Name _____ Date _____

Geode Formation

Geodes are a type of rock that often have crystals or colorful mineral rings inside them.

Geodes form as two types: **volcanic** and **sedimentary**. Both types of geodes need pressure, time, and chemicals to form. Water and minerals fill holes in either volcanic rock that has formed from lava for volcanic geodes, or under the ground in holes left by decaying animal bodies for sedimentary geodes. The water doesn't stay in the holes, but leaves behind the minerals.

Volcanic geodes form in the space left when air bubbles pop in the lava that forms volcanic rocks around and in volcanoes.

Sedimentary (dirt) geodes form in holes left by decaying animal bodies deep in the soil.

The first layer of minerals hardens into an outer shell with a hollow hole. Over thousands of years, more of the minerals left behind form layers or crystals inside on top of the hard outer shell. The crystal kinds often still have a hole in the very center of them.

It is fun to see if a geode has crystals or layers of color inside! The safest method to break a geode open is to place it in an old sock and gently hit it with a hammer.

If you are careful, you can break them open in only two pieces.

What did you learn about geodes?

1. Volcanic geodes form in the space left when _____ pop in lava that forms volcanic rock.

2. Sedimentary geodes form in holes left by decaying animals deep in the _____.

3. The layers or crystals that form in geodes are made from _____ left behind by water that filled the holes in the soil or volcanic lava rocks.

4. Geodes often have _____ or colorful mineral rings inside of them.

5. Geodes need pressure, time, and _____ to form.