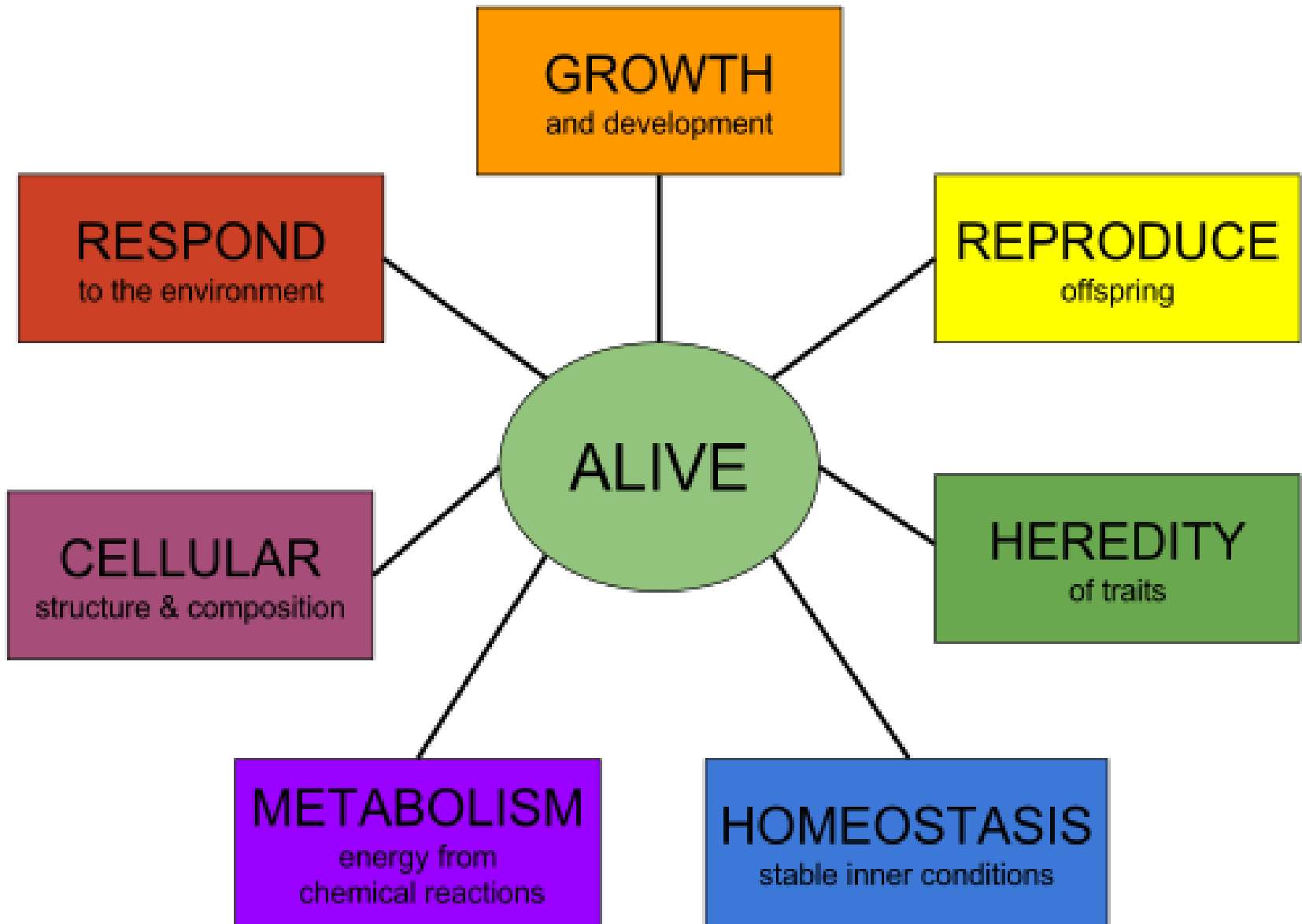


What is life?

It is a challenge for scientists and philosophers to define life. This is partially because life is a process, not a substance. Therefore, most current definitions in biology are descriptive. Life is considered a characteristic of something that exhibits all or most of the following traits:



Cellular Organization: being structurally composed of one or more cells – the basic units of life. Separation a living organism from its environment.

Homeostasis: regulation of the internal environment to maintain a constant state; for example, sweating to reduce temperature

Metabolism: transformation of energy by converting chemicals and energy into cellular components (anabolism) and decomposing organic matter (catabolism). Living things require energy to maintain internal organization.

Growth: maintenance of a higher rate of anabolism than catabolism. A growing organism increases in size in all of its parts, rather than simply accumulating matter.

Adaptation: the ability to change over time in response to the environment. This ability is fundamental to the process of evolution and is determined by the organism's heredity, diet, and external factors.

Response to stimuli: a response can take many forms, from the contraction of a unicellular organism to external chemicals, to complex reactions involving all the senses of multicellular organisms. A response is often expressed by motion.

Reproduction: the ability to produce new individual organisms, either asexually from a single parent organism or sexually from two parent organisms.

Heredity: also called inheritance or biological inheritance, is the passing on of traits from parents to their offspring.