



Similar Structures

Homologous	Analogous	Vestigial
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DNA and Amino Acid Sequence

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Amino acids reveal evolution

Cytochrome c Evolution

Organism	Number of amino acid differences from humans
Chimpanzee	0
Rhesus monkey	1
Rabbit	9
Cow	10
Pigeon	12
Bullfrog	20
Fruit fly	24
Wheat germ	37
Yeast	42

Topics to take notes on:

1. Darwin's Observations – including tortoise and finches
2. variation and adaptation
3. geology
4. Lamarck
5. fitness – inheritance of traits
6. artificial selection
7. descent with modification
8. conditions of natural selection
9. common descent
10. fossil record
11. fitness in environment – adaptations increasing fitness
12. molecular evidence
13. finches and the Grants
14. DNA as molecular evidence

16.1 Darwin's Voyage of Discovery

Darwin's epic journey

Observations aboard the *Beagle*

16.2 Ideas That Shaped Darwin's Thinking

An ancient and changing Earth

Lamarck's evolutionary hypothesis

Population growth

Artificial selection

16.3 Darwin Presents His Case

Evolution by natural selection

Common descent

16.4 Evidence of Evolution

Biogeography

The age of Earth and fossils

Comparing anatomy and embryology

Genetics and molecular biology

Testing natural selection