

Origin of Cells

1. According to cell theory, cells can only be formed from _____ cells, however, the first cells must have arisen from _____ material. This does not occur any longer, as was shown by _____, who created a _____-necked flask. This is a diagram of his experiment:

2. Endosymbiotic theory:

Sometime in Earth's history, a _____ cell ingested an aerobic _____. Instead of digesting it, it incorporated it. This is because the _____ cell benefitted from the _____ formed by the aerobic _____, and the _____ benefitted from the constant internal environment and safety. This is called symbiosis. Over millions of years, the _____ eventually became the _____.

3. Some of the aerobic eukaryotes went on to ingest _____ prokaryotes. These cells were able to produce their own _____ and break it down into _____ for energy. Over millions of years, the ingested prokaryotes eventually became _____. The organisms containing these today are called _____.

4. Evidence that supports this theory is that _____ and _____ contain:

a. _____ ribosomes

b. _____ DNA

and they are encased in a _____ membrane, indicating _____.