

Definitions

Asexual reproduction: One parent creates a new organism by itself, often by splitting into two identical parts. The new organism has the same DNA as the parent.

Negligible senescence: A condition where an organism shows almost no signs of aging — its body doesn't weaken, slow down, or deteriorate over time.

Biologically immortal: Able to avoid the normal aging process. These organisms can still die from outside dangers, but they don't age in the typical sense.

Immortal jellyfish: A tiny jellyfish species that can reverse its life cycle and turn back into its juvenile form instead of dying.

Juvenile polyp: The earliest life stage of a jellyfish — a small, stationary, baby-like form that can grow into an adult jellyfish.

Transdifferentiation: A rare process where one type of cell transforms directly into another type, allowing an organism to revert to a younger stage or regenerate tissues.

Neoblasts: Special stem cells found in planarian flatworms that can turn into almost any cell type, making regeneration possible.

Biological blueprint: The internal instructions that guide how an organism's cells grow, repair, and rebuild its body.

Parasite: An organism that lives on or inside another organism and harms it while taking nutrients or resources.

Toxin: A harmful substance that can damage cells, tissues, or entire organisms.

Environmental change: Any shift in an organism's surroundings — such as temperature, pollution, or habitat loss — that can affect its survival.

Species: A group of organisms that can reproduce with one another and share similar characteristics.

Homologous recombination: A DNA repair process where a damaged section of DNA is replaced using an undamaged copy, helping cells stay healthy.

Naked mole rat: A small, nearly hairless mammal known for its unusual biology — including resistance to aging, cancer, and pain.

Vertebrate: An animal with a backbone or spinal column, such as mammals, birds, reptiles, amphibians, and fish.

Calcium-carbonate skeleton: The hard, rock-like structure that corals build beneath themselves, made from a mineral called calcium carbonate.

Regenerate: ability to grow back a body part that was lost or damaged. Some animals can regenerate things like skin, tails, or whole limbs.