

Reproduction

All living things have a life cycle- they are born, they grown, and they eventually die. For example, tadpoles are born, they grow into frogs, and they eventually die. In order to prevent themselves from dying out, all living things reproduce. Reproduction is the process by which copies are made. To reproduce means to make again or to copy.

Humans grow because the cells in their bodies reproduce themselves. For example, skin cells are constantly reproducing themselves while other skin cells are dying. As a person gets older and bigger, the skin cells reproduce faster than they die. The same principle applied to bone cells. Bone cells are constantly reproducing. A person grows taller when their bone cells are reproducing at a faster rate than they are dying. When a person is an adult, the bone cells reproduce more slowly. As a result, dead bone cells are replaced more slowly, which is why adults do not continue to grow taller and taller.

Organisms have different ways of reproducing. Plants reproduce by making seeds. Mushrooms have spores that are used for reproduction. Some animals, like chickens, reproduce by laying eggs. There are two types of reproduction: sexual reproduction and asexual reproduction.

“Asexual” means nonsexual. Asexual reproduction takes place without using males and females. In this type of reproduction, an organism makes copies of itself through cell division. Monerans and many protists use asexual reproduction. They reproduce by fission, which means splitting. In other words, after duplicating their genetic material, these organisms split in half to create two organisms instead of one. This enables them to grow and reproduce very quickly.

Some fungi, like molds, mushrooms, and mildews, also reproduce asexually. They reproduce by forming spores. Spores are typically single cells that are often protected by a hard covering. Spores detach from the parent organism and become new organisms.

Yeast, on the other hand, reproduces asexually through a process called budding. In budding, a bud forms on one side of the cell. It eventually breaks off and forms a new yeast cell.

Asexual reproduction is also used by some plants and animals in a process called regeneration. Regeneration means to make or generate again. In the process of regeneration, an organism makes new parts to replace lost ones. One of the most familiar examples of plant regeneration is called cloning. In cloning, a leaf or stem is cut off from the main plant. This piece of the plant is then put into moist material. As a result, it grows and a new plant is formed. Garden plants, like roses, are often reproduced by cloning.

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Reproduction (Cont'd)

Different plants and animals have different regeneration capabilities. For example, the human body has some regenerative capability. When you have a cut, your body regenerates skin cells, which heals the wound. Overall, humans are considered to have little regenerative capabilities.

Other animals, like starfish, have much greater ability to regenerate. A starfish can grow an entire arm if one is cut off. In addition, if the amputated arm still has a piece of the center of the starfish, the lost arm can also grow into a new starfish. Worms also have greater regenerative capabilities. When a worm is cut in half, both halves regenerate to form new worms. Salamanders can also regenerate, but their capabilities are more limited than those of the starfish. A salamander can regenerate a leg, but a leg can't regenerate a salamander. Basically, the more complicated an animal is, the more limited the ability to regenerate becomes.

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Reproduction

Multiple Choice:

1. There are two types of reproduction: sexual reproduction and
 - a. regeneration
 - b. asexual reproduction
 - c. mildewing
 - d. gardening

2. In some cases, _____ detach from the parent organism and become new organisms:
 - a. Worms
 - b. Eggs
 - c. Skins
 - d. Spores

3. Garden plants, like roses, are often reproduced by:
 - a. worms
 - b. sexual reproduction
 - c. cloning
 - d. skin cells

4. Yeast reproduces asexually through a process called:
 - a. building
 - b. budding
 - c. blooding
 - d. binding

True or False:

- ____ 5. All living things have a life cycle- they are born, they grown, and they eventually die.

- ____ 6. Some animals, like chickens, reproduce by making seeds.

- ____ 7. To reproduce means to make again or to copy.

- ____ 8. The less complicated an animal is, the more limited the ability to regenerate becomes.

- ____ 9. Humans grow because the cells in their bodies reproduce themselves.