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Cloning
Cloning is the production of an organism with genetic material identical to that of another organism.

Wilmut, Ian
Wilmut, Ian (1944-...), is the British scientist who led the team that created Dolly, the sheep whose 1996 birth was hailed...

Bioethics
Bioethics is the field of study concerned with moral issues of biological research and medical practice.

Dolly
Dolly was a sheep who was the first animal to be artificially cloned from cells taken from another adult animal.

Medical ethics
Medical ethics is the field of study concerned with moral issues raised by the practice of modern medicine.

Temin, Howard Martin
Temin, Howard Martin (1934-1994), an American molecular biologist, did important research on how some viruses affect cancer cells.
Cloning is the production of an organism with genetic material identical to that of another organism. Genetic material carries information concerning the physical and behavioral characteristics that living things inherit from their parents. The basic unit of genetic material is the *gene*. Genetic instructions are carried inside living cells in the structure of a molecule called *DNA* (deoxyribonucleic acid). Organisms that share an identical genetic makeup are called *clones*.

People often think of cloning as the use of laboratory techniques to create living copies of animals and other organisms. However, cloning also occurs widely in nature. In addition, scientists sometimes use the term *cloning* to mean the duplication of cells and genes in the laboratory.

**Cloning animals**

Higher animals—a group that includes *vertebrates* (animals with backbones)—consist of billions of cells. Nearly all these cells have a *nucleus*. The nucleus contains genetic information in the form of *DNA*. The information is the same for each nucleus in the animal. For example, the nucleus of a skin cell holds exactly the same genetic information as that of a cell in the liver. However, each cell uses only the part of the information necessary to its function. The rest of the DNA remains inactive. Despite this inactivity, the nucleus of any cell retains the information necessary to create the entire organism. This fact enables scientists to clone an entire animal from a single cell.
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