

The Origin of Life

In your textbook, read about origins: the early ideas.

Use each of the terms below just once to complete the passage.

microorganisms	vital force	Louis Pasteur	biogenesis
nonliving matter	S-shaped	disproved	Francesco Redi
organisms	broth	microscope	spontaneous generation
spontaneously	air		

Early scientists believed that life arose from **(1)** _____ through a process they called **(2)** _____. In 1668, the Italian physician **(3)** _____ conducted an experiment with flies that **(4)** _____ this idea. At about the same time, biologists began to use an important new research tool, the **(5)** _____. They soon discovered the vast world of **(6)** _____. The number and diversity of these organisms was so great that scientists were led to believe once again that these organisms must have arisen **(7)** _____. By the mid-1800s, however, **(8)** _____ was able to disprove this hypothesis once and for all. He set up an experiment, using flasks with unique **(9)** _____ necks. These flasks allowed **(10)** _____, but no organisms, to come into contact with a broth containing nutrients. If some **(11)** _____ existed, as had been suggested, it would be able to get into the **(12)** _____ through the open neck of the flask. His experiment proved that organisms arise only from other **(13)** _____. This idea, called **(14)** _____, is one of the cornerstones of biology today.

Determine if the statement is true. If it is not, rewrite the italicized part to make it true.

15. Biogenesis *explains* how life began on Earth.

16. For life to begin, simple *inorganic* molecules had to be formed and then organized into complex molecules.

17. Several billion years ago, Earth's atmosphere had no free *methane*.
