

Timeline For Core Biology: Animal Sciences' Discoveries†

500 B.C. – 1500A.D.

- 500 B.C. - Alcmaeon of Croton differentiates veins from arteries and discovers the optic nerve.
- 500 B.C. - Xenophanes examines fossils and speculates on the evolution of life.
- **350 B.C. - Aristotle founds zoology.**
- 300 B.C. - Herophilos dissects the human body.
- 300 B.C. - Diocles writes the first known anatomy book and is the first to use the term anatomy.
- 130-200 - Claudius Galen writes treatises on human anatomy.

1500A.D. – 1800A.D.

- 1628 - William Harvey publishes *An Anatomical Exercise on the Motion of the Heart and Blood in Animals*.
- 1651 - William Harvey concludes that all animals, including mammals, develop from eggs.
- 1663 - Robert Hooke sees cells in cork using a microscope.
- 1673 - Anton van Leeuwenhoek describes microscopic life.
- 1683 - Anton van Leeuwenhoek observes bacteria.
- **1735 – Carlos Linnaeus begins the modern description of life.**
- **1796 – Baron Georges Cuvier founds the science of comparative anatomy.**

1800A.D. to Present

- 1800 - The term biology in its modern sense is coined by Karl Friedrich Burdach
- 1802 – The Term biology is used independently by Gottfried Reinhold Treviranus
Jean Baptiste Lamarck.
- 1809 – Jean Baptiste Lamarck proposes a modern theory of evolution based on the inheritance of acquired characteristics.
- **1826 - Karl von Baer shows that all animal life begins with an egg.**
- 1838 – John James Audobon publishes *Birds of America*
- **1839 - Theodor Schwann proposes that all animal tissues are composed of cells.**
- **1859 - Charles Darwin proposes his theory of biological evolution by means of natural selection.**
- 1858 - Rudolf Virchow proposes that cells can only arise from pre-existing cells.
- 1864 - Louis Pasteur disproves the spontaneous generation of cellular life.
- 1866 - Gregor Mendel formulates his Laws of Inheritance.
- 1876 - Oskar Hertwig and Hermann Fol independently describe the entry of sperm into the egg and the subsequent fusion of the egg and sperm nuclei to form a single new nucleus.
- 1907 - Ivan Pavlov demonstrates conditioned responses with salivating dogs.
- 1927 - Austrian zoologist Karl von Frisch publishes *Dancing Bees*.

- 1937 - Konrad Lorenz describes the imprinting behavior of young birds.
- 1963 - Nikolaas Tinbergen lays out the four whys of animal behavior
- **1969 - American ecologist Robert Whittaker proposes five kingdoms of life.**
- 1972 - Stephen Jay Gould and Niles Eldredge propose an idea of evolution they call "punctuated equilibrium."
- **1973 – Konrad Lorenz and Nikolaas Tinbergen win Nobel Prize for establishing the science of animal behavior.**
- 1986 – E.O. Wilson coins the term biodiversity.
- 1996 - Dolly the sheep is first clone of an adult mammal.
- **1998 - Jack Bradbury and Sandra Vehrencamp published their *Principles of Animal Communication***

† Bold indicates segments in Program Core Biology: Animal Sciences