No one knows exactly how life originated on Earth, but two opposing ideas are presented below.

Scientist 1

The idea that Earth could have given rise to life independently is mistaken. Life on this planet must have come from elsewhere for several reasons. First of all, complex life appears very suddenly in the geological record. Secondly, all life on Earth has a very similar biochemistry. If life originated on Earth, one would expect regional variations in biochemistry, similar to the variations in species spread over large areas. Finally, the time when life first appeared in the geological record was also a time when large numbers of meteorites struck the Earth. The meteorites must have caused life to appear on the Earth. The simplest hypothesis is that the meteorites brought life with them.

Scientist 2

Life need not have been imported from outer space. The chemicals required for life existed on the surface of the Earth at the time life first appeared. The fact that all life has a similar biochemistry can be explained by considering that any group of chemicals that won the race to life would probably have used the "almost-living" as food. Since we can offer explanations for what happened without relaying on a meteorite of unknown composition that might have fallen on Earth, we should stick to hypotheses that have fewer unknowns.

1. (EMI 401) Which of the following statements made by Scientist 1 is a prediction NOT supported by evidence?
    a. Complex life appears very suddenly in the geological record.
    b. All life on Earth has very similar biochemistry.
    c. The time when life first appeared in the geological record was also a time when large numbers of meteorites struck the earth.
    d. The meteorites must have caused life to appear on the Earth.

2. (EMI 502) A simulation of early Earth chemistry showed the spontaneous formation of complex molecules. Does this experimental result support Scientist 2's argument?
    a. Yes, because it means that meteorites must have supplied the complex molecules.
    b. Yes, because it means that life could have originated on Earth.
    c. No, because it means that life could not have originated on Earth.
    d. No, because it means that life must have originated on Earth.

3. (EMI 401) If life were discovered on another planet, which of the following would Scientist 1 be most likely to predict?
    a. Life on the other planet should be exactly the same as life on Earth.
    b. Life on Earth must have originated on the other planet.
    c. Life on the other planet should have similar biochemistry to life on Earth.
    d. Life on the other planet should not have similar biochemistry to life on Earth.