

Biology 101

[Science](#), [Biology](#)



Biology 101 Twelve Principles of Life As we begin studying biology together, let me introduce some of the most basic principles of life that guide the flow of our course's content. You don't want to memorize a plethora of terms without a conceptual framework in which to retain them! So consider the "Twelve Principles of Life" listed for you here. Read each explanatory sentence that follows each principle. In just five minutes' time you will have a rich appreciation for what biology is all about.

- 1 Life is Significant It has an importance that goes beyond mere existence.
- 2 Life Can Be Understood We have made dramatic progress in understanding our discipline.
- 3 Life is Complex At the atomic, molecular, organelle, cellular, and higher levels, it has an ultra-high degree of organization.
- 4 Life is Energy-Driven Clearly energy is needed for life. Where does it come from? How do living things harness it?
- 5 Life is Information Expressed The cell stores high levels of information! Where is it stored? How is it expressed?
- 6 Life has Information Continuity Parents put information into their sex cells. How did information come forward in time from them to you?
- 7 Life is Internally Integrated Body systems work with each other in highly related ways. They perform functions that no one system could do alone.
- 8 Life is Responsive Living things respond to changes in external environmental conditions. How do they do this?
- 9 Life is Ultimate Art How creative is the process of evolution? How did all this complexity get here anyway? What is its source?
- 10 Life is Diverse Look at the illustrations in your textbook! This is our most obvious principle. There is a veritable profusion of species of life forms.
- 11 Life is Interactive Organisms interact in significant ways with each other. YOU can't escape interaction. Life forms are everywhere. (Dust mites live in your eyebrows—Oh

yes they do!) 12 Life is Finite Nobody likes to talk about death. But life has death “ programmed" into it