



DINOSAUR EXPLORER

To-Go Kit

Dig into this kit to learn about the age of dinosaurs!

Kit Activities Include:

- Dino Excavation Dig
- Sands of Time Stratigraphy
- Fossilized Dino Cast
- Dinosaur Freebies

Please visit the MOTTU website @
<http://www.depts.ttu.edu/museumttu/>
for instructional videos related to this kit!

Dino Excavation Dig

Background Info:

- What is Paleontology?
 - Paleontology is the branch of science that focuses on fossil animals and plants. Paleontology is most commonly associated with the study of dinosaurs.

- Steps of the Paleontological Process:

1. Someone discovers a fossil
2. If the person is a paleontologist, they decide whether or not they are going to excavate the fossil.
3. If they are NOT a paleontologist, they should contact one and let them know what they found.
4. Proper permits must be acquired for excavation
5. Once permits are granted, a field crew of paleontologist, students and volunteers goes to the site of the fossil.
6. The fossil and surrounding protective layer of dirt and rock (matrix) is carefully removed from the ground by the field crew.
7. The fossil is transported from the dig site to the lab.

Supplies Included:

- Dino Excavation Kit

Supplies Needed:

- Large surface to dig (will get dusty)
- Cloth to clean powder

Instructions:

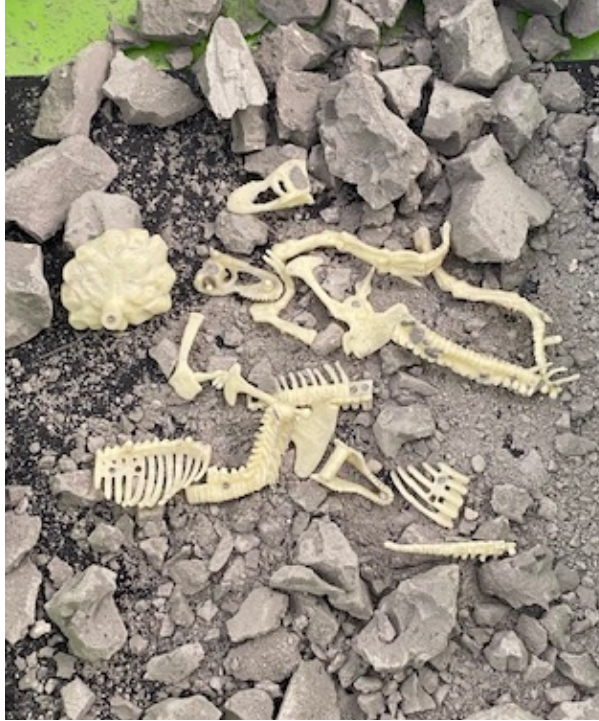
- Please refer to the instructions listed on the back of the box.



- Using the tools provided in the box, start to dig out your dinosaur bones, using the chisel to dig through the rock, and the brush to finely brush off the pieces as you find them.



- Refer to the back of the box to see how many bones are in the rock.



- Once you have found all the bones, use the box to connect the bones, using the number system listed.



Sands of Time Stratigraphy Bottle

Background Info:

- What is Stratigraphy & Why is it Important?

-Dinosaur fossils are found in sedimentary rocks (rocks made of sediment deposited in layers). Rock layers are formed at different times throughout history. Stratigraphy is the branch of geology (the science that examines the earth's physical structure and history) that looks at these layers to determine their place in the geological time scale of the earth. This process helps to determine how old dinosaur bones are when they are found in the earth.

Supplies Included:

- Plastic Bottle
- Colorful Stratigraphy Handout
- Strip of Clear Time period Labels
- 11 cups with 10 Different colors of sand
- Funnel

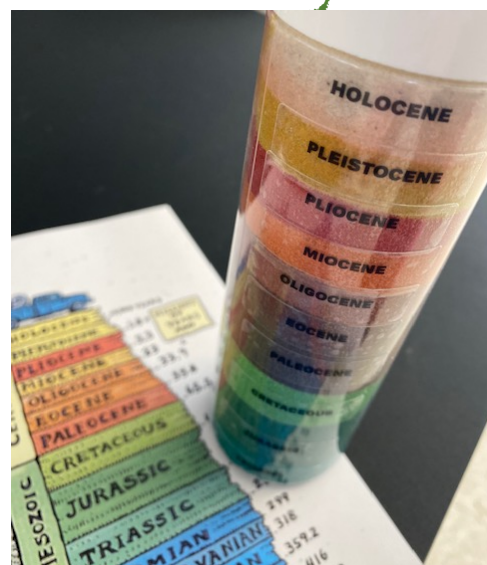
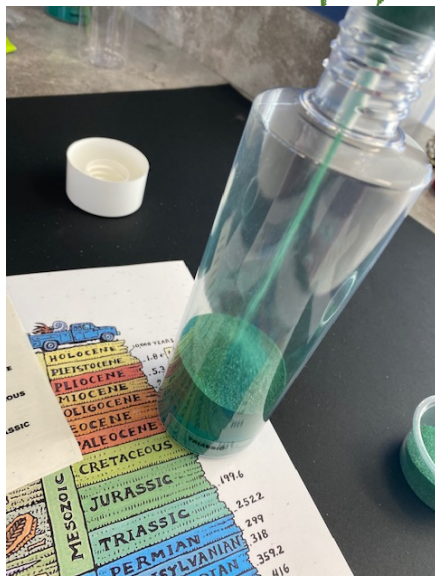


Supplies Needed:

- None

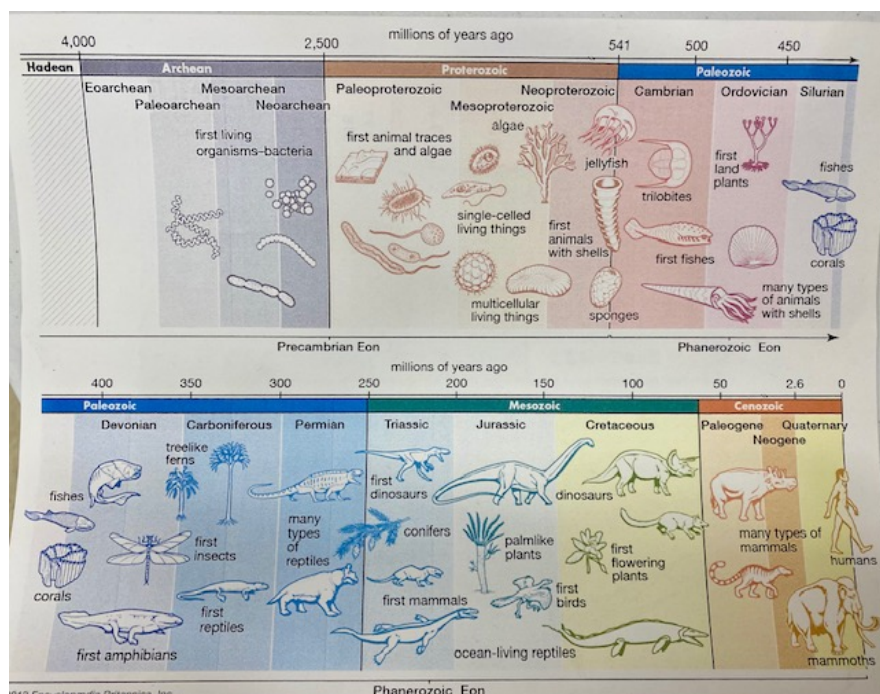
Instructions:

- For this activity, we will be starting our first stratigraphy layers at the Triassic time period (an earth form layer that started 252.2 million years ago)
- Using the colorful handout as a guide, pour the different colors of sand into the bottle using the funnel. Then add the time period stickers on top of each layer.
 - Notice that you have two cups of a green shade of sand, this will be used for the Jurassic layer since it is so large.
 - Using the guide, notice that some layers are not as thick as others. You do not need to use all of the sand in each cup for the smaller layers.



Explanation:

- Following along with your chart, notice that the Triassic, Jurassic, and Cretaceous are all periods within the Mesozoic Era that occurred between around 252-65 million years ago.
- Following along with your chart notice that the Paleocene, Eocene, Oligocene, Miocene, Pliocene, Pleistocene, and Holocene periods are all periods within the Cenozoic era that started about 66 million years ago and is considered the era we are in today.
- Turn the page over to see all the living organisms, plants, and animals within each era and period, and how many millions of years ago they existed.



Fossilized Dinosaur Cast

Background Info:

Molding is often necessary and important to make copies of fossils (called replicas or casts) using a molding and casting process. Casts provide exact copies of a fossil so people can study it.

Supplies Included:

- Premade bag that includes:
 - Pie dish
 - Model Magic
 - Cup of dry plaster
 - Empty Cup (for water)
 - Stir stick
 - Plastic Dino Figure

Supplies Needed:

- Water

Instructions:

- Open the model magic and flatten it in the bottom of your pie dish.

- Place your dinosaur in the model magic and press it down deep into the model magic.



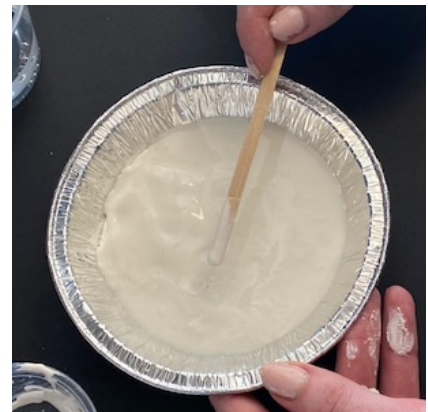
- Fill empty cup with water and slowly pour little amounts of water into the cup of plaster, while mixing it around.
 - YOUR PLASTER SHOULD BE THE CONSISTENCY OF PANCAKE BATTER, SO YOU SHOULD SLOWLY POUR SMALL AMOUNTS OF WATER AND ADD MORE IF NEEDED AS YOU STIR.



- Once you feel you have pressed it down hard enough, SLOWLY & CAREFULLY pull out the dino figure.
 - This should leave an imprint of the dinosaur in the model magic.



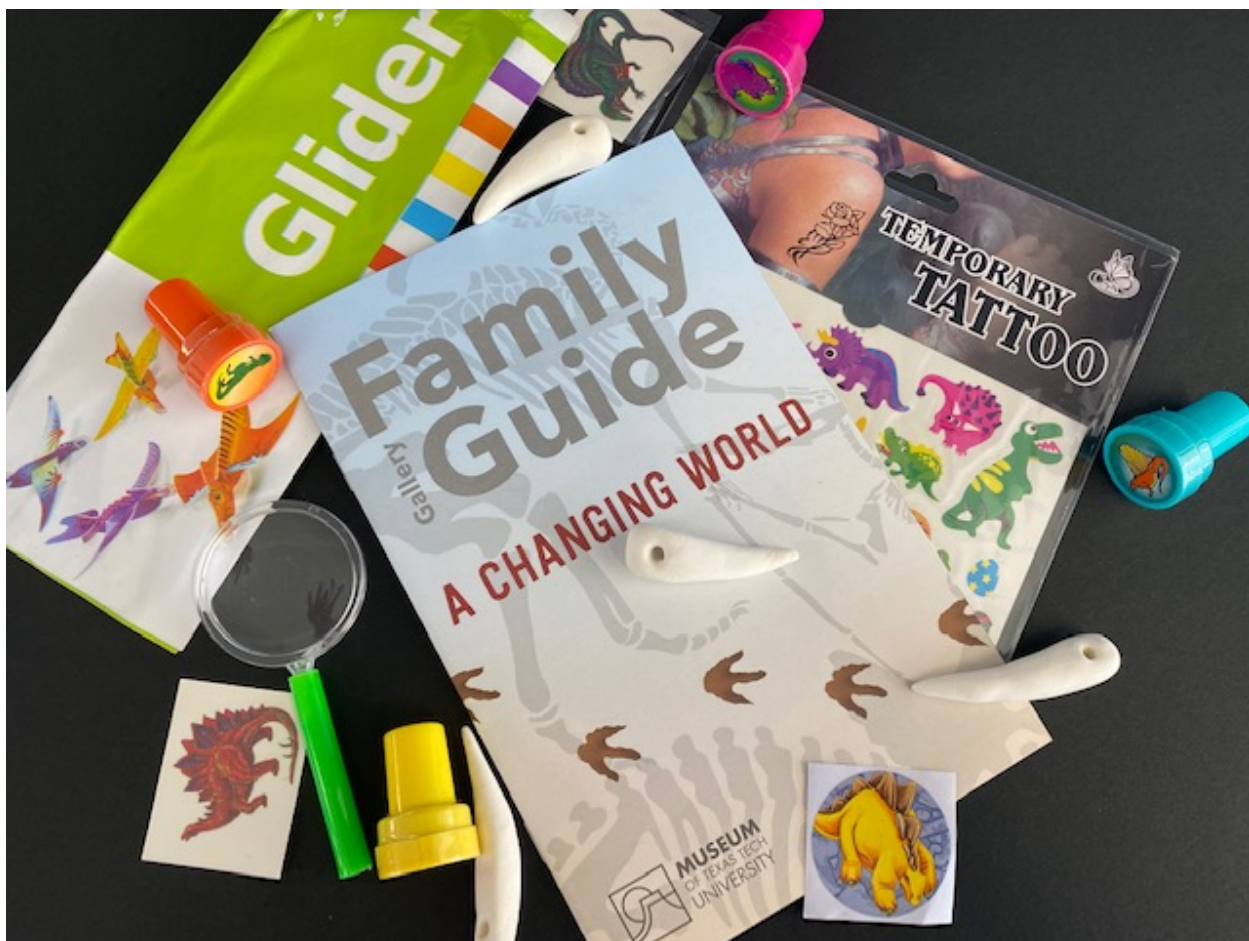
- Pour the plaster mix into the pie dish covering the dinosaur imprint and use the stir stick to spread the mixture fully around the dish.
 - SET ASIDE UNTIL MIXTURE IS FULLY DRY AND HARDEND.



- Once dry, tear the pie dish away from the cast and turn over to reveal the dinosaur cast.

Dinosaur Explorer Kit Freebies:

- A MAGNIFYING GLASS TO EXAMINE YOUR FOSSIL FINDS AND CAST
- A DINOSAUR GLIDER
- DINOSAUR STICKERS
- DINOSAUR TEMPORARY TATTOOS
- FAKE DINOSAUR TEETH
- AN ORIGINAL MUSEUM OF TEXAS TECH FAMILY GUIDE THAT EXPLORES THE DINO GALLERY OF THE MUSEUM AND OF THE LOCAL REGION WITH INCLUDED ACTIVITIES INSIDE.



Resources Used for this Kit:

- <https://www.smithsonianmag.com/science-nature/ask-smithsonian-what-is-dinosaur-180967448/>
- <https://www.smithsonianmag.com/science-nature/ask-smithsonian-what-is-dinosaur-180967448/>
- <https://www.nhm.ac.uk/discover/what-are-dinosaurs.html>
- https://museumoftherockies.org/uploads/Resources/Trunks_Kits/Background_Info-Process_of_Paleontology.pdf
- <https://homegrownfun.com/how-to-make-homemade-fossils-classroom/>
- https://www.oxfordlearnersdictionaries.com/us/definition/american_english/paleontology#:~:text=%2F%CB%8Cpe%2F%99n%CB%88t%2F%99d%CA%92i%2F,history%20of%20life%20on%20earth