

Animal

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Any living organism which possesses certain characteristics that distinguish it from plants is a member of the animal kingdom. There is no single criterion that can be used to distinguish all animals from all plants. Animals usually lack chlorophyll and the ability to manufacture foods from raw materials available in the soil, water, and atmosphere. Animal cells are usually delimited by a flexible plasma or cell membrane rather than a cell wall composed either of cellulose or chitin, as are the cells of most plants. Animals generally are limited in their growth and most have the ability to move in their environment at some stage in their life history, whereas plants are usually not restricted in their growth and the majority are stationary.

The presence or lack of chlorophyll in an organism does not determine its affinity to the plant or animal kingdom. Among the protozoa, the class Phytomastigophora includes animals, such as the euglenids, which have chromatophores containing chlorophyll. These organisms are considered to be animals by zoologists and plants by phycologists. The vestige of a feeding apparatus in these protozoa indicates that they have descended from forms that ingested food particles, that is, animals. Higher parasitic plants and the large plant group Fungi also lack chlorophyll. Another borderline group is the slime molds: the Mycetozoa of zoologists and the Myxomycophyta of the botanists. These organisms exhibit both plant and animal characteristics during their life history. Movement is not a characteristic restricted to the animal kingdom; many of the thallophytes such as *Oscillatoria*, numerous bacteria, and colonial chlorophytes are motile.

The grouping of living organisms into kingdoms is still unsettled. Previously biologists used only two groups, the Animalia and the Plantae, based on the large, familiar organisms then known to them. The discovery of microorganisms, such as bacteria and viruses, introduced difficulties for this simple scheme. Today biologists recognize up to five kingdoms, but with considerable differences of opinion. Most, however, place the one-celled animals and plants, sometimes along with algae and certain other groups, into the Protista. Other kingdoms are the Monera for the bacteria and blue-green algae, and the Fungi for the slime molds and true fungi. These schemes for recognizing additional kingdoms have the practical advantage of eliminating the difficulties of delimiting and describing the kingdoms of multicellular animals and plants. *See also:* ANIMAL KINGDOM; PLANT; PLANT KINGDOM.

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Additional Readings

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