

Name _____

Date _____

A Short History From Origins of Life to Evolution: Study Guide Spring 2010

Origin of Life:

-Spontaneous Generation (aka. Abiogenesis)

-Louis Pasteur

-Alexander Operon (primordial soup)

-Darwin

-Miller and Urey

-Organic molecules

-Oxygen

-Endosymbiosis

-Protein Synthesis

-RNA

-Heterotrophic

-Photoautotrophic

-Chemoautotrophic

-Bacteria

Key ideas and concepts:

****While people have demonstrated bits and pieces of this process, the whole process has never been done in a lab. Rather, this is a theory of how things might have happened.**

History of Life

Geologic timeline:

-How do the organisms change in complexity?

-What role does the fossil record play in our knowledge of the history of life?

Name 1 of the major plant and animal species within the following eras:

-Paleozoic:

-Mesozoic:

-Cenozoic:

Fossil record-

-What is missing from the fossil record?

Strata-

-How does strata relate to the fossil record?

Superposition-

-Be able to identify on a diagram which layer is superimposed upon another

List at least 2 elements of the scientific process used during the Fossil Find activity:

- 1.
- 2.

What is the importance of photosynthesis?

How does the presence of oxygen in the atmosphere affect the diversity of life?

Key ideas and concepts:

Classification of Life

Phylogenetic Tree

-What is it?

-Be able to identify on a tree which organisms have a closer common ancestor

-Be able to identify what the branches on the tree signify. Why does the tree branch?

Taxonomy- What did you do during the shoe activity and how does that relate to the classification of life?

Taxon- What is a taxon?

Domains- Of the domains archea, bacteria and eukarya, which domain do humans belong in?

Be able to identify how life is classified. Do you remember your mnemonic device? (KPCOFGS)

Be able to describe a graph showing bacterial growth using the following key words: exponential growth, limiting factor, population, time

Key ideas and concepts:

Evolutionary Concepts

Theory- Define and give one example of a theory

Hypothesis- Define and give one example of a hypothesis.

Evidence for evolution:

Anatomical evidence:

-Homologous structures: What are they? Give one example

-Vestigial structures: What are they? Give one example

Fossil evidence:

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Molecular evidence:

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Who is Charles Darwin?

What was Charles Darwin's theory?

Descent with modification: What does this mean?

Evolution-

Natural Selection- What is it? Describe it using an example.

Artificial selection- What is it? Describe it using an example.

Does natural selection act on individuals and evolution act on populations? Explain.

Adaptations-

Coevolution-

Extinctions- Describe one example with possible causes.

Key ideas and concepts: