

Spigot Science Quick Take~No.35

Lava Tube Formations

By: Jennifer Keith

www.spigotscience.com

...

Lava tubes or caves are found throughout the world in places where volcanos are located. Lava tubes are formed when a river of lava gradually hardens and builds solid walls and a ceiling as it solidifies into igneous rock. The molten lava continues to flow underneath the hardened surface until eruption stops and drains away leaving a hollow tube or tunnel behind.

Lava tubes can be a few feet high and only yards long or they can stretch for miles with high ceilings. Splashing and dripping lava gives a special appearance to the formation of these caves. Horizontal grooves, smudges, and unusual markings are left behind from the hot lava. Some lava cave columns called stalactites are made of lava drippings that hang from the ceiling.

Lava goes through a process called a phase transition. Gas, liquid, and solid are known as the three states of matter or material, but each of the solid and liquid states may exist in one or more forms. How does this happen? Generally, as a solid is heated, it will change to a liquid form and will eventually become a gas. The expansion of gasses within the volcano brings the magma closer to the surface, which causes an eruption. These dissolved gasses are trapped in the magma, which are rocks in volcanoes that can be heated until they become molten lava. The carbon dioxide gas expands and forms bubbles which rush to the surface. The hot lava liquid is then pushed out and travels down like a rapid river. As the lava begins to cool, the liquid turns to back to a solid.

Discussion:

- What are lava tubes and how are they formed?
- What kind of rock does the lava change into once it hardens?
- What physical changes does the lava encounter?

Picture Credit:Wikipedia Lava Tube

