

2010-2011 WHRO VideoClassroom Preview

Series Title:	Amazing Human Body, The
Curriculum Area:	Science
Grades:	9-12
# of Programs/Length:	10/20:00 minute programs

A ten-part series produced in 2009/2010 for High School and Introductory College Biology. These programs utilize digital videography and 3-D animations to illustrate hard-to-understand principles of human body systems, and emphasize the importance of nutrients and basic things everyone can do to maintain a healthy body. Correlated to state and National Science Standards and AAAS Benchmarks for Science Literacy. Each program includes a 25-page comprehensive downloadable Instructor's Manual that includes preliminary and post assessments, laboratory investigations, and vocabulary activities

1.) Investigating Circulation (Preview Title)

Colorful animations and crisp video footage illustrate the vital process of circulation. The major characteristics and features of the circulatory systems are explored, with special emphasis placed on circulatory problems and caring for the circulatory system. Concepts and terminology include: pulmonary circulation, systemic circulation, blood, components of blood, blood vessels, arteries, veins, capillaries, heart, atria, ventricles, septum, valves, coronary arteries, pulse, heartbeat cycle, SA node, AV node, blood pressure, hypertension, and atherosclerosis.

2.) Exploring The Digestive & Excretory Systems

This video takes students on a fascinating journey, following food as it travels through the digestive system. Clear animations illustrate the functions of the major digestive and excretory structures. Concepts and terminology include: nutrients, salivary glands, teeth, mechanical and chemical digestion, esophagus, peristalsis, stomach, small intestine, enzymes, chyme, villi, large intestine, liver, gallbladder, pancreas, metabolism, colon cancer, acid reflux, kidneys, urea, and nephrons.

3.) Respiration

With every breath you take, the process of respiration is supplying cells in the body with oxygen they need to carry out important processes. This engaging program highlights the major structures and functions of the respiratory system. Concepts and terminology include: nasal passage, pharynx, larynx, lungs, diaphragm, trachea, bronchial tubes, alveoli, gas exchange, pulmonary circulation, inhalation, exhalation, hemoglobin, asthma, bronchitis, smoking, lung cancer, and pneumonia.

4.) Skin, Skeletal, & Muscular Systems

This colorful video highlights the major features of the skin, skeletal, and muscular systems. Live-action footage, accompanied by three-dimensional animations, illustrates these fascinating body systems. Special attention is given to the care and maintenance of skin, skeletal, and muscular systems. Concepts and terminology include: integumentary system, layers of skin, sweat glands, bone, osteocytes, periosteum, marrow, cartilage, ossification, types of joints, ligaments, types of muscle tissue, and voluntary and involuntary muscle.

5.) The Amazing Nervous System

From skiing down a steep mountain, to playing the piano, the nervous system enables us to accomplish remarkable tasks. This video focuses on the amazing structures in the nervous system that allows humans to maintain and carry out a wide range of functions. Concepts and terminology include: neurons, central nervous system, peripheral nervous system, glial cells, nerve impulse transmission, sensory neurons, motor neurons, interneurons, reflex arc, brain structure, and spinal cord.

6.) Senses

Whether it is the sight of colorful flowers, or the smell of freshly baked cookies, our senses are constantly at work. Breathtaking video footage and three-dimensional animations illustrate how complex sensory organs function. Special attention is also given to ways to care for sensory organs. Concepts and terminology include: senses, sensory neurons, vision, eye, structures in the eye, hearing, ears, structures of the ear, taste, smell, receptors, skin, and balance.

7.) Investigating The Immune System

This video explores the wide range of defense mechanisms the body calls upon to fight foreign invaders in an effort to maintain health. Immune responses, diseases, and care of the immune system are some of the topics addressed. Concepts and terminology include: pathogen, defenses, lymph, phagocytes, macrophages, lymphocytes, humoral immunity, antibody, acquired immunity, vaccines, allergies, autoimmune disorders, AIDS, immune disorders, and care of the immune system.

8.) Reproduction & Development

The amazing biological processes of reproduction and development are illustrated in this fast-paced video. Easy-to-understand diagrams, animations, and video footage explain the steps of the life cycle beginning at fertilization. Concepts and terminology include: egg, sperm, testes, ovary, uterus, ovarian cycle, menstrual cycle, ovulation, menstruation, fertilization, implantation, pregnancy, fallopian tube, zygote, embryonic development, cleavage, blastula, gastrulation, differentiation, placenta, twins, fetus, gestation, birth, growth, puberty, and life cycle.

9.) Essential Nutrition

This video program helps students understand why the body needs a wide range of nutrients to maintain itself. Nutrient types are illustrated through common examples of food. Special emphasis is placed on healthy eating habits. Concepts and terminology include: nutrients, food, energy, digestive system, carbohydrates, proteins, amino acids, saturated fats, polyunsaturated fats, vitamins, minerals, calcium, water, fiber, metabolism, calorie, balanced diet, food pyramid, food labels, junk food, and healthy eating habits.

10.) Maintaining A Healthy Body

Maintaining a healthy body is a fundamental part of leading a fulfilling, successful life. This video program highlights many of the basic things everyone can do to maintain a safe and healthy lifestyle. Concepts and terminology include: sleep, healthy eating habits, regular exercise, safety, injuries, sickness, immunizations, positive self image, mental health, hygiene, drugs, alcohol, high-risk behavior, accident prevention, dental exam, and annual medical examination.