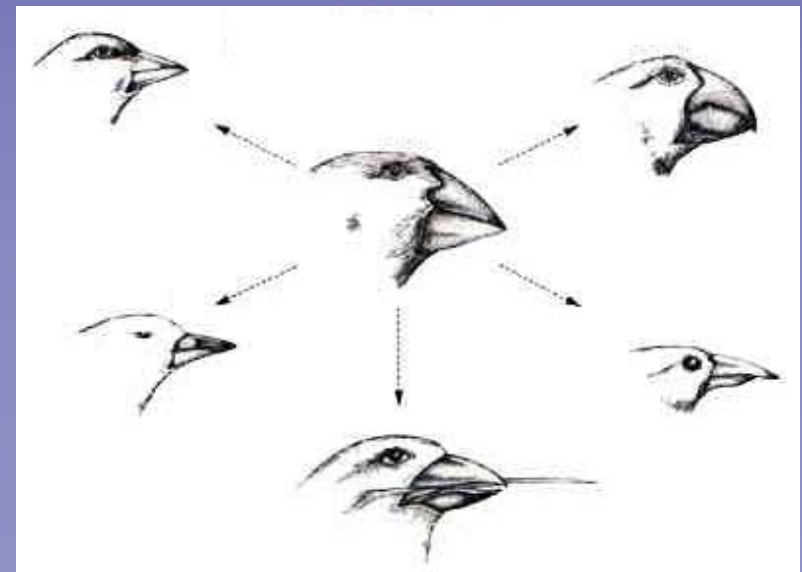
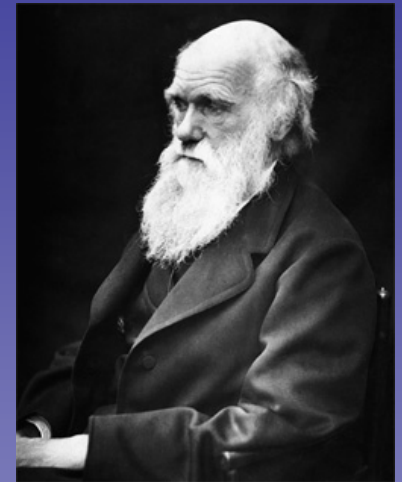


Theory of Evolution by Natural Selection



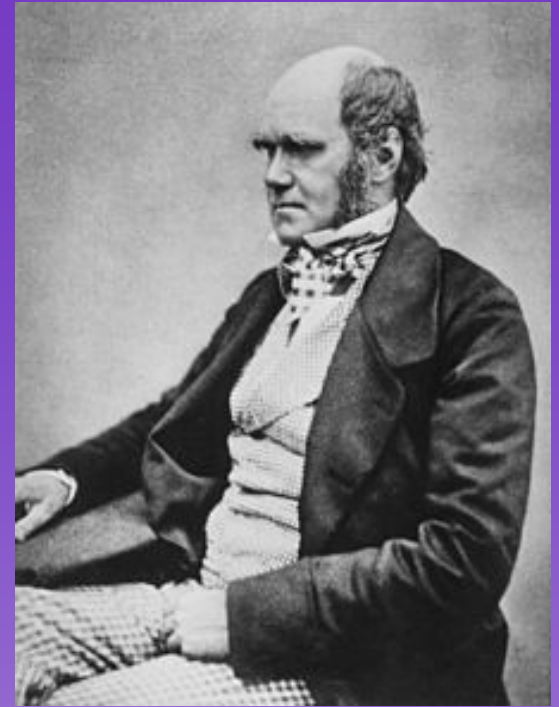
Overview of Evolution

- Means “continuous change” OR change over time
- A scientific theory
- Developed by Charles Darwin
- Has 4 main ideas
- Evolution in species happens by natural selection



Charles Darwin

- From England
- Lived 1809-1882
- Naturalist
- Sailed around the world in the HMS Beagle
- Influenced by many other scientists
- Developed the Theory of Evolution
- Published ***On the Origin of Species by Means of Natural Selection.***



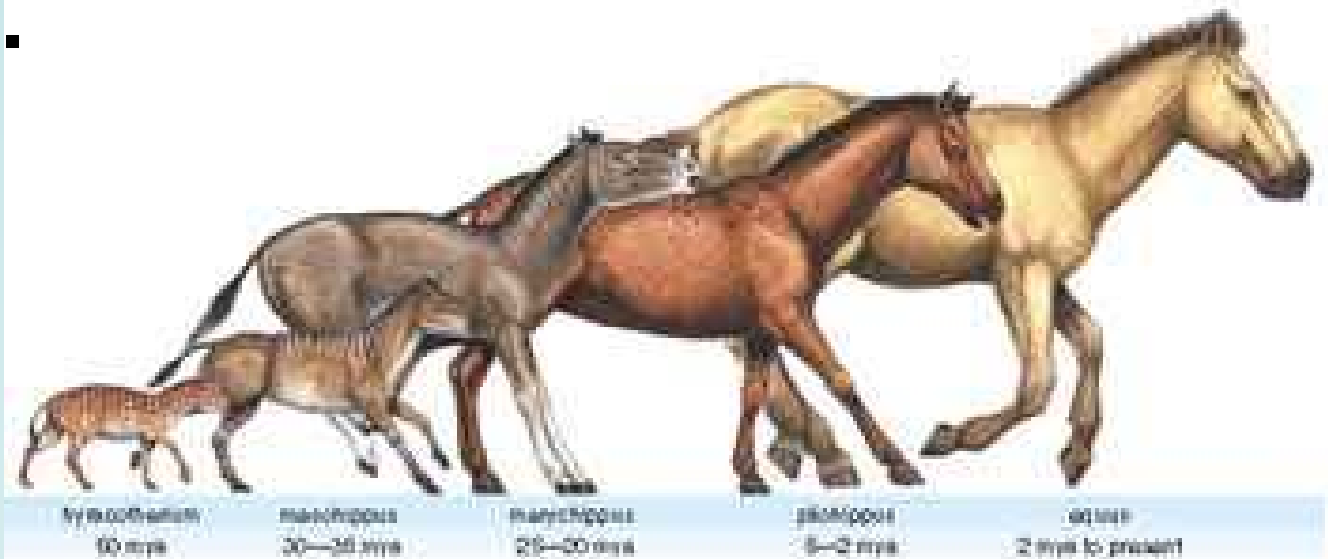
Evolution is a scientific theory that unifies all biological concepts.

- Scientific theories are NOT hypotheses.
- Scientific theories are supported by a significant amount of evidence.
- They are tested again and again by different scientists and have never been disproven.

Theory of Evolution – 4 Main Ideas

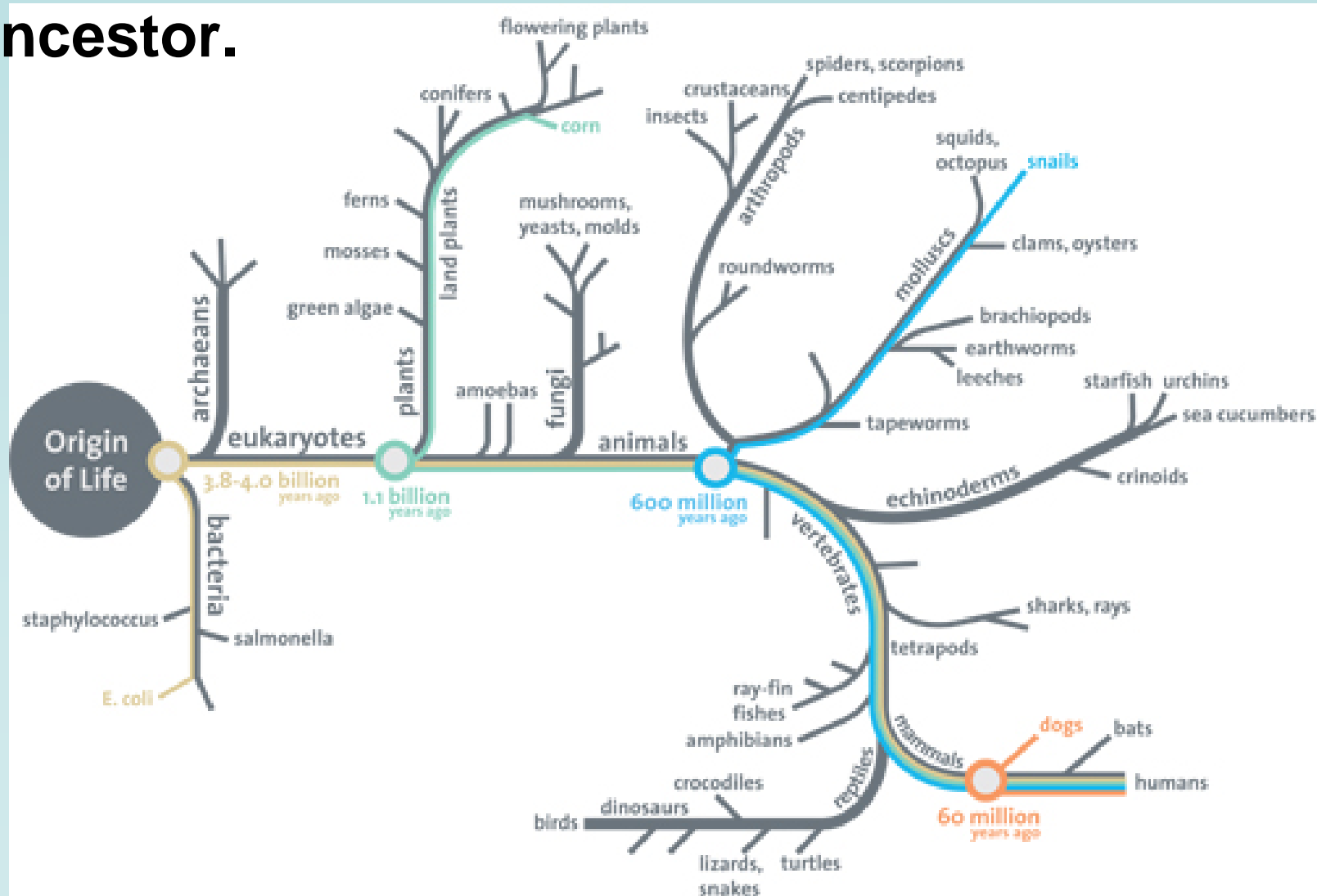
1. Species change over time and space.

- Species living today are different from those that lived in the past.
- The change happens very slowly.
- Differences are seen in the fossil record.
- Today, there is significant diversity in life on Earth.



2. All organisms share a common ancestor.

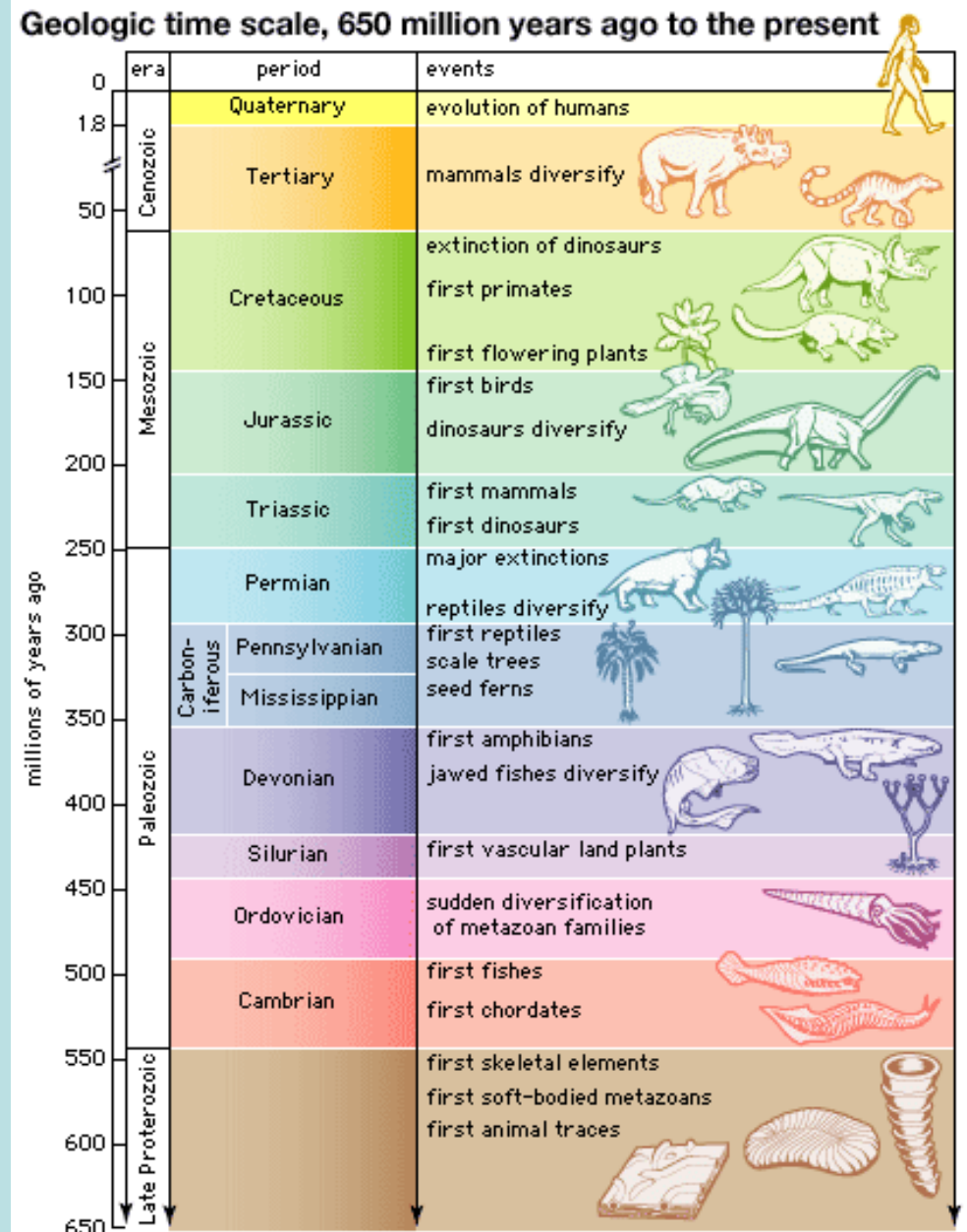
- Similarities of organisms that are classified together show inheritance of traits from a common ancestor.



Theory of Evolution – 4 Main Ideas

3. Evolutionary change is gradual and slow.

- This is supported by the long episodes of gradual change in organisms in the fossil record.



Theory of Evolution – 4 Main Ideas

4. Natural Selection - the process behind change in species over time.

- The environment where an organism lives is the key factor.**
- Individuals with some variations will survive better than individuals with other variations = “survival of the fittest”.**

A few last things to keep in mind...

- Evolution is the theory of how life has changed throughout Earth's history.
- For many years, Darwin collected evidence & made observations about life around the world.
- He used work from people in other professions to provide further evidence for all of his ideas.
- The main ideas behind evolution support other biological concepts, so the **Theory of Evolution is a unifying theme in Biology.**

REVIEW: What are Darwin's 4 Main Ideas of the Theory of Evolution?

1. **Species change over time and space.**
2. **All organisms share a common ancestor.**
3. **Evolutionary change is gradual and slow.**
4. **Natural Selection - the process behind change in species over time... survival of the fittest.**