**Important Index Fossils**

**Index Fossils**

A “guide” fossil or “index fossil” is a sort of marker that’s used to date sedimentary rock. The qualities of a good guide fossil are:

1. Must be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and easily recognized.
2. Can only have existed for a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. Must be geographically \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Tree of Life**



**Important Index Fossils**

**Trilobites (#20) Phylum: Arthropoda**

* Some of the earliest invertebrate creatures and index fossils for the Paleozoic Era. Most common during the Cambrian and Ordovician periods.
* Are now extinct.

**Brachiopods (#11 and #15) Phylum: Brachiopoda**

* Have wing-like or hooked shells that are **not symmetrical**.
* Very common in the Paleozoic Era.

**Ammonites (#9) Phylum: Molusca**

* Related to squid and octopus. They have shells that are coiled and ornate.
* Abundant during the Mesozoic Era and became extinct with the dinosaurs.

**Bivalves (#1) Phylum: Molusca**

* Animals with symmetrical, hinged shells. For example: clams and scallops.

**Gastropods (#2) Phylum: Molusca**

* Animals with coiled, spiral shells. For example: snails.

**Echinoderms (#14) Phylum: Echinodermata**

* **Marine animals that display five-fold radial symmetry. Much like starfish.**

 **Verbrates Phylum: Chordata**

* **A large sub-phylum of animals containing backbones or cartilage. For example: dinosaurs, mammals, fish, birds, reptiles, etc.**
* **The most common guide fossil for this group is the shark tooth (#4).**

 **Stromatolites**

* **Precambrian mats of algae that trap mud and other sediments.**
* **These are the oldest known plants (up to 3.5 billion years old!)**