

The Basics of Anatomy 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!



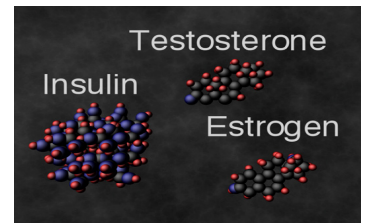
Digestion and Excretion: Absorption, Excretion, and Homeostasis (GPM0037)

First examines the mechanical and chemical breakdown of food that occurs in the mouth and stomach before looking at digestion and absorption in the small intestine and the enzymes and other chemicals secreted by the liver, gall bladder, and pancreas that aid in the process. The program then looks at the synthesis of vitamins by bacteria in the large intestine and then goes on to explore the complex structures in the kidney that allow them to filter wastes out of the blood while returning water and nutrients. (30 min.)



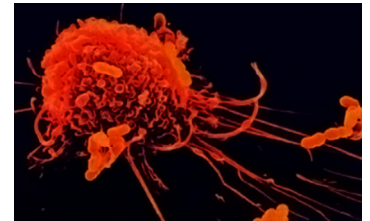
The Endocrine System: Molecular Messengers, Chemical Control (GPM0038)

First looks at the chemical structure of various hormones, the hormone receptors found on target cells, and the feedback mechanisms that regulate hormone levels. After explaining the difference between exocrine and endocrine glands the program then looks at the various endocrine glands and organs including: the hypothalamus; the pituitary, thyroid, parathyroid and adrenal glands; the pancreas, testes and ovaries; and organs such as the thymus, kidneys, stomach, small intestine and heart that produce hormones. (32 min.)



The Immunological System: Recognition, Attack, and Memory (GPM0039)

Starts by looking at external barriers to microbial attack such as the skin and mucus membranes and non-specific internal defenses such as macrophages, natural killer cells, and the inflammatory response. The program then delves into the immune response including the recognition of invaders by antibodies and T-cell receptors, the destruction of invaders by antibodies and cytotoxic T-cells, and the immunity conferred by memory cells. A discussion of how vaccinations work and current AIDS research concludes the program. (33 min.)



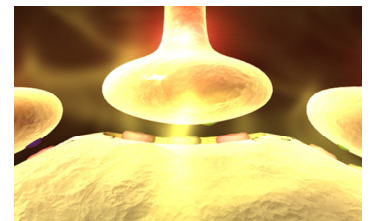
Muscular, Skeletal, and Integumentary Systems: Defining Our Form (GPM0040)

Begins by introducing the dermis and epidermis of the skin; the sweat and sebaceous glands; and the skin's role in protecting against microbial invasion, ultra-violet radiation and in producing vitamin D. The program then looks in-depth at the structure and function of skeletal, cardiac and smooth muscle before looking at the structure of cartilage and bone and the skeletal system's role in protecting vital organs, producing blood cells, storing nutrients and in conjunction with the muscular system, producing movement. (28 min.)



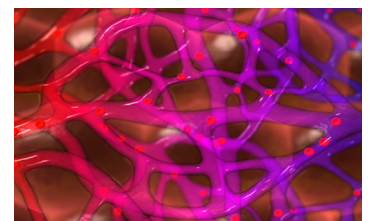
The Nervous System: Neurons, Networks and the Human Brain (GPM0041)

Begins by examining the structure and function of neurons; resting, action and post-synaptic potentials; and reflexes and neural networks. The peripheral, somatic, autonomic, sympathetic and parasympathetic nervous systems are introduced before looking at the central nervous system. After describing spinal cord structure and function the program then examines the human brain including the medulla, pons, and cerebellum of the hindbrain; the reticular formation of the midbrain; and the thalamus, limbic system and cerebral cortex of the forebrain. (39 min.)



Respiration and Circulation: Gas Exchange, Molecular Transport (GPM0042)

Looks at the flow of air through the conducting portions of the respiratory system to the alveoli before examining: the role of hemoglobin in gas exchange and O₂ and CO₂ transport in the blood; the operation of the respiratory control center; and the mechanics of breathing. The program then investigates the composition of blood and how it flows through the heart, arteries, capillaries and veins before looking at the role of the lymphatic system in fighting infection, transporting fats, and returning interstitial fluid to the blood. (35 min.)



6x28-39 min. • Gr. 9-12,C,A • 2008 • S0003099
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