



Name _____

Period _____

Date _____

SECTION
12.3

ORIGIN OF LIFE
Study Guide

KEY CONCEPT

The origin of life on Earth remains a puzzle.

VOCABULARY

nebula

ribozyme

MAIN IDEA: Earth was very different billions of years ago.

1. Most scientists agree on two points about Earth's origins. What are they?

Fill in the Main Idea Web with the descriptions of early Earth.

Heat released by:
2. _____
and
3. _____

Atmosphere made of:
4. _____
Absent in atmosphere:
5. _____

**Earth was very different
billions of years ago.**

Eon name:
6. _____

Energy provided by:
7. _____
and
8. _____

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CHAPTER 12
The History of Life

Section 12.3 STUDY GUIDE CONTINUED

MAIN IDEA: Several sets of hypotheses propose how life began on Earth.

In the column on the left labeled “hypothesis,” write the hypothesis from the readings about how life began on Earth. In the column labeled “proof,” list the evidence that supports the hypothesis. Finally, answer the question at the end of the table.

Hypothesis	Proof
I. ORGANIC MOLECULE HYPOTHESES	
9.	Demonstrated organic compounds could be made by passing electrical current (to simulate lightning) through a closed system that held a mixture of gases (to simulate the early atmosphere).
10. Meteorite hypothesis	
II. EARLY CELL STRUCTURE HYPOTHESES	
11.	Simulated in the lab, making a chimney structure with compartments that could have acted as the first cell membranes.
12. Lipid membrane hypothesis	
III. RNA AS EARLY GENETIC MATERIAL	
13. RNA world hypothesis	

Vocabulary Check

_____ **14.** A cloud of gas and dust in space

_____ **15.** An RNA molecule that can catalyze specific chemical reactions