

What is the difference
between biosphere
and ecosphere?



**ASSIGN
BUSTER**

Explain the difference between Biosphere, Ecosphere and Gaia and argue a case for adopting one of these descriptors for discussions of the earth

Biosphere, Ecosphere and Gaia are used names of the global ecosystem. But each global ecosystem has its own or more meaning individually. The global ecosystem is natural cycles of interdependent organisms which share's and functions together in the same habitat. Ecosystems usually form a number of food webs. (Robert W. Christopherson 1996). Ecosystems relate to soil, plants, animals, chemicals and rocks amongst others of the planet. For example when we think of nature we think of living things such as planets and animals, the biotic components of an ecosystem include all the living things in an area.

Biosphere – “ the place on earth’s surface where life dwells”. (Seuss E. 1875)

Biosphere is a biological global sum of all ecosystems and life on earth which integrates all living things together from the beginning of time on earth evolving over billions of years. Estimated 3. 5 billion years ago. (Campbell, Neil A. Brad Williamson, Robin J. Heyden 2006). The Biosphere originated from a geologist called Eduard Suess in 1875 but the concept wasn't really adapted until Vladimir Vernadsky in 1926 wrote the book the biosphere redefining biosphere as a current earth system this is a main core of ecology. The biosphere exchanges matter and energy with the other spheres, helping the cycling of carbon, nitrogen, phosphorus, sulfur and along with other elements. This could be or is the reason why the biosphere is known as the global ecosystem, comprising the earth and performing all manner of biological functions, including photosynthesis, respiration, decomposition, nitrogen fixation and gentrification.

Gaia - "The earth is more than just a home, it's a living system and we are part of it." (James Lovelock) is simply the core of James Lovelock's Gaia theory, also known as the Gaia hypothesis. It was originally proposed in 1963 by James Lovelock. While the name Gaia comes from a Greek goddess of earth it is mainly a similar take on the biosphere with the same components but proposed as viewing the earth as a single organism. James Lovelock said that Gaia was "a complex entity involving the Earth's biosphere, atmosphere, oceans, and soil; the totality constituting a feedback or cybernetic system which seeks an optimal physical and chemical environment for life on this planet" (James Lovelock 1979). The Gaia hypothesis states that the earth is alive, the search for life on Mars led to Lovelock's belief in the existence of Gaia. While we know there's no life on Mars or Venus, Lovelock compared it with the earth's atmosphere which is a mixture of gases making life present, while Earth's gas is not the same but is contained in a constant state suggesting a regulation of the whole system on earth for example the climate, ocean and air are a self-regulated process. While James Lovelock's theory wasn't totally accepted it is one looked over by scientists with mixed questioning critically whilst criticized by others.

While Biosphere is known to serve at high levels of scientific research and being a core factor in within biology and ecology using remote sensing systems to scan the entire Earth's surface.