

Evolution Elevator

Name: _____

Date: _____

TEKS TO KNOW

(7A) Evidence of common ancestry among groups is provided by the fossil record, biogeography, and homologies, including anatomical, molecular, and developmental

(7B) Scientific explanations concerning any data of sudden appearance, stasis, and sequential nature of groups in the fossil record

(7C) Natural selection produces change in populations, not individuals

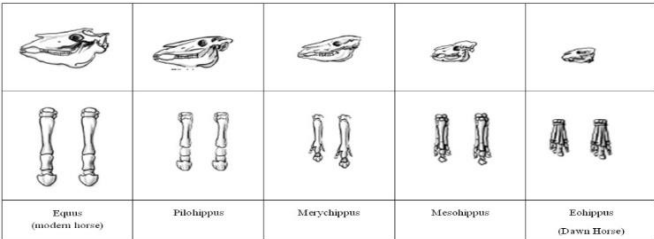
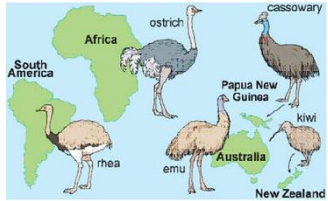
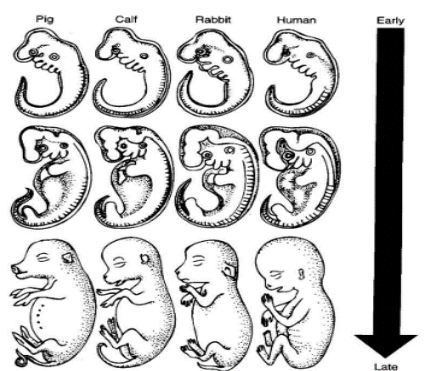
(7D) Natural selection, including inherited variation, the potential of a population to produce more offspring than can survive, and a finite supply of environmental resources, result in differential reproductive success

(7E) Diversity in a species develops as adaptations are retained, leading to natural selection among a species.

(7F) Explore the other evolutionary mechanisms: genetic drift, gene flow, mutation, and recombination

(7G) The complexity of the cell as it pertains to evolution and resistance

Bare Bones (7A):

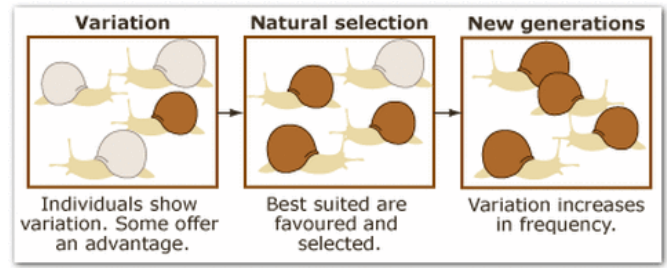
<u>Evidences of Common Ancestors</u>	
Fossil Record	<ul style="list-style-type: none"> Fossilized animals help provide answers for HOW modern-day animals received their form. <div style="text-align: center; margin-top: 10px;">  <p style="font-size: small; text-align: center;"> Equus (modern horse) Pliohippus Merychippus Mesohippus Eohippus (Dawn Horse) </p> </div>
Biogeography	<ul style="list-style-type: none"> Animals of different areas which have similar forms suggest that ecological conditions help determine the traits of an animal. <div style="text-align: right; margin-top: 10px;">  </div>
Homologies	<ol style="list-style-type: none"> Anatomy: Animals with the SAME BONES but different functions likely share an ancestor. Molecular: Animals with similar DNA or protein sequences are more closely related (Human and Chimpanzee). Developmental: Through studying embryos of different organisms there are many similarities between them. <div style="text-align: right; margin-top: 10px;">  </div>

Bare Bones (7B):

The archaeopteryx is considered a transitional fossil because it contained wings and was dated to be about 150 million years old. This organism is believed to have given rise to the modern bird since it contains not only wings, but feathers as well.

Bare Bones (7C):

Natural Selection states that the most well adapted organisms are the ones that survive and reproduce. Those genes become more abundant (higher frequency) in the population.

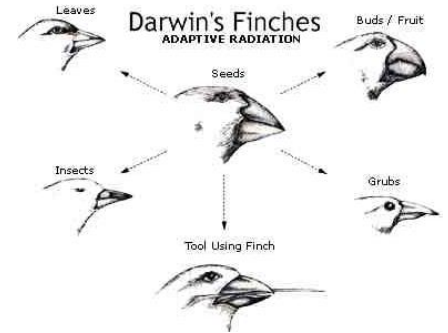


Bare Bones (7D):

QUESTION: In the "Oh Deer" activity there were three resources which could work as "limiting factors" to the overall population; **what were they?**

Bare Bones (7E):

Darwin studied many different types of species while on the Galapagos islands, but none showed evidence of speciation quite like the Finches. Based on their preferred diet and over the span of thousands of years, Nature "Selected" beaks that were most effective for their food type.



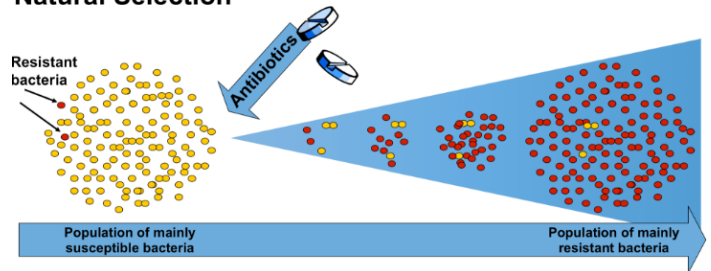
Bare Bones (7F):

Source of Adaptation	
Genetic Drift	Small populations (bottleneck or founder's effect)
Gene Flow	The "mixing" of genes when two populations are merged together
Mutation	A random change in the DNA sequence
Recombination	Crossing over of chromosomes during Prophase I of Meiosis

Bare Bones (7G):

Bacteria can show natural selection as well. If a person takes an antibiotic to fight an infection, some bacteria may be resistant. Given time, that infection will return and make the person sick all over again.

Natural Selection



Evaluation Questions:

1. How does embryology support common ancestry?	5. Give an example of a transitional fossil and why it qualifies:
2. How does bacteria show natural selection?	6. Explain Biogeography:
3. Natural Selection requires what two abilities?	7. Why is the fossil record important for Evolution?
4. Why are there different Finch species?	8. How does Anatomy support evolution?