

Fossil Record

How does the fossil record support the theory of evolution?

What are fossils?

- **Fossil** – the preserved remains of an organism, or traces of an organism.
- Give us a view of what Earth was like when organisms were still alive



What is the fossil record?

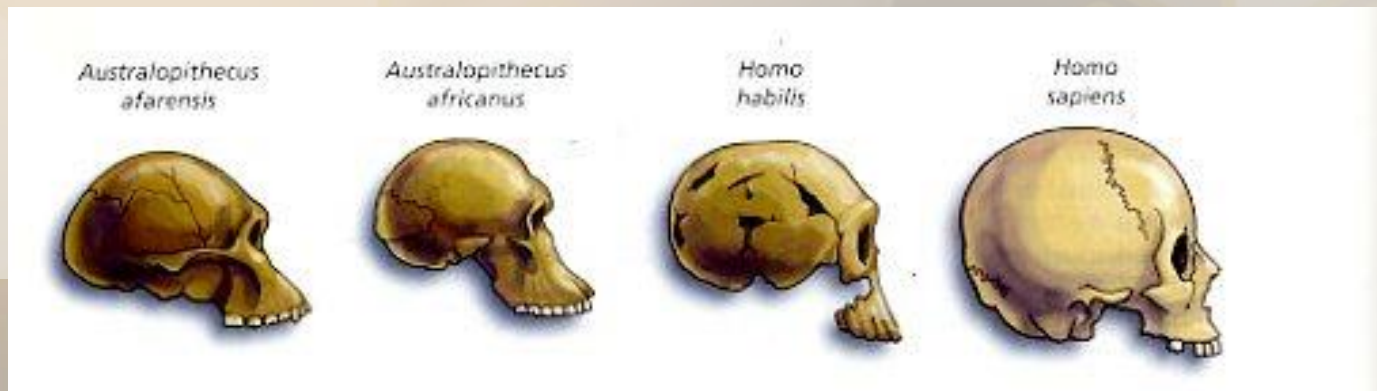
The fossil record: Sum of all fossils, or evidence of living things, on Earth

- Fossil record is very incomplete
 - Fossils are only created under certain conditions
 - Many are destroyed
- Scientists use the fossil record to infer lineage of organisms



Fossils and Evolution Theory

- Evolution takes place over long periods of time
- Humans often don't live long enough to see out the process of evolution, but we have fossils to show how organisms have changed
- Scientists use fossils to trace changes in physical structures as they evolved
- Fossils can show stepwise changes in the development of different organisms
 - Timelines of fossils

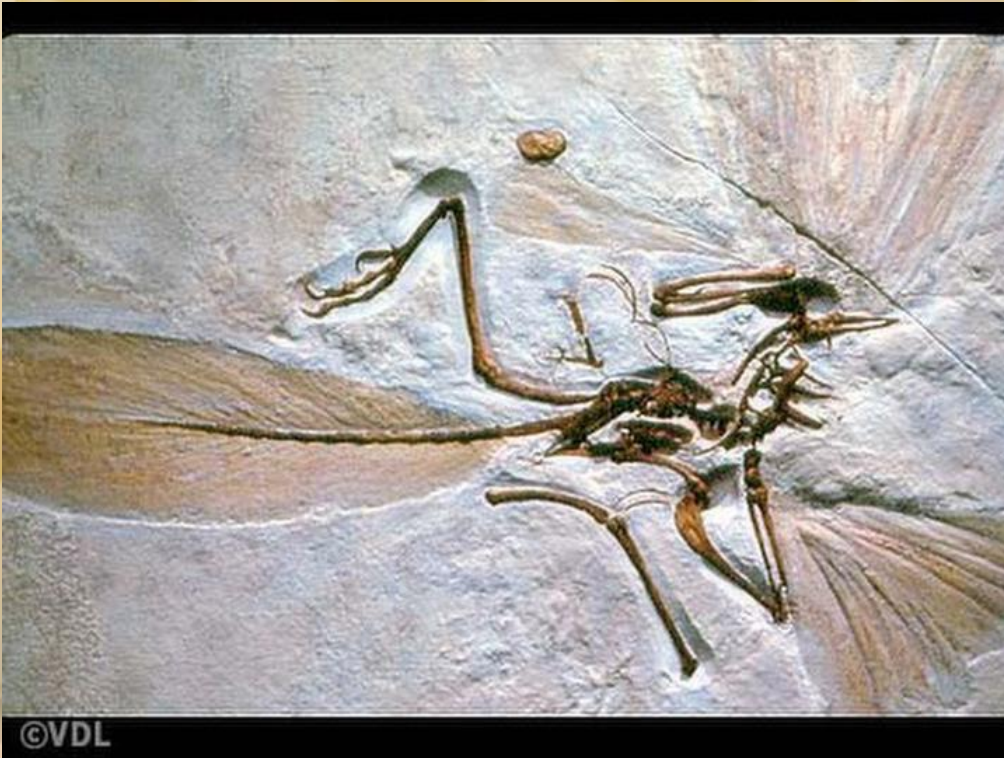


How did mammals take over?

- Before the K-T Extinction , many mammals were small and nocturnal
- So many niches left open, mammals evolved rapidly
- “Age of Mammals”
- Had fewer predators and could be active during the day
- Filled niches left behind after asteroid impact



What about dinosaurs that lived?



©VDL
Archaeopteryx – oldest known bird.
Feathers, and wing claws, was a poor flier

- Most of the dinosaurs that survived were avian dinosaurs
- Charles Darwin predicted that these dinosaurs evolved into birds
- Fossils of “transitional animals” have been found
- Evidence that avian reptiles evolved into birds