History of rock worksheet

Art & Culture, Music

History of Rock Worksheet Write a 500- to 750-word explanation regarding the role of plate tectonics in the origin of igneous rocks. Igneous rocks can come from two hot liquid like materials, which are lava and magma, these to substances are a lot alike, magma is what lava is before it is taken to the Earth's surface by a volcano eruption. These substances being such a large part of the forming of Igneous rocks is where the rock gets its name, the word igneous comes from the word ignis, which is the Latin word for fire.

Magma and Lava are a consistency like molten metal and they carry crystallized minerals and are hot enough to change existing rocks forms. Igneous rocks are created in three places. The first is where the lithospheric plates pull apart making a gap in the at the ridges under the ocean. The second is where the continental crust is forced together. The third is where the plates come together. As the lava or magma moves they collect different minerals and these minerals begin to crystallize as the lava or magma cools. The speed of the cooling process helps to determine the physical characteristics of the rocks.

With the movement and the new minerals that come this will change the rock. There are two types of Igneous rocks. The first kind of Igneous rock is Extrusive rock, which is formed when magma escapes through the where the plates meet, these rocks cool very quickly some in a matter of seconds which makes their grains very small called the Aphanitic texture. The second kind of Igneous rock is Intrusive rock, which is made underneath the Earth's surface which makes it cool very slowly some take thousands of years, which makes larger size grains called Phanertic texture.

The classification of each rock is based on the minerals that it is made up of, some of the common minerals found in Igneous rocks are olivine, mica, feldspar, quartz, and pyoxenes. The most well known Igneous frock is Granite, which is also the most commonly used Igneous rock. It is used for many things that we see daily like, paving stones, counter tops, flooring tiles, curbing, and many other things. Granite can be found under the Earth's crust almost anywhere on Earth. The movement of the plates is what allows magma to move and causes volcanic eruptions which allows Igneous rocks to be created.

Write a 500- to 750-word explanation regarding the role of plate tectonics in the origin of metamorphic rocks. Magma also plays a very large role in creating and forming Metamorphic rocks. To create a Metamorphic rock there has to be an extreme amount of pressure and very high temperatures. This high temperature must be hot enough to reorganize the matter within an existing rock but not hot enough to melt it all the way. There is two places where hot magma can push itself through to the Earth's surface. The first place is divergent plate boundaries.

And the second is convergent plate boundaries. The process of creating Metamorphic rocks is called Metamorphism. Metamorphism is when magma is pushing its way to the Earth's surface and comes into contact with different rocks, the hot magma will heat these rocks. This much heat on the rocks causes them to change and then they have become Metamorphic rocks. This change will usually completely change the original rocks physical, structural, and textural characteristics, because new minerals come and change the original minerals.

These rocks are a result of the continual movement of plate tectonics. New Metamorphic rocks can be created from the original rock being Sedimentary rocks, Igneous rocks, or even other Metamorphic rocks. When two plate collide they cause the Earth's crust to fold and fault, this intense pressure makes the process of Metamorphism, which makes sometimes large areas on the Earth's crust become Metamorphic rock. Which would make landmarks such as Mountain ranges. During this process it will only become a Metamorphic rock if the rock stays a solid, if it melts then that makes an Igneous rock.