

**Are you ready to have some rockin' fun with some experiments you can EAT? Check out these activities! You will learn about the rock cycle and erosion, as you enjoy some tasty treats!**

### Igneous Munch Crunch:

You will need:

Microwave

Microwave-safe bowl, with a cover to prevent splatter

Chocolate Chips

Spoon

Baking sheet



Your favorite cereal (think Chex, Cheerios, Rice Crispies, anything goes!)

\*You are going to need a grown up for this one, as we will be melting chocolate, and when food gets hot like that, you want to be safe!

Igneous rocks are formed by melting. That's right, inside the earth, the temperature gets so hot that even rock can melt! Think about volcanoes. That stuff that comes out is called lava, which is really melted rock, or magma, that begins to cool. It spreads over the earth, and then cools and hardens. Like glue, it will stick to other rock it touches. Let's make a tasty chocolate model of that!

1. Heat the chocolate chips in the microwave, a little bit at a time, until they are melted. Stir them every so often, to help them melt faster.
2. While you are heating your bowl of chocolate "magma" spread out the cereal pieces on the baking sheet.
3. When the chocolate has melted, with a grown-up, pour it over the cookie sheet. It will cling to the bits of cereal, just as lava flows over the earth and sticks to other rocks it covers.
4. Let it cool and harden (putting it in the fridge will make this go faster!)
5. Break up the bits and enjoy your Igneous Munch Crunch!

## Sedimentary Parfait:

You will need:

Yogurt

Fruit pieces or berries

Graham Crackers

A tall clear drinking glass

Spoon

Ziplock bag



Sedimentary rocks are formed when layers of soil or sediment pile up over time, and create so much pressure that the layers harden into rock. That's why sometimes you can see different stripes or layers in sedimentary rocks. Let's make a layered treat to model this!

1. Crunch up the graham crackers into a powder. You might want to put them in a ziplock bag and smooch them with your fingers! Does it look like sand? Good! It is supposed to! Sand is a common layer of sediment, or soil, and one great example of sedimentary rock is sandstone, which is made from sand!
2. In your glass, put a layer of berries or fruit on the bottom. Then spoon in some yogurt. Then add some of the graham cracker powder. Then, repeat those layers in a pattern. If you make your layers thin, you will be able to repeat this several times, and you will see the layers forming through the glass. Think of the layers of sand, clay, and other soils that pile up on the ground over time to form sedimentary rock. Now, enjoy your tasty treat!

## Metamorphic S'mores Smash-up

You will need:

Graham Crackers

Chocolate bars

Marshmallows

Tin Foil

A heat source (You could do the good old-fashioned campfire s'mores, or if you are in a pinch, just use the microwave!)



\*Since you need heat for this one, again, make sure you have a grown up to supervise!

Metamorphic rocks are formed when rocks change over time with heat and pressure. Just like a caterpillar has to go through a big change (a metamorphosis) to turn into something else, a butterfly, these rocks go through a metamorphosis, too! Extreme heat and pressure can change one rock into a different kind of rock! Slate is formed from Shale, and Marble is formed from Limestone! Let's model this in an experiment! Build a s'more, with graham cracker on the bottom, then chocolate bar, then marshmallow, then graham cracker at the top. Okay, nothing special yet. Take out the marshmallow and heat it up! (Use a campfire or a microwave!) Now, build your s'more again, and this time, press it together! Pretty cool, right? Actually, it is pretty warm! You have added heat to your rocks. Now let's add some more pressure. Wrap up your s'more in tin foil, and smoosh it a bit harder. If you really want to mash it up, you might need to eat your smashed s'more with a spoon when you are done, but it will be a great example of the heat and pressure that was needed to make metamorphic rock!

# Erosion Float

You will need:

Root beer

Cup

Vanilla Ice Cream

Straw and spoon



Erosion happens when wind or water break down rocks and change the form of the landscape. A river can cut out a canyon, Wind and waves at the beach will ruin your sand castle, and rainwater can form caves! Let's model this with a yummy root beer float!

1. Put a scoop of vanilla ice cream in your cup.
2. Now, slowly pour a stream of root beer over the ice cream. If you aim at the same place on the scoop, and pour slowly, you will see it start to erode the nice, round shape of the ice cream! Do you see how a river could cut a dent in the land to form a canyon? Do you see how dripping water might even begin to form a hollowed out cave in some rock? Neat! Now, enjoy your erosion float!