

EXPLORING PROPERTIES OF VARIOUS IGNEOUS ROCKS

Exploring Properties of Various Igneous Rocks: Crystallization and Composition

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Abstract

This paper will explore the various properties of well-known igneous rocks across the world, and will show the importance of crystallization and composition in their formation. Igneous rocks are formed by the solidification of molten magma or lava. Most igneous rocks contain a majority of silicate materials, but other minerals and elements can be found with them. The formation of an igneous structure is highly dependent on the cooling rate of the magma or lava and the composition of that certain rock or mineral. Feldspar, the most abundant rock on Earth, has various forms and compositions that can be found throughout the crust. Another one of the crust's main components, quartz, comes in many colors. Granite, a rock indigenous to Earth, crystallizes slowly, causing its coarse-grained nature. The ocean floor is composed of basalt and gabbro; which are chemically the same, but go through a different solidification process. One of the world's most unique rocks is obsidian, which is cooled instantly, causing its glassy nature. In an experiment, where mothballs and crayons are melted and cooled at three different rates, the results accurately represent the same objective as this paper, which is meant to show the correlation between cooling rate and crystal size and composition.

Keywords: igneous rock, crystallization, composition, solidification