

# GEOLOGY BASICS

## What's so cool about rocks?

Well... simply put... Earth is a big rock! It does many things: it supports us, we live and build on it, and things grow from it! Big rocks break down into smaller rocks in many ways, including water, wind, plants, heat, cold, and pressure!

## IGNEOUS ROCKS

Igneous rocks come from very hot molten material deep within the earth. When the material cools and hardens it becomes a rock! They can be smooth and shiny, or porous with airholes. They can form on the surface or below ground.



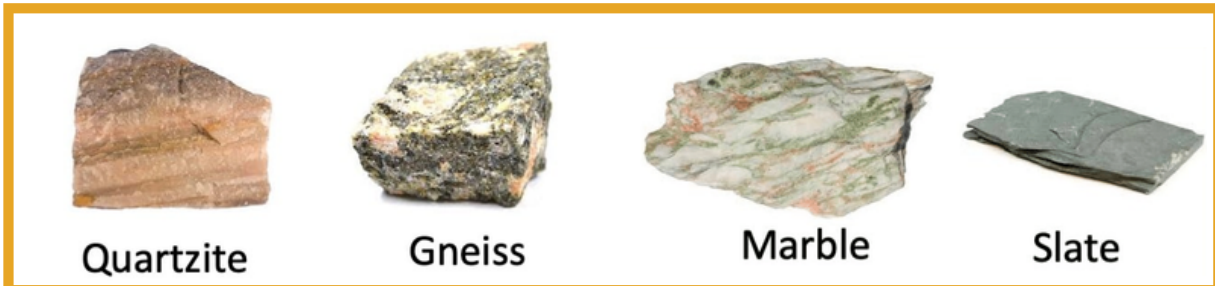
## SEDIMENTARY ROCKS

Sedimentary rocks form when other kinds of rocks are broken into fine pieces. These can be washed down and collect in layers under bodies of water. Slowly, heat and pressure turns these layers into sedimentary rocks.



## METAMORPHIC ROCKS

When sedimentary or igneous rocks encounter even more heat, pressure, or hot liquids, they may change into metamorphic rocks.



# Rocks 'round the Park

Look for some of these geological wonders as you walk around! Be sure to check out the 'Borrow' Pit off of the east most bend of the Geology Trail. This area received its name from when the Voelckers –the historic owners of the land that is now Phil Hardberger Park– would 'borrow' rocks and gravel to build roads on their dairy farm. LIMESTONE is a sedimentary rock and often contains fossils. You can see this in bricks around the park, and near the Salado creek! MARL STONE feels more solid and can be found near the Borrow Pit. TRUE FORM fossils contain the bones or shells, but impressions can be left as MOLD fossils [negative] or CAST fossils [positive]. CONGLOMERATE stones are made from other stones cemented together. Crushed Granite lines many of our pathways, but you can also find it where ancient molten earth has cooled.



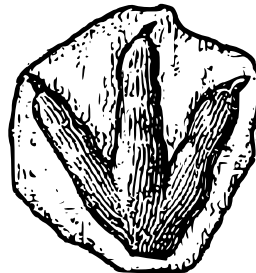
Limestone



Marl Stone



True Form  
Fossil



Mold Fossil



Cast Fossil



Granite



Conglomerate

# Make your own Fossil

Try this simple Salt Dough recipe at home to make your own lasting fossil!

### Ingredients:

2 Cups All Purpose FLOUR

1 Cup SALT

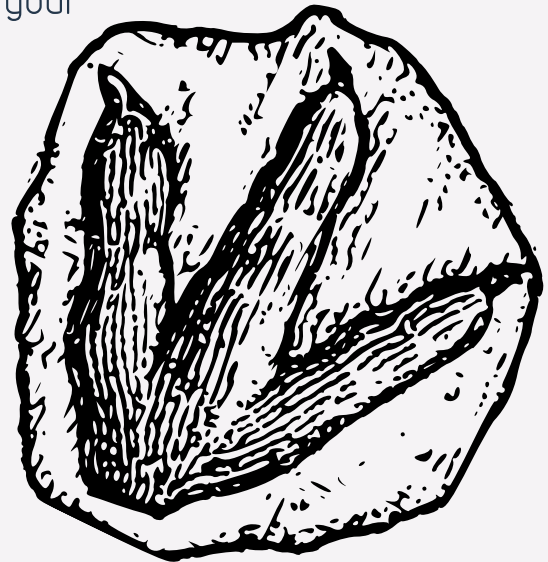
1 Cup hot WATER

optional: 1 tbsp cinnamon for scent, or food color!



### Tips!

Once your 'fossil' is dry, you can paint them with acrylic! Try pressing different things like dinosaurs or seashells into the dough. Ask a friend if they can tell what your fossil is!



### Directions

- Step 1.** Add salt and flour to bowl. Mix it gently. Here's where you can add cinnamon!
- Step 2.** Slowly add the hot water. Add any food color here. mix with spoon until dough forms.
- Step 3.** Knead until not sticky. Form fist sized balls, then flatten them to 1 inch thick.
- Step 4.** Press different objects and toys to leave an impression or 'mold' fossil.
- Step 5.** Air dry a few days or bake at 120° for three hours until hardened.



# EDIBLE ROCKS

Try your hand at making some of these geology themed snacks! Gather your ingredients and let's rock!!! [Adult led]

## Ingredients:

- 24oz finely chopped white chocolate [or chips]
- 1 can [14oz] sweetened condensed milk
- 1 Pinch Salt
- 1 cup Crushed Oreo Cookies
- 1/2 tsp cocoa powder [optional]
- Food Color [optional]



## Directions:

1. Heat white chocolate, sweetened condensed milk, and salt in a medium saucepan set over low heat until 50% melted
2. Remove from heat and sit for 5 minutes
3. Add 1/4 cup of the crushed oreo crumbs and stir until smooth.
4. Divide the fudge into 3 bowls and add varying amounts of the remaining cookie crumbs, cocoa powder, and food coloring to achieve several different colors of fudge for your stones.
5. Press a piece of plastic wrap down onto the fudge in each bowl and allow it to sit at room temperature for about 30 minutes, until it is thick and no longer sticky.
6. Pinch off varying sizes of fudge and roll into odd shaped 'stone' balls, and set aside to firm up!

