

NAME _____

POP ROCK CHEMISTRY

Materials: Pop Rocks® candy
Zotz® or Bizerks® candy
Hand lens
Eyedropper
Water
Paper towels

Procedure:

1. Suck on the Zotz® or Bizerks® candy without biting it.
2. Record your observations.
3. Break open a candy and observe.
4. Add a few drops of water. Record your observations and explanation for what has happened.
5. Open the Pop Rocks® and place a few of the rocks on the paper towel. Record your observations.
6. Add a few drops of water. Record your observations.
7. Put some of the Pop Rocks® in your mouth. Do not chew. Record your observations.
8. Hold a few Pop Rocks® in your hand; close your hand and record your observations.
9. Write an inference for your observations.

Observations & Inferences:

<u>Observation</u>	<u>Inference</u>

The active ingredients in Zotz® and Bizzzerks® candies are sodium bicarbonate, tartaric acid, and citric acid in the dry form. Sodium bicarbonate is baking soda. Citric acid is found in citrus fruits. Tartaric acid is found in many fruits; cream of tartar, derived from the fermentation of wine, is potassium salt of tartaric acid. When these ingredients are combined with water, chemical reaction that produces carbon dioxide gas takes place.

The popping sensation observed in the activity resulted when the sodium bicarbonate reacted with the two acids to form carbon dioxide bubbles, which break on the tongue. However, the reaction did not occur until water (or saliva) was added. The water dissolved the solids and allowed them to react with one another to form the new product, carbon dioxide. It is a chemical change, or reaction.

Pop Rocks® do not contain sodium bicarbonate or either of the acids found in the other candies. The pop that results is caused by the release of carbon dioxide bubbles that are encapsulated within the candy. Addition of water weakens the structure of the solid, allowing the gas to break through and cause the pop. This is a physical change, rather than a chemical reaction, because no new products are formed.