

Studying Life

Living things share the following characteristics:

- They are made up of units called cells
- They reproduce
- They are based on a universal genetic code
- They grow and develop
- They obtain and use materials and energy
- They respond to their environment
- They maintain a stable internal environment
- They change over time

Living things are made up of cells. A cell is the smallest unit of an organism that can be considered alive. Living things reproduce. In



sexual reproduction, cells from two different parents unite to form the first cell of the new organism. In asexual reproduction, a single parent produces offspring that are identical to itself. Living things grow and develop. During an organism's development, cells

differentiate, which means that the cells look different from one another and perform different functions.

Living things are based on a universal genetic code. Organisms store the information they need to live, grow, and reproduce in a genetic code in a molecule called DNA. Living things obtain materials and use energy.

The combination of chemical reactions through which an organism builds up or breaks down materials is called metabolism. Living things respond to their environment. A stimulus is a signal to which an organism responds.

Living things maintain a stable internal environment. Although conditions outside an organism may change, conditions inside an organism tend to remain constant. This process is called homeostasis. Taken as a group, living things change over time. Over many generations, groups of organisms typically evolve.