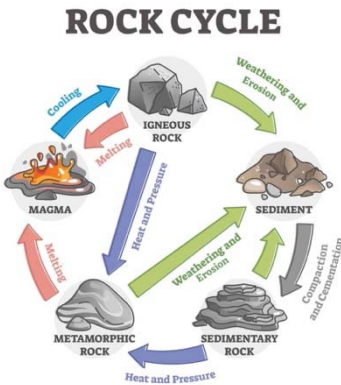


Name _____

Melting Magic: The Rock Cycle's Fiery Transformation



Have you ever wondered how rocks can change from one type to another in the rock cycle? One of the most remarkable processes in this cycle is melting. It's like the rock's own magical transformation, and it plays a crucial role in shaping the Earth's surface. Let's dive into the fascinating world of melting and discover how it contributes to the rock cycle.

The Mysterious World of Melting

Imagine a rock basking in the Earth's fiery depths, deep beneath the surface. This is where the process of melting begins. Rocks, like superheroes, are made up of minerals, and these minerals have different melting points. When the temperature inside the Earth becomes scorching hot, some minerals within rocks start to melt. It's like a rock's secret superpower.

Magma: The Molten Marvel

As these minerals melt, they combine to form a hot, molten substance called magma. Magma is a superstar in the rock cycle, and it's responsible for igneous rocks. When magma rises to the Earth's surface, it can erupt from volcanoes in a fiery display. This is how igneous rocks, like granite and basalt, are born. Think of magma as the rock cycle's superhero costume change.

The Journey Continues: Cooling Down

Once magma reaches the surface, it faces a cooler world. As it cools, it begins to solidify and harden. This process creates new igneous rocks. The speed at which magma cools influences the size of the crystals in the rock. If it cools quickly, small crystals form, and if it cools slowly, large crystals develop. This is why igneous rocks can have different textures.

The Melting and Solidifying Dance

But the magic of melting doesn't stop there. Over time, igneous rocks can be subjected to immense pressure and heat deep within the Earth, and this triggers another round of melting. As they melt and solidify repeatedly, they can transform into new igneous rocks or even change into metamorphic rocks. It's like a never-ending dance of melting and solidifying.

The Circle of Life: How Melting Shapes the Earth

Melting is the key to the rock cycle's constant transformation. It breaks down rocks into magma, which then solidifies into new rocks. This process not only forms igneous rocks but also provides the raw materials for other types of rocks. As igneous rocks weather and erode, they release sediments that can become sedimentary rocks. And when these rocks are buried deep and face intense heat and pressure, they can undergo metamorphism and become metamorphic rocks. It's a circle of life for rocks!