electrons return to their usual state, the energy is released in the form of light.

Some chemical bonds will release light energy when the molecules are broken apart by mechanical crushing (chewing). Wint - O - Green Lifesaver candies have some of these bonds. When these bonds break, a **chemical reaction** occurs.

When you bite into the candy and break its sugar crystals, they give off **electrons** and invisible ultraviolet light. But the chemical that gives the candy its wintergreen flavor (methyl salicylate) reacts with the ultraviolet light to make flashes of light that you can see.

Materials:

Wint-O-Green Lifesavers	Mirror	Hammer
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Procedure:

1. Darken the room as much as possible.
2. Use the hammer to break up the candy. Record your observations.
3. Bite down on a wintergreen candy while looking in the mirror. (It's OK to have bad manners and chew with your mouth open for this lab!) Record your observations.



Data:

<i>Observations while breaking the candy:</i>
<i>Observations while chewing the candy:</i>

Questions:

1. Define triboluminescence in your own words:

2. When a chemical reaction occurs, a new type of matter is formed.
What new matter was formed during this reaction?

3. Was there a difference in what you observed when you crushed the candy with a hammer and when you chewed the candy? _____

4. What might explain this difference?
