



## Earth Works

### Pre and Post Visit Materials

The goal of this program and its pre and post-visit activities is to learn about different types of geological features and rocks.

#### Pre-Visit Activities

1. Go over new vocabulary words as a class. (some words may have multiple definitions but the ones pertaining to the program are listed)
  - **Compression** - stresses directed toward the center of rock masses
  - **Erode** - outside force process that moves soil and rock from one location to another
  - **Geology** - the study of rocks
  - **Igneous** - rocks formed through the cooling and solidification of magma or lava
  - **Lava** - molten rock expelled from the earth via volcano to form igneous rocks
  - **Magma** - molten rock inside of the earth's crust that cools and becomes igneous rocks
  - **Metamorphic** - rocks that have been subjected to enough heat and pressure to chemically or physically change the structure of the rock
  - **Mineral** - a solid and inorganic substance; minerals can make up rocks, but rocks cannot make up minerals
  - **Mountain** - a large landform that is bigger than a hill, that is made of rock and on a convergent plate boundary
  - **Rock** - a solid aggregate of one or more minerals or mineraloids
  - **Sediment** - types of rock that are formed by the layers of mineral/material at the Earth's surface and in bodies of water
  - **Tectonic** - concerned with the processes which control the structure and properties of the Earth's crust, and its evolution through time
  - **Tectonic Plate** - the theory that the lithosphere (the upper layers of the Earth's crust) is broken up into seven or eight major plates, and many smaller minor

plates, these plates move and shift, to create things ranging from earthquakes to mountain ranges

- **Valley** - a low area between hills, usually with a river running through it
- **Volcano** - a rupture on the surface of Earth that allows lava, hot gas, and volcanic ash to escape from an underground magma chamber

## 2. Ice Erosion

- This activity is meant to get students thinking about erosion before the program.
- Materials: Clay, sand, gravel, paper cups, water (to be made into ice), plastic covering for the desks.
- The night before fill the paper cups half full with water and freeze overnight.
- Have the students build a mountain side out of the clay, sand and gravel. (you may want to put a plastic covering over their desks)
- Have students remove the ice from the paper cups.
- Have students slide the ice over the mountain side to demonstrate erosion.

## Post-Visit Activities

1. Have the student's journal about their trip. The prompt should be, "What was your favorite part of the trip to the museum?" They can either write or draw their response.
2. Stalactite and stalagmite experiment
  - Materials: Two jars, Water, Epsom Salt, String, Small weights, Plate
  - Fill two jars with warm water
  - Mix epsom salt into the jars until no more will dissolve
  - Get a piece of string wet, and tie a weight to each end
  - Drop one end of the string into each jar
  - Place a plate between the two jars with the string hanging overhead
  - Check everyday to see how your stalactite and stalagmites are doing
    - Stalactites have to hold on tight to the ceiling of the cave
    - Stalagmites have to be might to stand up on the floor of the cave

## Earthworks Vocabulary Word Search

D W G N W W U C B X V R R J P  
O Q M E K B A Y U R O C K U O  
S S A J O Z F S Y L L W A T K  
E V G M W L B B Y X C V H E Q  
D D M Q E M O U N T A I N C C  
I V A G A T H G F L N E Y T O  
M Q V U T Y A R Y N O R F O M  
E O Y E H N Y M E V L O B N P  
N J K V E Z B Q O A T D W I R  
T W M A R O K Y R R E E V C E  
V F X L I G E E C F P K N V S  
H M K L N R N O R Q F H M F S  
B V L E G I O Z Q W W G I P I  
E Q A Y M Y N V W S K U G C O  
B Y L P M A I G N E O U S K N

COMPRESSION  
ERODE  
GEOLOGY  
IGNEOUS  
LAVA  
MAGMA  
METAMORPHIC  
MINERAL

MOUNTAIN  
ROCK  
SEDIMENT  
TECTONIC  
VALLEY  
VOLCANO  
WEATHERING