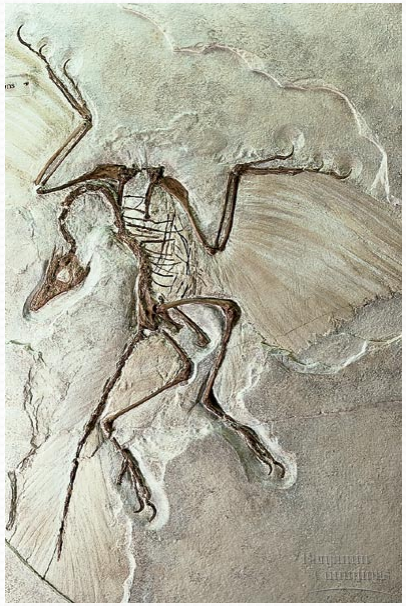
Evidence For Evolution

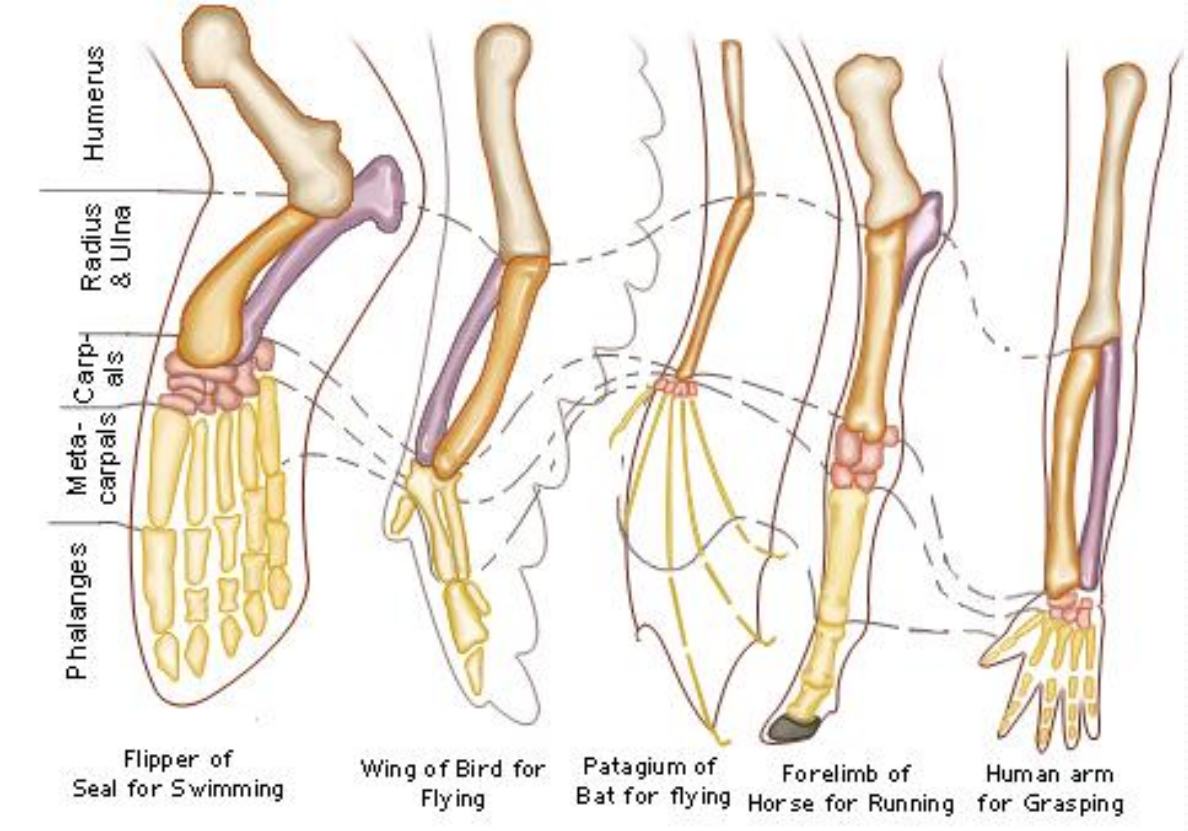
1) The Fossil Record

- Fossils in younger rocks resemble today's organisms.
- Transitional fossils show organisms have changed over time- eg. Archaeopteryx, Tiktaalik



3) Homologous Structures

- Similar body structures
- Suggests that organisms evolved from common ancestors.



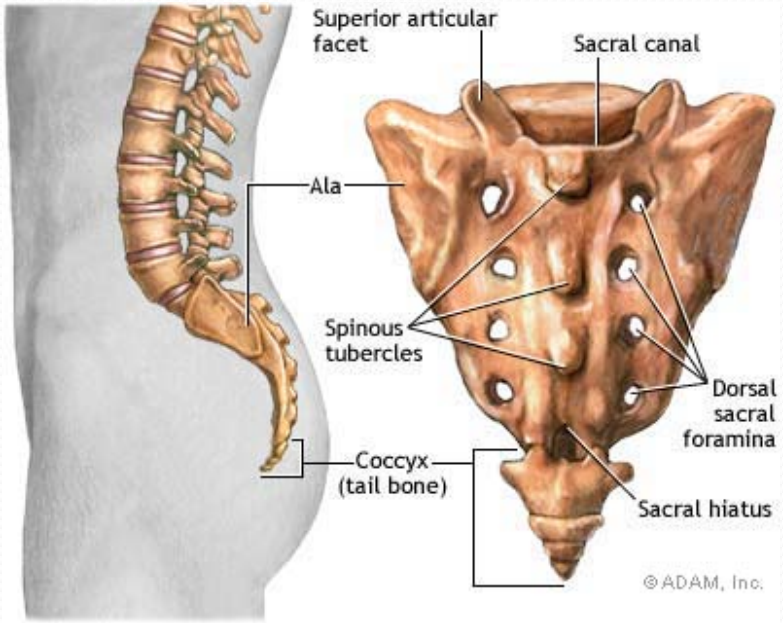
2) Biogeography

- Study of how organisms vary across space and time
- Similar species appear closer together.
  - eg. Galapagos finches look closest to the finches in S. America.

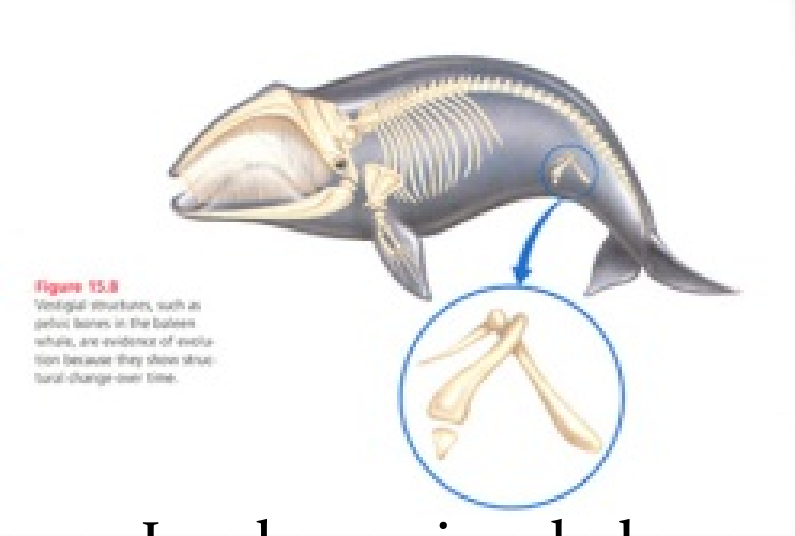
3) Homologous Structures

- Vestigial organs = organs w/o any functions.
  - Suggests that organisms evolved from common ancestors.
  - eg. Tailbone in human, appendix, wisdom teeth, hind leg bones in whale

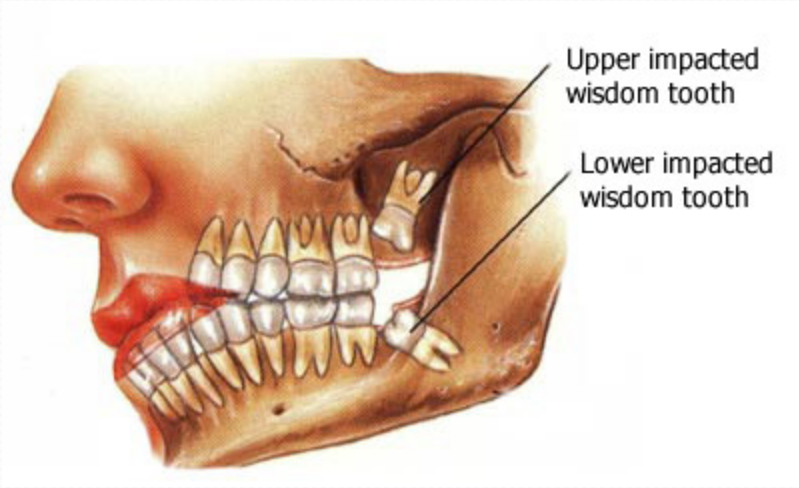
Vestigial organs



Human Tail bone -Coccyx



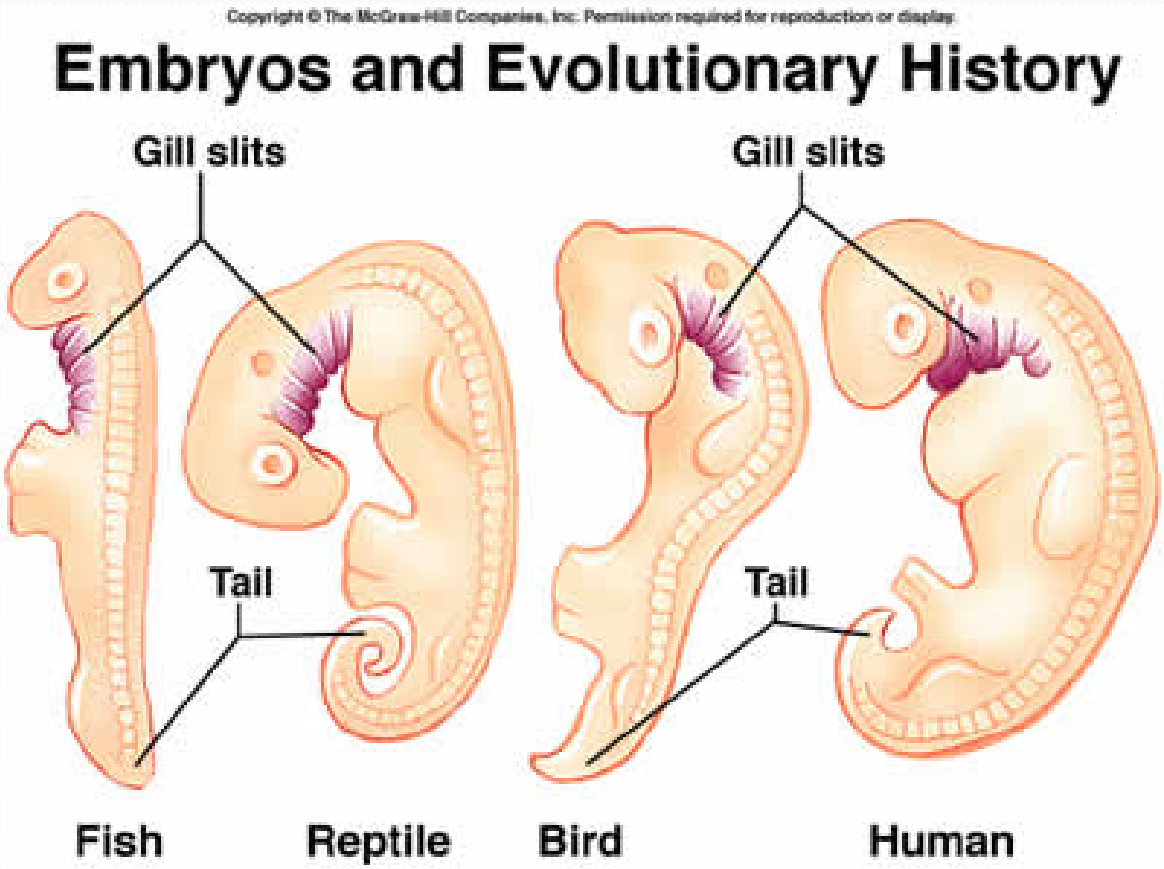
Leg bones in whales



Wisdom Teeth

4) Embryology

- Similarities in early development of vertebrate animals.
- All share common features in early development, eg. Gill slits, post-anal tail.



5) Genetics

- Animals share the same common genes.

  <u>Compared to human genes</u>

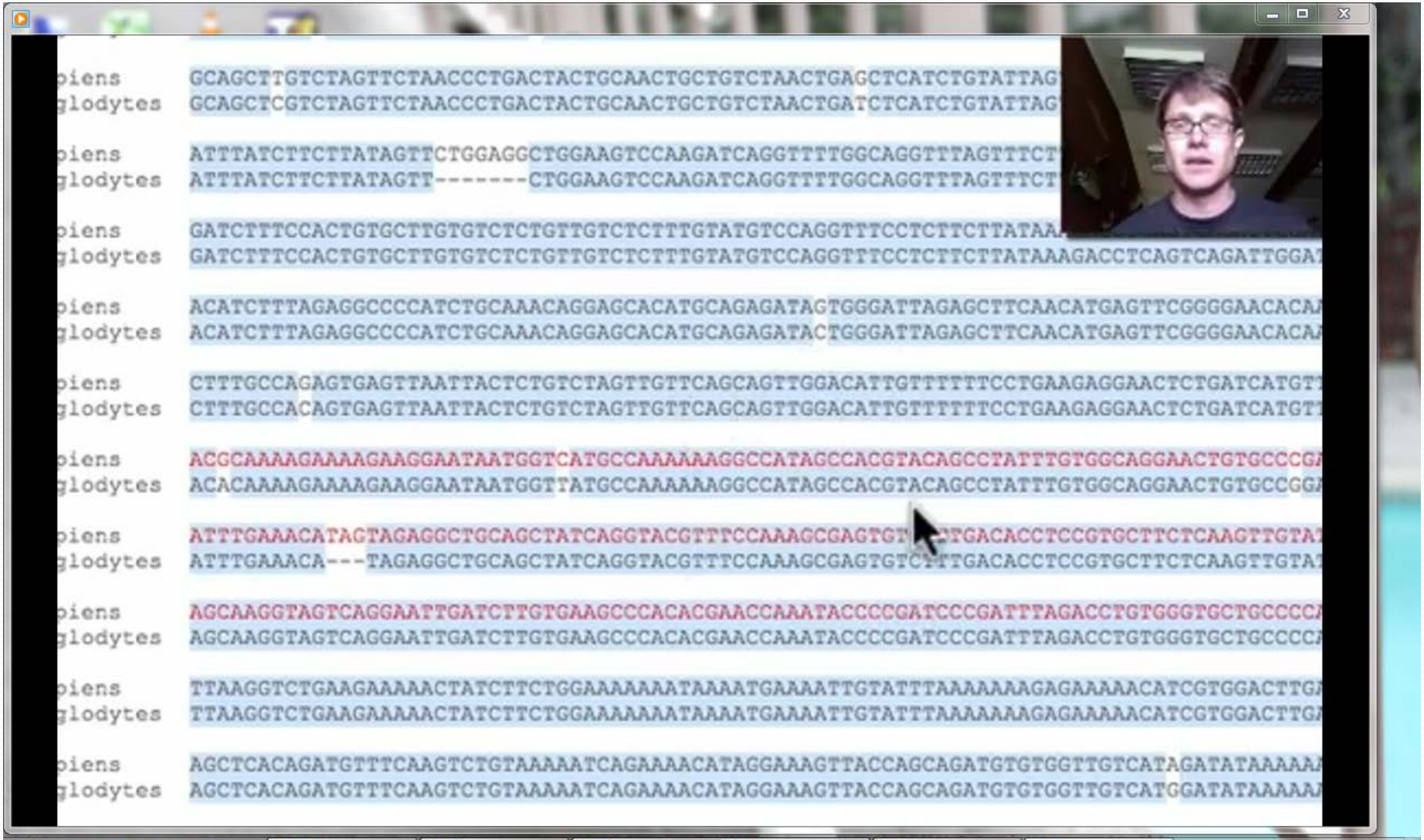
  Fruit flies - 60% identical

  Chickens - 90% identical

  Rabbits - 95% identical

  Chimpanzees - 98% identical!

5) Genetics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6) Biochemistry

- DNA is used by all life.
- ATP is used by all life for energy.