

## Leaves of Change - Fossil Inventory Sheet



### (A) Ammonite Shells

#### *Body fossil*

These are a body fossil of the shells of an ammonite, an extinct group of animals. Ammonites belong to the phylum mollusca. Their closest living relatives would be octopus, squid, and Nautilus. The last of these animals went extinct 66 million years ago during the KT extinction when a meteor hit the Earth. Ammonites come in several shapes like cones and spirals. The largest ammonite fossil found was 6.5 feet in diameter.

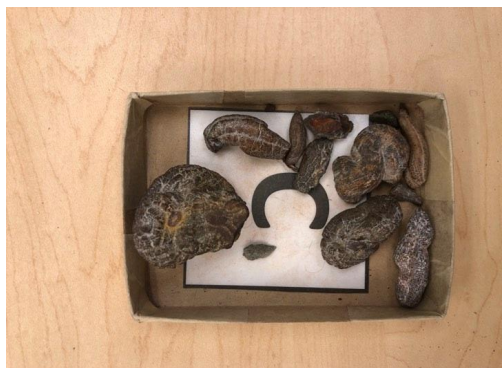
It has been hard for scientists to determine how they lived and behaved in the wild, because few of their soft parts have been preserved for people to study.



### (B) Brachiopod shells

#### *Body fossil*

Brachiopods may look like clams and other shellfish, but they make up their own group entirely. In the fossil record we see evidence of thousands of different species of brachiopod. Brachiopods are still around today, but there are much less species than there used to be. They have a lifespan of 3 years for some species all the way up to 30 years in others. They eat by allowing water to flow into them which helps them catch any small food particles in the water, mostly phytoplankton.



### (C) Coprolites

#### *Trace Fossil*

Coprolites are a trace fossil. They are fossilized poop of several different animals, everything from dinosaurs to ancient mammals. Because of the variety of animals and time periods they can come from, there aren't really any commonalities between their shapes and sizes. Trace fossils like coprolites can help teach us a lot about the animals they have come from. We can learn things about diet and behavior that would be hard to get in other

ways. Though it is often hard to identify which animal produces the coprolite that was found. Humans also used to mine coprolites because they have a high phosphate content and can be used as fertilizer in farming areas.



#### **(D) Shark Teeth**

##### *Body Fossil*

Sharks have been present in the fossil record for the last 420 million years. Due to sharks having a cartilaginous skeleton only teeth and scales are hard enough to leave fossils. The shark lineage is still around today and hasn't changed that drastically for millions of years. The teeth count as a body fossil, sharks have very unique teeth they constantly regrow and lose teeth during their life. Some sharks can lose up to 30,000 teeth in a lifetime. The other

hard parts are the scales which are called dermal denticles. Some shark scales are so sharp they can cut people, and they help sharks swim faster. Sharks fill all sorts of different roles in their environment from top predator to bottom feeder.



#### **(E) Trilobite**

##### *Body Fossil*

Trilobites are a group of Arthropods, the group of animals insects and crustaceans are in. They showed up in the fossil record 521 mya and the last one went extinct about 252 mya. For a long time they were some of the most dominant animals on the planet. They filled many different ecological niches from parasites, filter feeders, scavengers, and predators. The largest trilobites found have been 1.5 feet long. This fossil is a body fossil of the hard exoskeleton of the animal. Scientists have used

trilobites to see the rate that species evolved in the Cambrian period because there were so many species.



#### **(F) Shell Conglomeration**

##### *Cast/mold*

A conglomeration is a fossil made up of several individual fossils. In this case different types of shells. This fossil has some cast fossils as well as some mold fossils in different spots. These occur when several organisms die near each other and can be fossilized together. Think of when you go to the beach you may notice many shells all right next to each other.



### **Dinosaur Vertebrae**

#### *Body Fossil*

This vertebra comes from an unknown dinosaur species. The vertebrae are the bones that make up your spine. The spine helps send signals from your brain to the rest of your body. The very first vertebrae were fish, but many other groups of animals around today have them including reptiles, amphibians, birds, and mammals.



### **Oreodont Skull**

#### *Body Fossil*

Oreodonts are a type of mammal that went extinct 4 mya. They physically resemble pigs and for a long time were grouped with them. After further study on the teeth shapes they are now grouped with camels as their closest living relative. Oreodont is a group containing a wide variety of animals, some that resemble the modern day tapir, hippo. And cows. They were all thought to be herbivores living in deserts and grasslands. When fossils are found it is usually in groups of thousands suggesting that they lived in large herds together. These animals have only been found in central and north America.



### **Fish Carbonization**

#### *Body Fossil*

Carbonization is a special kind of fossilization that happens to fish and leaves commonly and some other organisms. The organism gets quickly covered in layers of mud that then squeeze away a lot of the decaying matter. This leaves behind a light imprint of the carbon that made up the body. This type of fossilization is great for showing small details like veins in leaves, feathers on dinosaurs, or the pattern of an animals' skin.





### **Replica Dinosaur Footprint**

#### *Trace Fossil*

Unfortunately, we don't know what type of dinosaur this footprint belongs to. In fact, this isn't even a real fossil, this is a man-made replica. Footprints are one of the most common types of trace fossils that paleontologists find. These trace fossils can teach us a lot about the animals that left them. By measuring the distance between footprint, you can tell the speed the animal walks, looking at the type of prints will tell you if they walked on 4 legs or just 2. The number of footprints near each tells you if

these animals traveled alone or if they stayed in groups, and what size those groups may have been.



### **Petrified Wood**

#### *Body Fossil*

As we talked about before, fossils don't just have to be animals. In this case the trunk of a tree was fossilized because the wood is part of the tree, we consider this a body fossil. Petrified wood is made in a similar way to many of the other fossils we spoke about. Some people consider petrified wood to be a gemstone and will use it to make different types of jewelry.



### **Coral**

#### *Body Fossil*

Corals may look like plants but are in fact animals. Actually, each coral that you see is a colony of many polyps which are individual animals that are only a centimeter in size. The corals create their own skeleton out of calcium carbonate, which is the rocky structure you see around coral, and is the part that is fossilized.



### **Crab Concretion**

#### *Body and Cast/Mold*

Concretions are a sphere-shaped fossil. They form when minerals gather around some sort of center which usually is part of some organism like a crab, tooth, or a leaf. Sometimes concretions are even found with World War 2 artifacts like bullets and shrapnel. One of the best things about a concretion is that if you open it up carefully you get both a body fossil and a cast fossil.