

BIOLOGY TEST Study Guide

Ch. 17 Test topics (Section 17-1 to 17-2)

- Fossils, fossil record, explain how fossils give evidence for evolution
- Relative and radioactive dating
- Use half-lives to calculate absolute age of a fossil
- Formation of the universe
- Conditions of early Earth, Miller-Urey experiments
- History of life on earth
- Endosymbiotic theory

Ch. 2 Test topics (Section 2-1 to 2-3)

- Atom, ion, element, compound, molecule, isotope, isomer, mixture, solution, solute, solvent, suspension
- Atomic number, mass number, parts of the atom, ability to use a periodic table to locate element names
- 4 types of macromolecules, their monomers and their biological functions, enzymes
- Properties of water (cohesion, adhesion, polarity)
- Types of bonds (ionic, covalent, hydrogen)
- pH scale, chemical and physical changes
- Balancing equations, counting atoms

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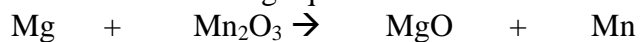
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1. Balance the following equation:



- Identify the reactants in this reaction _____
- Identify the products of this reaction _____

2. Write the following chemical reaction as a balanced equation:

Methane (CH_4) reacts with oxygen (O_2) to produce carbon dioxide (CO_2) and water (H_2O).

- Identify the reactants in this reaction _____
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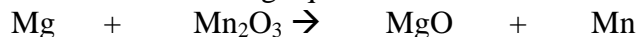
3. Californium-252 has a half-life of 2.2 years. A sample with a mass of 400 grams is found to have 25 grams of Californium-252 remaining.

- How many half-lives have gone by?
- What is the total age of the sample?

4. Actinium-226 has a half-life of 29 hours. If a fossil containing 100 mg of actinium-226 decays over a period of 58 hours, how many mg of actinium-226 will remain?

5. Selenium-83 has a half-life of 25 minutes. How many minutes would it take for a 10.0 mg sample to decay and have only 1.25 mg of it remain?

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