

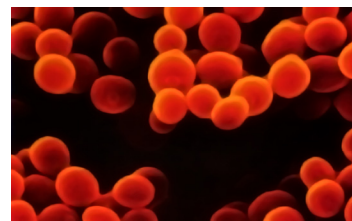
The Basics of Biodiversity Series

All programs in the series are curriculum-based and cover essential biological concepts and principles. Each program reflects the latest scientific and educational concepts and is full of widescreen images from laboratories and landscapes around the world. All programs are written in a concise way that makes complex concepts clear to students and intertitles enable teachers to stop and discuss major points without interrupting program flow. A teacher's guide, crossword puzzle and multiple choice questions are included on each DVD!



Bacteria, Archaeobacteria, and the Prokaryotic Domains (GPM0043)

Establishes the importance of bacteria by giving examples of symbiotic relationships with both plants and animals and discussing the endosymbiotic hypothesis and the bacterial origins of the mitochondria and chloroplasts found in eukaryotic cells. The program then looks in detail at both eubacteria and archaeobacteria and some of the unique habitats such as hot springs in which they exist. The program concludes by examining some bacteria that act as human pathogens and others that are beneficial to humans. (34 min.)



Fungi: Decomposers and Parasites (GPM0044)

Begins by describing hyphae - the filamentous, thread-like fungal cells that intertwine to form interwoven masses called mycelium which are usually only visible when differentiated into sexual structures such as mushrooms, puffballs, and powdery molds. How fungi obtain nutrients either through parasitic or mutualistic relationships or decomposing dead bodies is examined before looking at their economic, ecological, and health impacts. The major divisions of fungi are then examined and some of the unique adaptations found in kingdom Fungi discussed. (28 min.)



Kingdom Animalia: The Invertebrates (GPM0045)

Looks at the evolutionary trends such as cephalization, segmentation, changes in body symmetry, increases in locomotive efficiency and the development of increasingly complex tissues and organs that occur as one goes from the sponges of phylum Porifera to the octopuses of class Cephalogoda. Structural, functional, and behavioral adaptations unique to members of each of the invertebrate phyla including: Cnidaria, Platyhelminthes, Nematoda, Annelida, Arthropoda, Mollusca, Echinodermata are discussed in detail. (38 min.)



Kingdom Animalia: The Vertebrates (GPM0046)

Begins by looking at the evolutionary origins of vertebrates before going on to examine primitive aquatic vertebrates such as jawless hagfish and lampreys and the more sophisticated sharks and rays of class Chondrichthyes and the "bony" fish of class Osteichthyes. The program then studies evolutionary adaptations such as: changes in skeletal structure, skin and eggs resistant to evaporation, control of body temperature, and increased circulatory and cognitive capacity that one sees going from class Amphibia to classes Reptilia and Aves and on to class Mammalia. (30 min.)



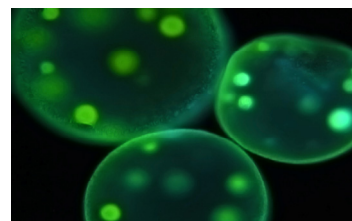
Kingdom Plantae: Builders of Biomes (GPM0047)

Starts by looking at the watery origins of modern land plants before looking at the adaptations that have evolved in plants and enabled them to spread to nearly every corner of the Earth. These adaptations include: roots, which anchor plants and absorb water and nutrients from the soil; vessels, that conduct water and nutrients throughout a plant; lignin, which stiffens and supports plants enabling them to grow taller; pollen, which frees plants from a dependence on water for reproduction; and fruits, which entice animals to unwittingly spread plant seeds far and wide. (35 min.)



Kingdom Protista: The Origins of Eukaryotic Diversity (GPM0048)

Explores the evolutionary history of eukaryotes while examining the incredible diversity that exists in kingdom Protista reflected in organisms such as Euglena which have both animal and plant-like qualities. The program then looks at animal-like zooflagellates, sarcodines, ciliates, and sporozoans; fungus-like slime molds, and plant-like dinoflagellates, diatoms, and englenoids. Multicellular red, brown and green algae are examined and why modern biology places all three in kingdom Protista rather than kingdom Plantae. (30 min.)



6x28-38 min. • Gr. 9-12,C,A • 2005 • S0003100
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