



How to Break Open a Geode!

There are several ways to break open geodes, but no matter how you do it, the key is PATIENCE, PATIENCE, PATIENCE...and SAFETY! Breaking rocks and cracking geodes can be dangerous. A small chip from the rock (or a hammer) can cause injury to anyone in the area. Use proper safety gear—especially eye protection—and make certain that you are not endangering others.



SOCK METHOD FOR YOUNG KIDS: This is the most popular method for small



geodes that young children break open themselves. Place the geode in a sock and hit very lightly with a hammer. Since you are focusing the pressure on the geode in one spot, your chances of having the geode opening in two pieces are not as great compared to the hammer/chisel method (discussed below), but it is still possible. Just remember, don't swing the hammer as hard as you can. Tap lightly until the geode cracks open.

HAMMER/CHISEL METHOD FOR OLDER KIDS: This is the most popular way to

open a geode since most people have a hammer and chisel available around the house. The hammer/chisel method can be used on all sizes of geodes and gives you much greater control than the sock method, so you are more likely to have your geode opened into two halves. However, if you want the geode to break into two halves, you absolutely CANNOT just hit the chisel as hard as you want to with the hammer! If the geode is hollow, you will be left with pieces in most cases, not two halves! It may take a little more time, but the end result will be worth it.



To open a geode with a hammer and chisel, score the geode all the way around the circumference of the geode with the chisel. It is best to use a flat-faced (regular) chisel end versus the pointed type, since the force from a pointed chisel will be directed over one spot versus over a larger area with the flat-faced chisel (better chances of opening along the line you want it to open on!). Continue this process until you see a crack develop in the geode, and then follow the crack around the geode until it opens. If the geode is hollow, and you know it is hollow, you must be very careful to not strike the chisel too hard with the hammer. Start lightly at first and then strike harder (but not too hard) if a crack is not developing.



PIPE CUTTER AND OTHER METHODS (ADULTS ONLY): Opening

geodes with a soil pipe cutter is a more specialized method, and these tools are usually only found among the more advanced or serious collectors who have a large quantity of geodes to open. Pipe cutters have a chain that contains sharpened carbide-tipped roller blades that is wrapped around the geode and tightened. Unless the geode already has a crack in it (visible or not), the success rate for opening a geode into two nearly equal halves is very high with a pipe cutter and the process is very quick. Pipe cutters, however, are not usually cheap, and that is why they aren't used or available on a widespread basis. Virtually any tool that has carbide tipped blades and is designed to cut concrete or rock will also open geodes but make sure the blades are carbide tipped. Wet saws, concrete saws, and other related tools open geodes efficiently as well. SAFETY FIRST! Make



sure you know how to operate these tools safely before using them. I hope this has helped you in opening your geodes!



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.

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. 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.



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.

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.

