2011/12

MEDICAL & SCIENCE MEDIA

Biology DVD

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http://www.msmedia.com.au/biology-dvd.php

Cat #: BM-6D

Human Body: The Skeletal System DVD

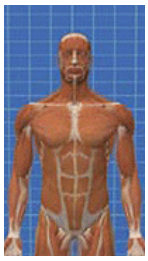
30 minutes

The 206 bones of the human skeleton are a miracle of bioengineering. Lightweight and incredibly strong, our bones give us the ability to walk upright, freeing our hands for precise manipulation of objects. See how the skeleton anchors the muscles and protects our essential organs: the heart, lungs, and brain. Learn how the bones themselves are chemical factories producing our red blood cells.

Chapters: Introduction, Spine, Bones, Bone Composition, Protective Function of Bone, Pelvis Anatomy, Skull, Bone Joints, Cartilage, Bone Diseases, The Living Bone.

Cat #: BM-18D

Human Body: The Muscular System DVD



30 minutes

Using the latest in 3-D graphics, medical imaging and cadaver specimens, see the human body's muscular system revealed in ways never seen before.

Chapters: Introduction, Lever Principle, Muscle and Bone Anatomy, Muscle Chemistry, How Muscles Work, Muscular Anatomy and Physiology, Tendons, Ligaments and Fascia, Knee Anatomy, Muscle Disease, Muscles and Exercise, Involuntary Muscles.

You may also be interested in the microscope slide set Muscle Tissue Slide Set. To visit the page click on the following link.

http://www.msmedia.com.au/muscle-tissue-slide-set.php

Cat #: BM-30D

Human Body: The Cardiovascular System DVD

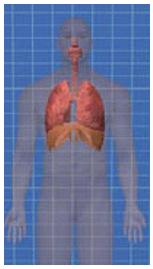
30 minutes

At the center of the human cardiovascular system is the heart. The human heart is a muscular organ that is a bioengineering marvel. It works flawlessly, 24/7, throughout the lifetime of each individual. See how it delivers blood, a truly miracle substance, to all parts of the human body through a vast network of arteries and veins. Each component of the cardiovascular system's physiology and anatomy is shown in vivid detail.

Chapters: Arteries and Veins, The Heart, Blood, Cardio Vascular Anatomy

Cat #: BM-31D

Human Body: The Respiratory System DVD



30 minutes

Breathing brings oxygen, found in the air we live in, into a unique set of organs called the lungs. Deep inside the lungs, that oxygen is transferred into the blood system and is used to power all of our muscles, including the muscles that produce breathing. Dr. Mark Reisman takes you first through the structures of the air passageway, the anatomy and physiology of the lungs themselves, and finally reveals the mechanism of the incredible gas exchange between the respiratory and cardiovascular systems. He explains the many human respiratory disorders.

Chapters: Breathing, Air Passageway, Respiratory Structures, Gas Exchange, Exhalation, Respiratory Disease.

You may also be interested in the microscope slide set Respiratory System Slide Set. To visit the page click on the following link.

http://www.msmedia.com.au/respiratory-system-slide-set.php

Cat #: BM-20D

Human Body: The Nervous System DVD

15 minutes

The human nervous system starts with the brain, extends down to the spinal cord,and connects to every part of the body through a vast network of fibers known as the peripheral nervous system. At the heart of this system is the neuron, a specialized cell that carries electrical impulses along neural pathways.

Chapters: Evolution of the Brain, The Three Components of the Nervous System, Brain Anatomy, Primitive Brain, Brain Waves, Nervous System Diseases, Spinal Cord Anatomy.

Cat #: BM-32D

Human Body:
The Digestive and Renal Systems DVD

30 minutes

The human body needs to take in food and water found in the environment, and through an almost miraculous sequence of mechanical and chemical processes, it converts that food into nutrients that sustain all the body's activities. The digestive track alone has nine major organs devoted to this process and the renal track three. Dr. Mark Reisman provides a unique look at the anatomy and physiology of the many organs and structures of digestion. Discover the properties of metabolism and nutrition.

Chapters: Introduction, Food and the Bioweb of Energy, Digestive Organs, Food Processes and the Upper Digestive Track, Lower Digestive Track, Internal Disorders, Anatomy and Physiology of the Liver, Gall Bladder and Pancreas, Renal System, Nutrition.

Cat #: BM-33D

Human Body: The Sensory System DVD

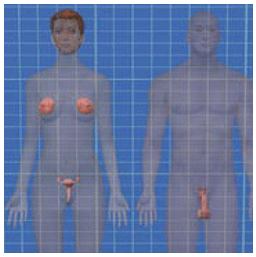
30 minutes

Touch, taste, smell, hearing and sight - the human body's five major senses. They are senses that have evolved independently over millions of years but are brought together by our marvelous central nervous system into the most refined way of interacting with the environment of any species on the planet. Dr. Mark Reisman provides a unique look at the anatomy and physiology of each of these sensory systems and shows how the brain uses them to produce what we call being human.

Chapters: Evolution of the Senses, Touch and Skin, Smell, Taste, Hearing, Sight

Cat #: BM-34D

Human Body: The Reproductive System DVD



30 minutes

Of the body's major systems only the reproductive organs and structures are different in men and women. There is no greater miracle on the planet than the creation of a new life. Dr. Mark Reisman takes you through each stage of this miracle, from the genetic basis of life, to the development of sex organs, to the formation of sex cells, to conception, to the emergence of the embryo, to the growth sequence of the fetus, and finally to the birth of a new human life.

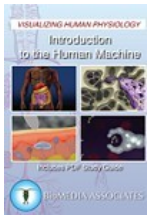
Chapters: Evolution of Sex, Genetics, Morphogenics and Pregnancy, Female Reproductive Organs, Male Reproductive Organs, Human Mating, Female Puberty, Male Puberty, Sex.

You may also be interested in the microscope slide set Female Reproductive System Slide Set.
To visit the page click on the following link.

http://www.msmedia.com.au/female-reproductive-system-slide-set.php

Cat #: BM-4D

Visualizing Human Physiology DVD



15 minutes

Human beings, like every living organism, are driven by two inherent needs – to survive, and ultimately, to reproduce – that is – to pass our genes on to the future of our species. To accomplish the goals of survival and reproduction we have inherited bodies finely crafted by evolution so that every one of us, every individual human organism, is an organic super factory – a living machine made up of systems that process fuel, build products, repair damage, expel waste, and defend against invaders.

In this premiere program, the complex physiological systems of the human body are introduced – muscular movement, digestion, circulation, respiration, nerves, glands, immunity, and reproduction. The cellular basis of life, and the importance of carbon in organic chemistry are illustrated and explained.

Cat #: BM-27D

Visualizing Cell Processes DVD

130 minutes

Visualizing Cell Processes combines the previous five titles, Cells & Molecules, Cell Movement and Transport, Photosynthesis & Cellular Respiration, DNA & Cell Reproduction, and The Genetic Code. Information on these five titles can be found under their respective titles on this page. (2002)

Overview of Living Cells
A Variety of Cells
Cell Organization
The Rise of Bacteria
Cyanobacteria & Oxygen
Eukarya Gets its Start

DNA Stucture and Cell Division
Chromosome Condensation
Mitosis Cytokinesis Meiosis
Nucleotide Structure & Bonding
Replication Enzymes
Replicating the Strands
The Twisting Problem
Proofreading & Repair

Genetic Code and Protein Synthesis
The Protein Nature of Life
Protein Structure Transcription
Translation & Protein Synthesis
Gene Regulation in Prokaryotes
Mutations
Introns & Exons

Organic Molecules
Carbon Bonding
Lip Structure
Protein Structure
Nucleic Acid Structure
Carbohydrate Structure

Cell Movement & Transport
The Plasma Membrane
Osmosis Phagocytosis
Transport Proteins Pinocytosis
Golgi Function
Receptor-Mediated Endocytosis Microtubules
Lysosomes & Digestion Cilia
Motor Proteins

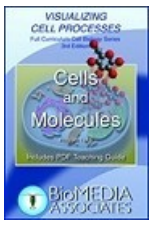
Photosynthesis
Chloroplast Structure
Light Trapping by Chlorophyll
The Light Dependent Reactions
Light Independent Reactions

Cellular Respiration
Glycolysis
Fermentation
Mitochondria
Krebs Cycle
Electron Transport Chain
ATP

Viruses and HIV
T-4 Bacteriophage
HIV Structure & Life Cycle

Cat #: BM-21D

Cells and Molecules DVD



15 minutes

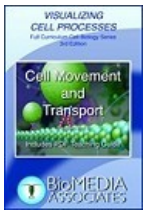
Cells and Molecules Cells and Molecules is organized into short-play learning modules, for concise instruction.

1. A Variety of Cells (1:25) Compares prokaryotes (spirilliform bacteria) and a eukaryote (small amoeba with prominent nucleus) and shows some of the diverse types of cells found in animals and plants.
2. Prokaryotes (00:40) Shows a Daphnia carcass undergoing bacterial decomposition; spiral bacteria 12 micrometers in length (from nutrient-rich pond water); a variety of decomposer bacteria, size range: 2-40

micrometers; Oscillatoria (from slow stream, near organic waste source).
3. Flagellates (00:38) Scenes include: Euglena (from pond sample), 60 micrometers (note the disc-shaped paramylum bodies used for starch storage); Peranema (from aquatic vegetation) 70-100 micrometers; Eudorina (pond plankton) 300 micrometers; Trichonympha (termite gut symbionts) 300-400 micrometers.
4. Amoebas (00:40) Organisms shown are: Amoeba (pond vegetation) 200 to 400 micrometers; Vahlkampfia (small amoeba from pond bottom), 20 micrometers; Arcella (pond scum), 80 micrometers.
5. Ciliates (1:00) Shows Paramecium (decomposing pond vegetation) 170 micrometers; Stentor (pond vegetation) 200 to 600 micrometers (the green coloration of the first species shown is due to symbiotic algae living in its cytoplasm); Euplotes (pond vegetation, bottom ooze) 70 to 150 micrometers (Euplotes represents a large group of ciliates that possess tendril-like cirri composed of fused cilia); Vorticella (on duckweed root) cells are about 70 micrometers across.
6. The Endosymbiotic Theory (1:10) A eukaryotic cell's energy transforming organelles, chloroplasts and mitochondria, appear to have originated as symbiotic prokaryotes.
7. Cell Organization (1:39) Provides an overview of the primary cell organelles: plasma membrane, nucleus, endoplasmic reticulum, Golgi bodies, lysosomes, mitochondria, and chloroplasts.
8. Overview of Organic Molecules (3:39) This module shows basic carbon bonding patterns, including the assembly and enzymatic breakdown of polymers.

Cat #: BM-22D

Cell Movement and Transport DVD



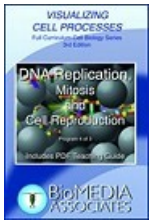
14 minutes

DNA and Cell Reproduction DNA and Cell Reproduction is organized into short-play learning modules, for concise instruction.

1.Mitosis: Chromosome Condensation (1:04) Shows the remarkable packaging of DNA as it condenses into chromosomes.
2.Mitosis: Stages (2:24) Reviews the chromosome patterns seen at different stages of the mitotic cycle.
3.Cytokinesis (00:30) Shows the basic differences between protist, animal and plant cell division.
4.Meiosis (1:00) Shows how chromosome sorting and crossing over introduces new gene combinations into a population, while achieving the reduction of chromosomes to the haploid number.
5.Nucleotide Structure and Bonding (1:26) Illustrates DNA chemistry, the basis for encoding genetic information in molecular structure.
6. Replication Enzymes (1:02) Demonstrates the chemical steps in DNA replication and shows how each step is accomplished by means of an enzyme.
7. Replicating the Leading and Lagging Strands (1:57) Because the two strands of DNA must be replicated in opposite directions, two different replication strategies are used at each replication fork.
8. Topoisomerase and the Twisting Problem (00:43) To prevent tightening of the helix as it is opened, an enzyme nicks the strand and allows it to rotate, relieving tension and permitting the replication fork to advance.
9. Proofreading and Repair (00:53) Damage to DNA is common, but a fleet of repair enzymes races over the DNA and corrects errors.

Cat #: BM-24D

DNA Replication and Cell Reproduction DVD



13 minutes

DNA and Cell Reproduction DNA and Cell Reproduction is organized into short-play learning modules, for concise instruction.

1. Mitosis: Chromosome Condensation (1:04) Shows the remarkable packaging of DNA as it condenses into chromosomes.
2. Mitosis: Stages (2:24) Reviews the chromosome patterns seen at different stages of the mitotic cycle.
3. Cytokinesis (00:30) Shows the basic differences between protist, animal and plant cell division.
4. Meiosis (1:00) Shows how chromosome sorting and crossing over introduces new gene combinations into a population, while achieving the reduction of chromosomes to the haploid number.
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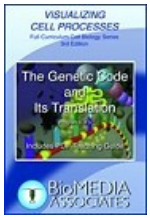
9. Proofreading and Repair (00:53) Damage to DNA is common, but a fleet of repair enzymes races over the DNA and corrects errors.

Cat #: BM-25D

The Genetic Code and It's Translation DVD



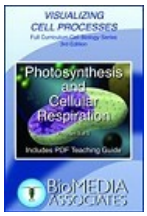
12 minutes

The Genetic Code and It's Translation video is organized into short-play learning modules, for concise instruction.

1. The Protein Nature of Life (1:25) Compares prokaryotes (spirilliform bacteria) and a eukaryote (small amoeba with prominent nucleus) and shows some of the diverse types of cells found in animals and plants.
2. Protein Structure (0:36) This module shows how 20 amino acids can produce an almost infinite number of proteins and how the shape of a protein is achieved.
3. Transcription (1:37) Shows how the DNA code is transcribed onto nucleotides of mRNA. The mRNA strands are then shown migrating into the cytoplasm where they are used as templates for synthesizing proteins.
4. Translation and the Protein Synthesis (1:31) Animates the functions of ribosomal RNA and transfer RNA in the translation of mRNA into a protein.
5. Gene Regulation in Prokaryotes (1:46) Production of the enzyme beta-galactosidase by lactose-digesting bacteria creates a model of the first gene regulation mechanism to be clearly understood Ñ the lac operon.
6. Classes of Eukaryote DNA (1:08) Not all of a cells functional DNA codes for large proteins. Short repeated sections code for small ones in high production, such as histones, while other repeat sections from the caps and centromere of chromosomes.
7. Exons and Introns (1:25) One of the great surprises in molecular biology was the discovery that up to 90 percent of a cells DNA is silent.
8. Mutations (1:44) This module illustrates several types of mutations that occur in DNA. Frame-shift mutations are the most damaging, whereas point mutations are a potential source of variety for evolutionary processes.

Cat #: BM-23D

Photosynthesis and Cellular Respiration DVD



14 minutes

Photosynthesis and Cellular Respiration is organized into short-play learning modules, for concise instruction.

Cellular Respiration:

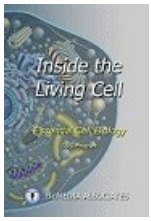
1. Glycolysis and Fermentation (2:17) Glycolysis produces a net gain of two ATPs from a molecule of glucose, breaking it down into pyruvic acid.
2. Mitochondrion Structure (1:36) The internal structure of a mitochondrion can be understood in terms of compartmentalizing ATP production.
3. Aerobic Respiration (1:36) This module presents an overview of how energy is extracted from organic molecules using oxygen.
4. Krebs Cycle (1:03) Animation shows key steps in the energy extracting reactions that occur in the matrix of a mitochondrion.
5. Electron Transport Chain (1:16) Driven by oxygens thirst for electrons, proteins on the inner membrane pump hydrogen ions into the inner membrane space, creating conditions for ATP synthesis.
6. ATP Synthesis (00:51) Enzyme complexes on the inner mitochondrial membrane use a chemosynthetic process to synthesize ATP from ADP.

Photosynthesis:

7. Chloroplast Structure (00:44) The substructure of a chloroplast reflects its photosynthetic functions.
8. Light Trapping by Chlorophyll (00:55) Chlorophyll molecules form complexes that feed energized electrons into an electron transport chain.
9. The Light-Dependent Reactions of Photosynthesis (1:26) These reactions produce ATP and NADPH, the energy carriers that drive biosynthesis.
10. The Light-Independent Reactions of Photosynthesis (1:18) A cycle of reactions creates PGAL, the universal building block of sugars and starches.

Cat #: BM-35D

Inside the Living Cell DVD



50 minutes

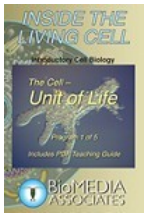
The menu structure of this DVD offers over 30 learning chapters that can be discussed and repeated as needed to assure that everyone is up to speed on the content. The DVD-ROM contains a Teaching Guide (PDF format) for each topic. ©2006, Subtitle Enabled

The Cell - Unit of Life: The Discovery of Cells, Cell Structures, Organelle Function, Cell Varieties, The Chemistry of Life
The Outer Envelope: Membrane Structure, Osmosis, Transport Proteins, Active Transport, Cell Eating, Cell Drinking, Receptor Proteins
How Cells Obtain Energy: ATP and Chemical Energy, Mitochondria, Aerobic Respiration, Chloroplasts, The Reactions of Photosynthesis

How Cells are Controlled: The Protein Nature of Life, Enzymatic Reactions, Amino Acids and DNA, How Proteins are Built, Turning on Genes
How Cells Reproduce: DNA Structure of Replicating DNA, Mutations Change the Genetic Code, Proofreading and Repair, The Stages of Mitosis

Cat #: BM-351D

The Cell, Unit of Life DVD



15 minutes

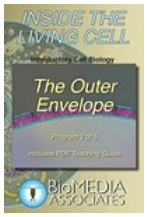
The This program shows the kinds of cells and emphasizes the fact that all cells have a common organization and how all cells carry out similar biochemical processes. (Module from the DVD Inside the Living Cell). 2006

Content:

- The Discovery of Cells
- Cell Structures
- Organelle Function
- Cell Varieties
- The Chemistry of Life

Cat #: BM-352D

The Outer Envelope DVD



15 minutes

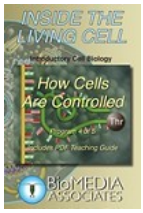
The Here students become acquainted with the properties of the plasma membrane, how it governs the kinds of molecules that go in and out of cells, and how cells feed by engulfing (phagocytosis) and drink in fluids by pinocytosis.

Content:

- Membrane Structure
- Osmosis
- Transport Proteins
- Active Transport
- Cell Eating
- Cell Drinking
- Receptor Proteins

Cat #: BM-353D

How Cells are Controlled DVD



15 minutes

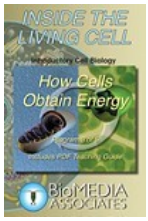
The Illustrations show how genetic instructions carried on DNA are transcribed into RNA, leading to the production of specific enzymes that control the thousands of biochemical processes going on in living cells.

Content:

- The Protein Nature of Life
- Enzymatic Reactions
- Amino Acids and DNA
- How Proteins are Built
- Turning on Genes

Cat #: BM-354D

How Cells Obtain Energy DVD



14 minutes

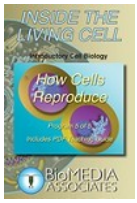
This program illustrates the mechanisms of photosynthesis and cellular respiration. It introduces ATP, the universal energy carrier molecules that supplies energy hungry reactions, and shows the structure and function of Chloroplasts and Mitochondria, energy transforming organelles. (Module from the DVD Inside the Living Cell).

Content:

- ATP and Chemical Energy
- Mitochondria
- Aerobic Respiration
- Chloroplasts
- The Reactions of Photosynthesis

Cat #: BM-355D

How Cells Reproduce DVD



15 minutes

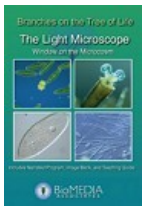
The This program shows how DNA replicates, how copy errors occur and are fixed by repair enzymes, how DNA is compressed into chromosomes making possible mitosis and cell division. (Module from the DVD Inside the Living Cell).

Content:

- DNA Structure
- Replicating DNA
- Mutations Change the Genetic Code
- Proofreading and Repair
- The Stages of Mitosis

Cat #: BM-26D

The Light Microscope:
Window on the Microcosm DVD



16 minutes

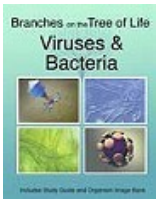
The Light Microscope: Window on the Microcosm shows techniques for using a student microscope to achieve spectacular images. Emphasis is on correct lighting procedures for viewing prepared slides and on the special lighting techniques required for viewing living cells. More than a "how to" on microscope principals and techniques, this program encourages students to observe living things with stunning images of live bacteria, protists and micro invertebrates.

You may also be interested in the microscope slide set Bacteria Basic Slide Set. To visit the page click on the following link.

http://www.msmedia.com.au/bacteria-basic-slide-set.php

Cat #: BM-29D

The Biology of Viruses and Bacteria DVD

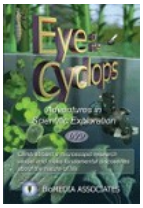


45 minutes

This program describes the discovery of viruses and their structure, how viruses are studied, how they infect their hosts and how they replicate. Details are provided on the T-4 bacteriophage and retroviruses such as HIV. The bacteria section uses compelling microscopy of living bacteria to examine their structure, physiology, behavior, and the vital roles these microbes play in the biosphere, including oxygen production (cyanobacteria), decomposition, nitrogen fixation, and as parasites as well as helpful symbionts. Twelve minutes of additional live observation of a variety of bacteria can be used to introduce or recap the lesson, or play as visual ambiance during laboratory work. ©2004 Subtitled enabled 45 minutes, 11 narrated modules plus 22 minutes of additional observations. Closed Captioned. (2004)

Cat #: BM-42D

Adventures in Scientific Exploration DVD



90 minutes

Climb aboard the Cyclops, a microscopic research vessel, and investigate an amazing hidden world on which all living things depend. This series makes an excellent introduction to biological classification, diversity and ecology. The PDF teaching guide for each program describes follow-up activities and correlates the programs to the National Science Standards.

Adventures in Scientific Exploration features voyages of discovery into nine environments: 3 pond regions, 2 stream, 2 woodland, 2 urban yard. The DVD also contains a bonus exploration journal filled with video observations, information about the organisms, and life cycle details. The Cyclops Technical Manual, through using animation and cutaway graphics, explores the design features of the imaginary vehicles used by the scientists in these ecological investigations. 2004

POND
Explore the open water plankton, the weedy shallows predators and protozoa, and bottom decomposers. Open Water, Bottom Ooze, Aquatic Weed Forest.

STREAM
Study the adaptations of aquatic insect larvae for surviving in the violent torrent of rapids and waterfalls. Down the Rapids, Over the Falls.

FOREST
Trees and dead wood return to the soil with the help of bacteria, fungi, insects, and other decomposers. The Living Humous, The Rotting Log.

BACKYARD
Exploring a vibrant ecosystem of pollinators, predators, and spineless animals that till the soil. Plant Minders, Earth Movers.

Cat #: AVP-9D
Cell Structure DVD

11 minutes

Cells as microscopic building blocks of all animals and plants. The cell wall, cytoplasm, chloroplasts, nucleus and cell vacuole in plant cells. Structure of human cheek cells and comparison with plant cell structures.

Cat #: AVP-13D
Nervous System DVD

11 minutes

The sensitivity reaction. The eye and ear as receptor organs. The structure of the nervous system. The reflex action and its importance in preventing injury.

Cat #: AVP-15D
Hormones in Plants and Animals DVD

11 minutes

Physiological effects of hormones. Endocrine glands: the pancreas and the function of insulin, the adrenal gland and the function of adrenalin. Sex hormones. Effects of plant hormones and isolation of growth hormones from maize coleoptiles.

Cat #: AVP-16D
GCSE Biology Series on DVD

87 minutes

Science programs on the following topics:

Food
Photosynthesis and Leaf Structure
The Nervous System
Reproduction in the Flowering Plant
Fungi and Bacteria
Cell Structure
Hormones in Plants and Animals
Ecosystems

The programmes are available separately, on a single DVD. See individual DVD's for information on these titles.

Cat #: AVP-17D
GCSE Biology Experiments DVD

60 minutes

Twelve filmed experiments and demonstrations of practical work designed to test pupils' ability to follow procedural instructions and to handle biological apparatus and materials.

CONTENTS: Experiments: The Iodine Test; Benedicts Test; The Biuret Test; The Emulsification Test; Dialysis; The Presence of Starch in Leaves; Light and Photosynthesis; Respiration in Yeast; Digestion of Starch by Amylase; The Effect of Temperature on Amylase. Techniques: The Light Microscope; Measuring Liquids. A 36 page accompanying booklet contains teachers' notes and photocopyable worksheets.

Cat #: AVP-10D
Food DVD

14 minutes

The basic biochemistry, origin, function of the major food classes and consequences of their deficiency in the diet. The relationship between society and diet. Obesity and malnutrition.

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