

## ***Broken Top Brain Teasers-- Inquiry Based Exercises for Young Scientists***

*(Develop your own explanation for features described along the Broken Top Loop Trail by answering the questions in red.)*



### **Stop # 1.**

Background--the hole in front of you is the fissure or vent from which the cinders, bombs, and spatter were erupted to create the Broken Top cinder cone. Note that a lava flow has partially filled this vent/fissure.

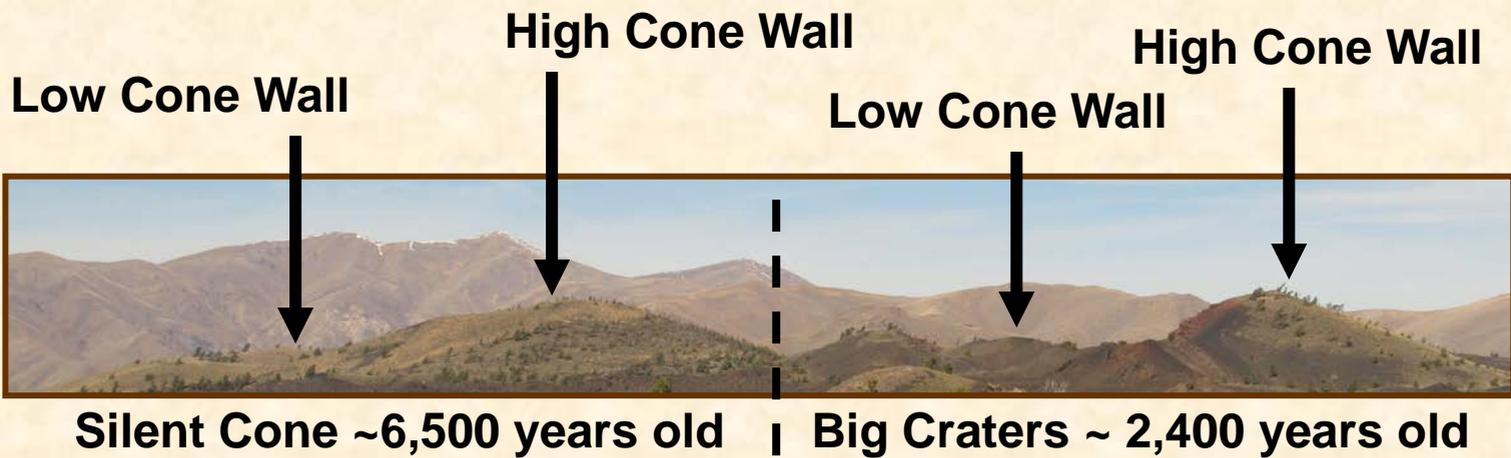
View of Broken Top Eruptive Fissure from near Trail Post # 1.

**Brain Teaser # 1. Which is older the lava flow or the cone? Why? Write your answer in the space provided below:**

**Brain Teaser # 2**

**Near Trail Post # 2**

**Looking NW**



Background: Both cones have a high and a low side to them. Big Craters is about 4,000 years younger than Silent Cone.

**Brain Teaser # 2. What caused one side of the cones to be higher than the other? What does it tell you about Idaho in the past? Write your answers in the space provided below.**

## Brain Teaser # 3 West of Trail Post #7.

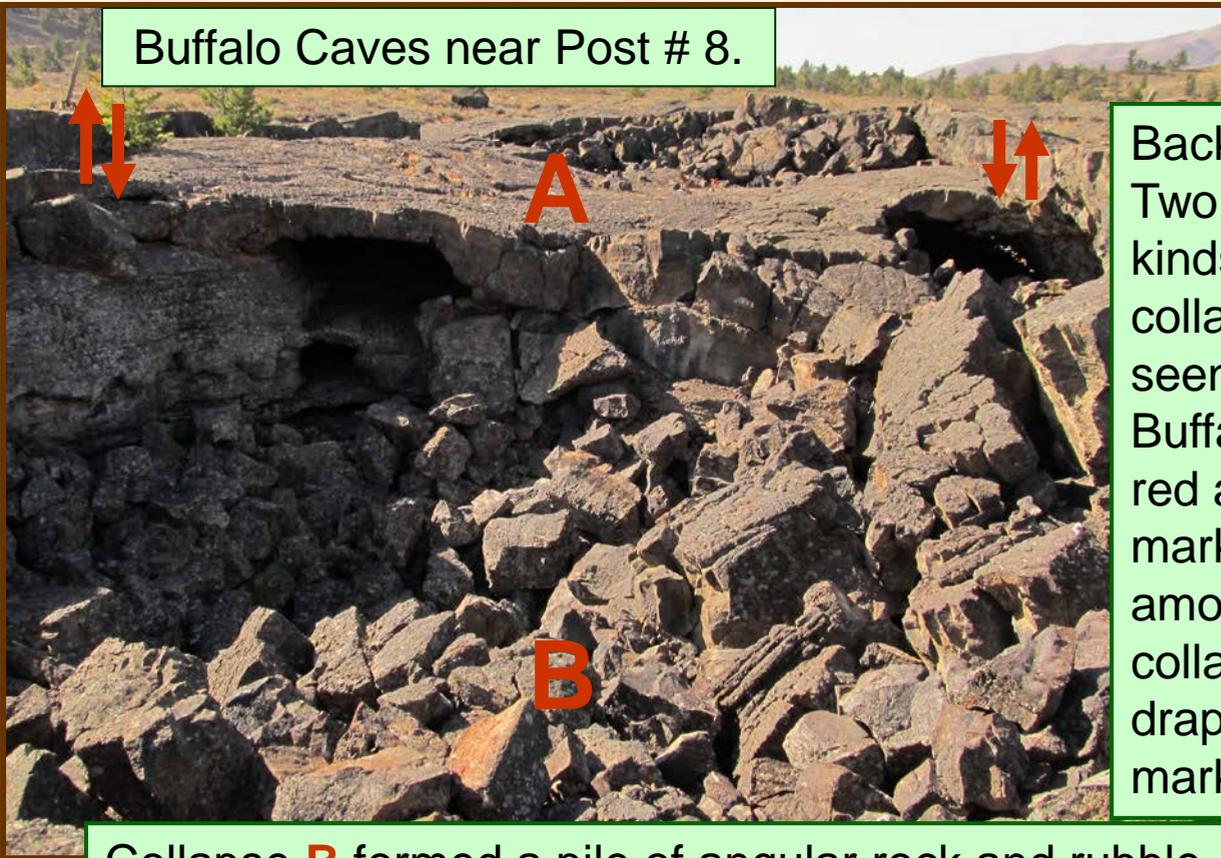


Background: Notice where the plants are growing most often.

Most of them are growing out of the different size cracks found in the lava.

**Brain Teaser # 3. In the space below list at least 4 advantages to a plant living in a crack in the lava.**

Buffalo Caves near Post # 8.



Background:  
Two different kinds of collapse can be seen here at Buffalo Caves; red arrows mark the amount of collapse in the draped one marked **A**.

Collapse **B** formed a pile of angular rock and rubble.

4. One of these collapses occurred when the lava was still hot (hot collapse) and the other occurred after the lava had cooled (cold collapse). Circle your conclusion.

Collapse A (Hot or Cold)      Collapse B (Hot or Cold)

On what inference or evidence did you base your conclusion?

Can you give an analogy? (e.g., “The cold collapse is like...”)

**Brain Teaser # 5. Just beyond trail post # 10.**



Background: Two different lava flows A & B that have very different textures can be seen here in geologic contact with one another.

**5. Which lava flow is younger? On what observation or reasoning did you base your conclusion? List below.**