

Paleontology

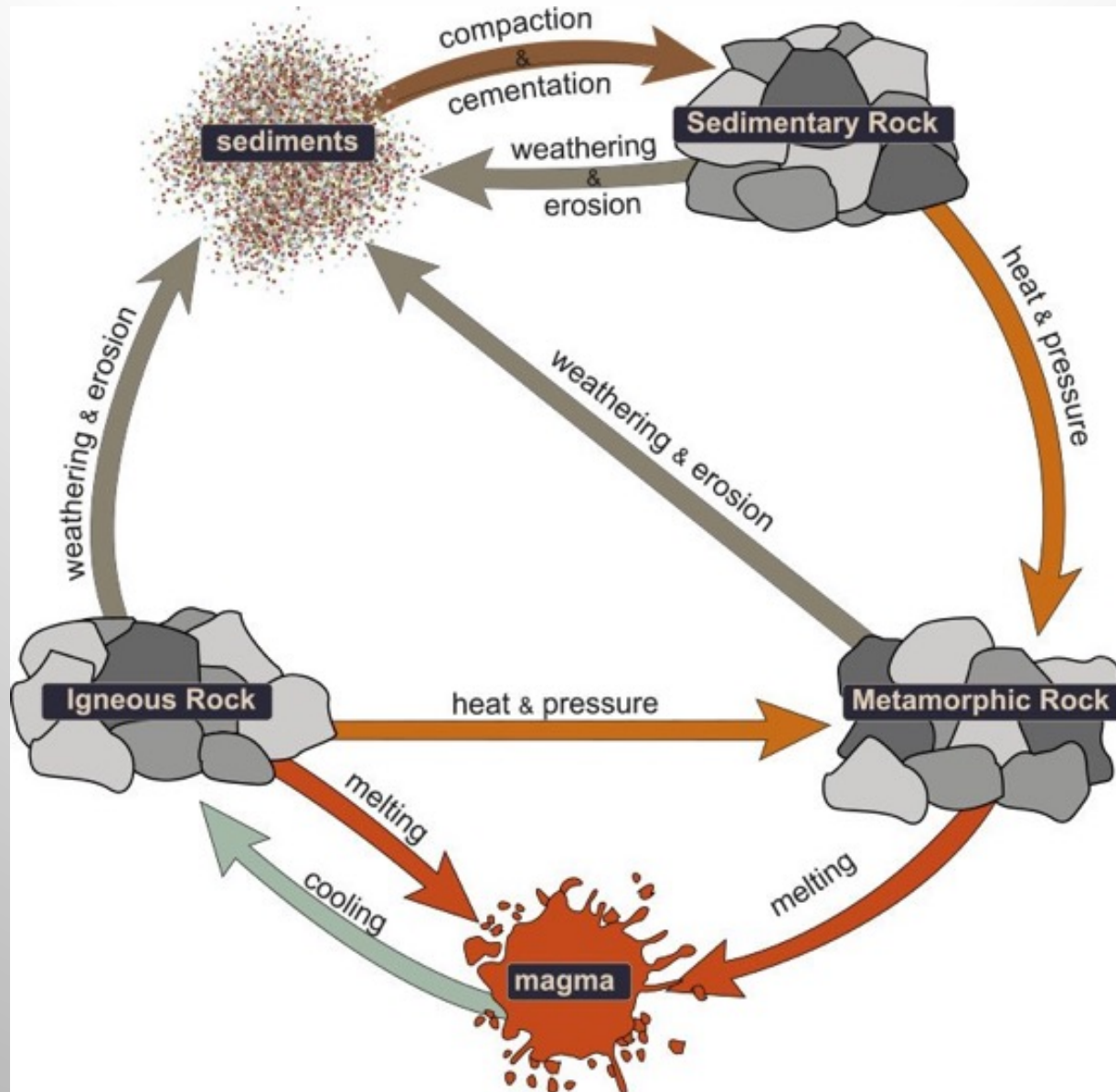


WHAT IS A FOSSIL?

Preserved
remains or traces
of organisms from
a past
geological age.



The Rock Cycle



How does a fossil form?



1- Death

2- Rapid burial (usually near water)

3- mineralization (water with sediments seeps through and bone parts are replaced with minerals)

4- erosion exposes fossils

Types of fossils

- Preserved remains
- Permineralization/mineralization
- Casts and Molds
- Impressions
- Compression fossils
- Trace fossils

Preserved Remains (rarest)

The preservation of skeletons and soft tissue.



Amber



Ice

Mineralization (most common)

- Rainwater carries minerals in the soil down to the fossil. The animals bones are replaced by the minerals.



Casts and Molds



Impressions



Compression Fern fossils



TRACE FOSSILS

Fossils that form from something the animal left behind.



Shenandoah Valley Fossils



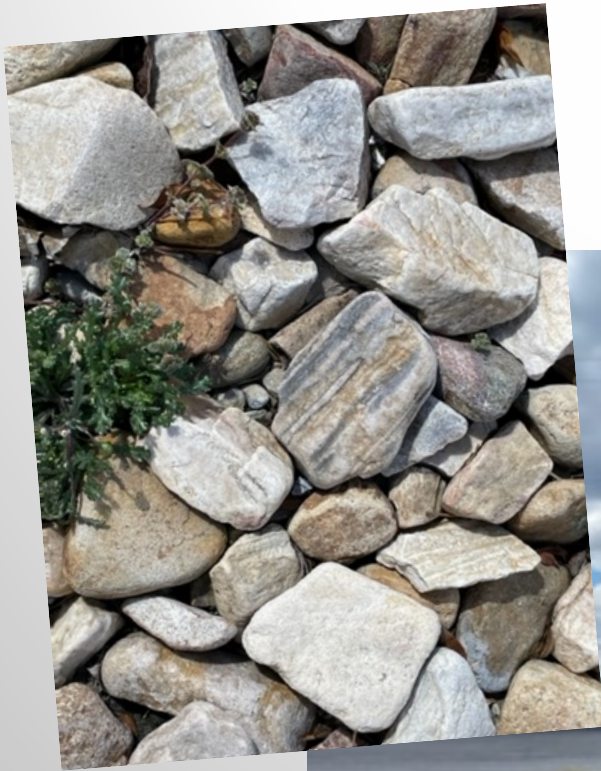
From Winchester to SW Virginia

- Arthropods
- Brachiopods
- Bryozoans
- Cephalopods
- Coral
- Crinoids
- Gastropods
- Graptolites
- Ichnofossils – burrows
- Mollusks
- petrified wood
- Plants
- Stromatolites
- Trilobites

Rockingham Co. VA



Verona, VA



Shoreline sites in Va & Md

- Purse state park, Maryland
- Calvert Cliffs
 - Matoaka, Maryland
- Flag ponds Nature Park, Maryland
- Chippokes State Park on the James River, Surry VA
- York River State Park on Fossil Beach
- Stratford Hall
- Westmoreland State Park on the Potomac River

Facebook:

Virginia and Southern Md. Fossil Hunters

On the shore

- * Fish bones
- Mammals
- Shark teeth
- mollusks
- Gastropods
- Coral
- Reptiles
- Shells
- Crocodile teeth



Virginia shoreline Fossils



Virginia State Fossil Scallop – *Chesapectan jeffersonius*



Sharks Teeth



Calvert Cliffs



Pipsico, Surry County



Culpepper Quarry Dinosaur footprints



Saltville , VA

- Museum of the Middle Appalachians
 - Mastodon,
 - Woolly Mammoths,
 - Musk Ox,
 - Giant Ground Sloth



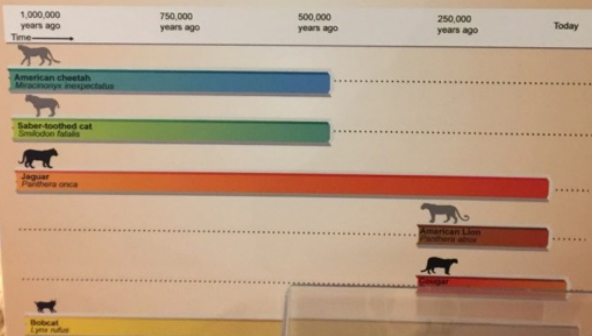
Museum of Natural History, Martinsville, Virginia

Cats from the Past

Virginia and the surrounding mid-Atlantic region were home to a variety of cats during the Pleistocene Epoch, which began about 2.6 million years ago and ended about 11 thousand years ago. However, during that long timespan, only a few species (kinds) of cats lived here together at any one time.

This chart shows which cats have lived in Virginia and when they were here. American cheetahs, saber-toothed cats, jaguars, and bobcats all lived in Virginia about 1 million years ago. By about 500,000 years ago, American cheetahs and saber-toothed cats were extinct in eastern North America. American lions and cougars first appeared in eastern North America about 300,000 years ago.

Scientists don't know exactly when American lions and jaguars became extinct in eastern North America, but it was at most 50,000 years ago, leaving only cougars and bobcats in Virginia. The last native cougars in Virginia probably died in the late 1800s, and the cougar was extinct in most of eastern North America (except southern Florida) by the 1930s.



Three of Virginia's "cats from the past" are now extinct, surviving nowhere on Earth: the American cheetah, the saber-toothed cat, and the American lion. Two cats no longer occur in Virginia, but they can be found in eastern North America as well as Central America and South America: the jaguar and the cougar. Only one species that was here in the Pleistocene still lives in Virginia today: the bobcat.

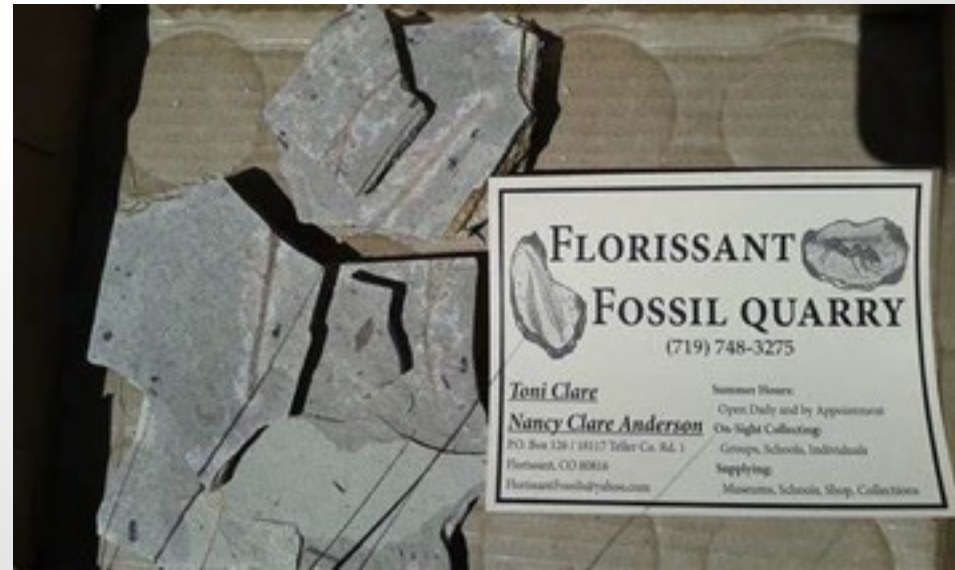
PETRA



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Oh, The Places You'll Go...

- Lebanon, PA
- Herkimer, New York
- Florissant, Colorado
- Peace river, Florida
- Kemmerer, WY
- Fort Drum, Florida



Fossil Butte Kemmerer, Wy

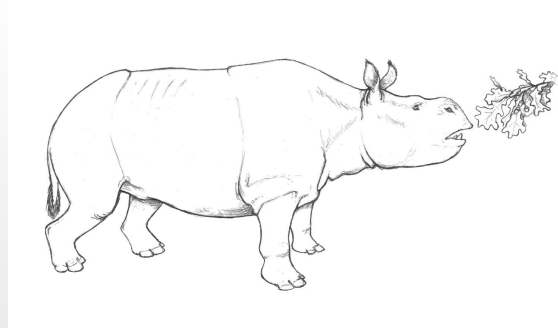




Herkimer
NY

Gray Fossil site, Tennessee

4.5-4.9 million years old



HADROSAUR – Duck billed dinosaur

