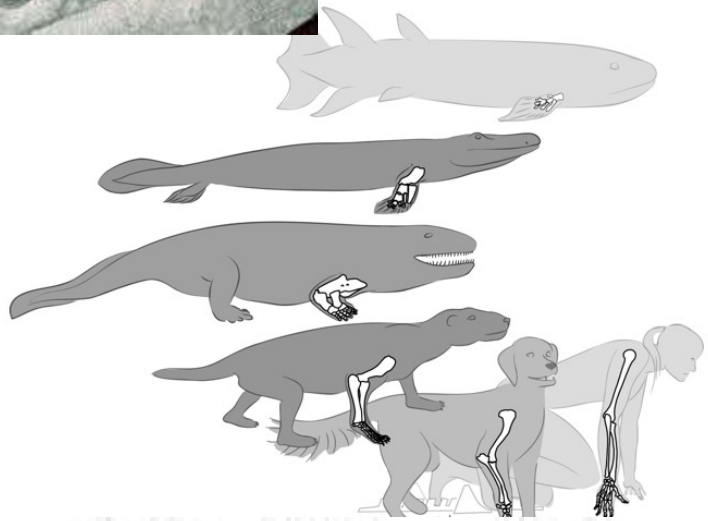
Evidence for Evolution

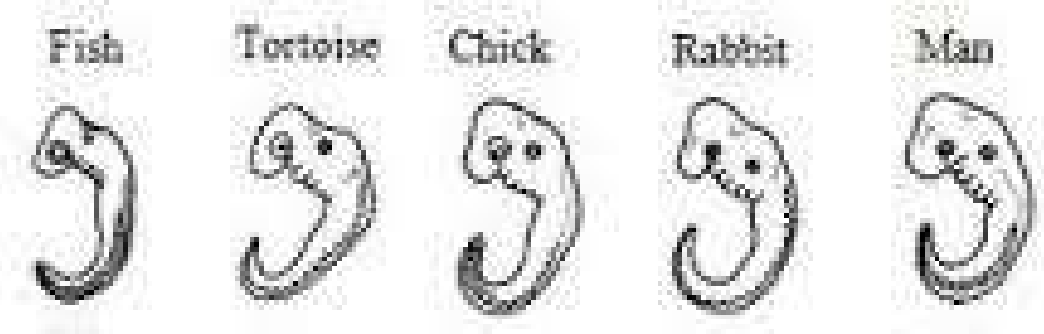
Part 1: Fossil record

Ms. Gill

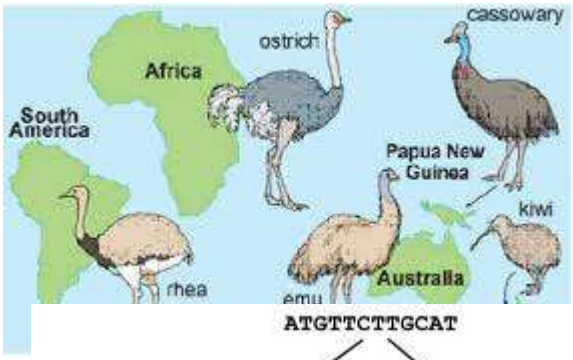
Honors Biology

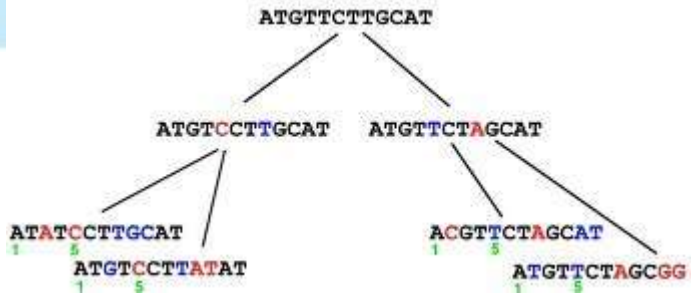
Evidence for Evolution



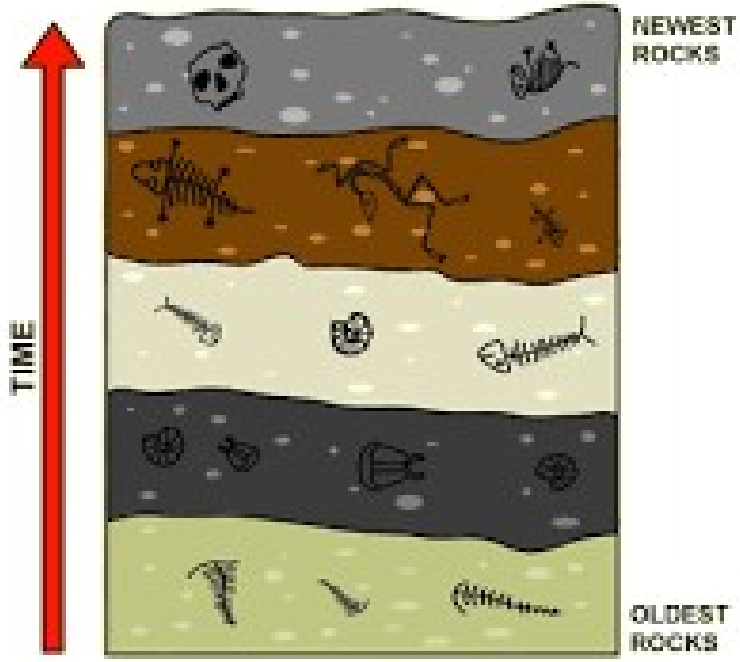


- Fossil record
- Anatomy
- Embryology
- Biogeography
- Molecular biology





The fossil record tells us what organisms lived when and how they lived



- When species _____
- When _____ evolved
- Details about _____ and _____

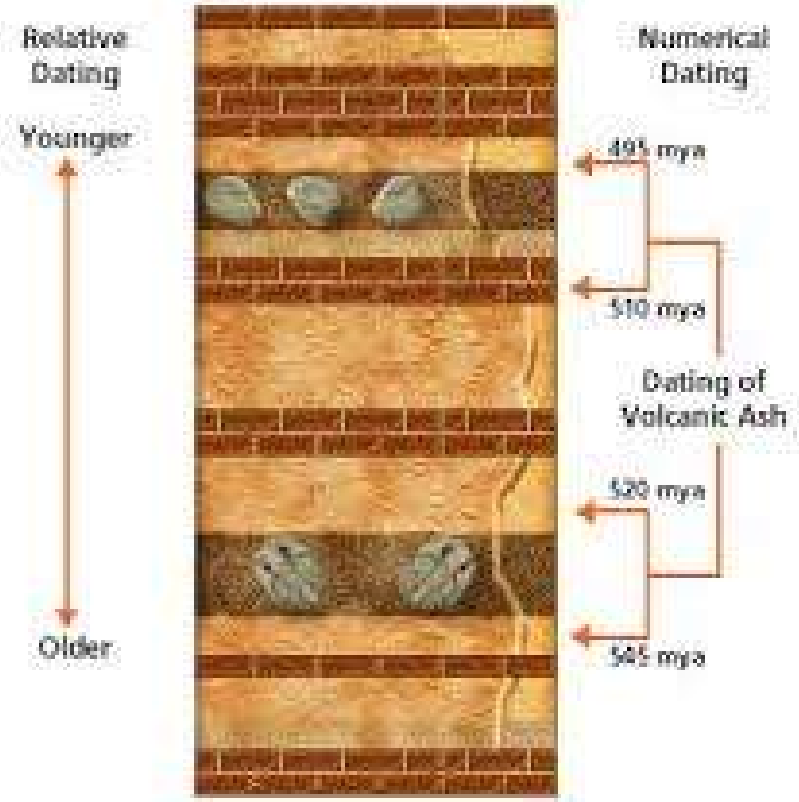
- _____ rocks have creatures most closely resembling modern ones
- Most species are _____
- _____ have features from both of two now distinct groups

How can we tell how old a fossil is?

RELATIVE DATING

Compare to _____ _____ we know the age of

_____ rocks on top of _____ rocks



ABSOLUTE DATING

Use _____ _____ to find exact age of rock

Requires calculations based on _____ of chemicals

Radiometric dating and half-life

- Radioactive atoms decay at a set rate, defined by half-life
- Half-life: _____

_____

- Half-life is always _____
  - Doesn't matter _____
  - _____ doesn't matter
- Very useful for determining age of objects
- _____ dating is the most common in biology

Transitional fossils

- Have characteristics of _____
- Likely some sort of _____…odds are they are not _____, or “THE missing link”, but they are still strong evidence for evolution

Tiktaalik: fish to land tetrapod

Archeopteryx: dinosaur to bird

Ambulocetus: walking mammals to whales

Fossil stations! (approx. 10-15 min each)

- Radiometric dating mini-lab***
- Fosssil record and relative dating worksheet
- NOVA: Transitional Tetrapod Fossil guided viewing
- Transitional fossils worksheet

You MUST complete at least two stations in class in order to retain group choice privileges tomorrow! Check with Ms. Gill when you finish a station.

***mini lab must be done in class

All work due on Schoology at beginning of class tomorrow.