LESSON 4

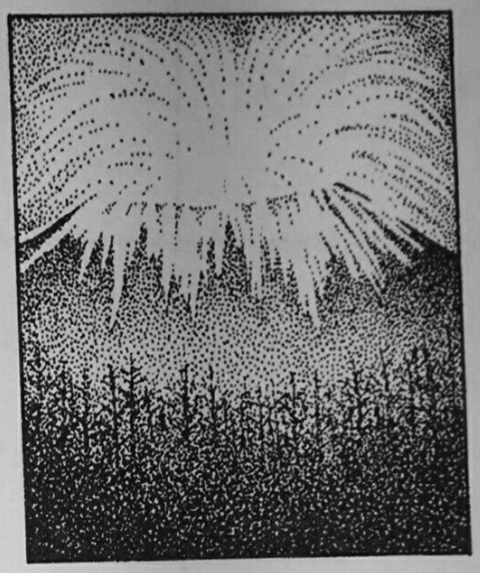
Name _____

Read & Annotate

WHAT MAKES VOLCANOES EXPLODE?

When you look at the pop in an unopened bottle, you can see a few bubbles of gas in it, but not many. Shake the bottle and take off the pressure cap. Out come thousands of bubbles bringing a shower of liquid with them. The pressure kept the gas dissolved in the liquid. When you took off the cap, the pressure of the gas made it suddenly come out of solution and explode out of the bottle.

The hot magma underneath volcanoes has a lot of gas dissolved in it, too. The rocks on top press down and keep the gas dissolved. Then when something takes the rocks away, the gas suddenly comes out of solution and explodes out of the volcano. Rocks and hot lava come with it.



EXPLODING CINDER CONE

Cinder cones are more dangerous than shield volcanoes because the magma under cinder cones is made mostly of a kind of rock called ANDESITE which can dissolve a lot of gas. This makes cinder cones very explosive. The magma under shield volcanoes, like those in Hawaii, is made mostly of a kind of rock called BASALT which can dissolve only a little gas. This makes shield volcanoes less explosive. When shield volcanoes erupt, people have time to get out of the way because the magma doesn't explode. It flows.

EXPLODING POP BOTTLE

USE TEST TAKING STRATEGIES

1. Cinder cones are more explosive than shield volcanoes because
   a. the magma under them can't absorb much gas.
   b. the magma under them can absorb a lot of gas.
   c. the magma under them is hotter than the magma under shield volcanoes.

2. When the magma under a volcano is mostly andesite, the lava that comes out during an eruption will
   a. flow out.
   b. explode out.
   c. bubble out.

3. From the story you can tell that
   a. pop got its name from the way it pops out.
   b. there are more cinder cones than shield volcanoes on earth.
   c. cinder cones are different from shield volcanoes because the magma under them dissolves gas differently.