

## ① Ideas About Evolution

### What You'll Learn:

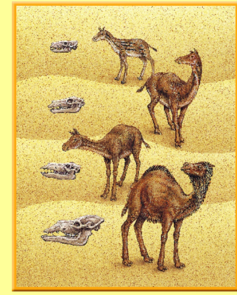
Describe Lamarck's theory of acquired characteristics and Darwin's theory of evolution.

Identify why variations are important.

Compare and contrast gradualism and punctuated equilibrium.

## Early Models of Evolution

\*Many characteristics are inherited from parents.



## Theory of Acquired Characteristics

\*Lamarck proposed that characteristics or traits developed during a parent's lifetime are inherited by the offspring.

The theory was later disproved.

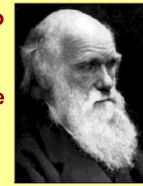


## Darwin's Theory

\*Population is all the individuals of a species living in the same area.

\*Members of the population compete for living space, food, and other resources.

\*Best able to survive are more likely to reproduce and pass on their traits



\*Darwin's theory is accepted by most scientists today.

## Natural Selection (Survival of the Fittest)

1. organisms produce more offspring than can survive.
2. Variations occur among individuals.
3. Some variations are passed to offspring.
4. Individuals with helpful variations survive and reproduce.
5. Over time the individuals with helpful variations make-up more of the population and become a new species.

## Variation and Adaptation

\*Variations are permanent changes to the genes.



\*A variation is any change and an adaptation is a helpful change.

## Changes in the Sources of Genes

\*Over time the genetic makeup of a species change.

\*Many environmental factors bring change.

\*When individuals move in/out of an area they might bring in/remove genes/variation.

## Geographic Isolation

\*When populations of the same species are isolated they can become very different.

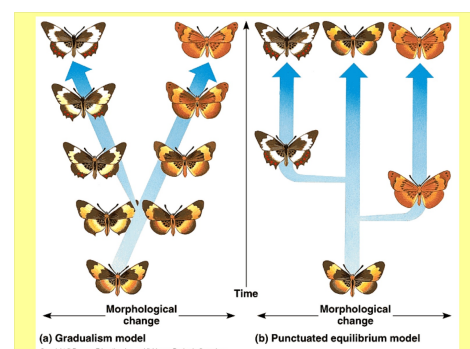


## The Speed of Evolution

\*Scientists disagree how fast evolution occurs.

\*Gradualism slow process with lots of intermediate forms.

\*Punctuated Equilibrium is relatively fast with very few/no intermediate forms.



## **Punctuated Equilibrium Today**