

Interactive Biology Complete Series, Hybrid CD

Complete 38-title Biology Courseware, complete, accurate, and up-to-date.

Product Features

Each CD Follows the Same Easy-to-Use Format	A Narrated Program Covers Each Subject in a Thorough Manner.
Pretest and Posttest Randomized Questions	Glossary of Key Biological Terms
Tutorials Provide Hands-on-Problem-Solving and Learning	Jump Presentation Outlines all the Topics in the Presentation
Online Help	Access Detailed Teacher's Resource Materials from the Internet

Grade Level

Middle School • High School

Detailed Product Information:

Complete 38-title Biology Courseware, present complete, accurate, and up-to-date biological concepts and theories in an interesting and motivational manner that is sure to meet your high educational standards.

Programs are available for purchase individually or you can save money by choosing either the pre-bundled topics or the entire series!

Help your students grasp those complicated, hard-to-visualize biology concepts quickly, so that you can spend more class time on inquiry-based labs and activities.

Adaptable to a wide variety of teaching and learning styles, this robust series of engaging biology programs, will appeal to both introductory and AP level students, with topics ranging from the basics of biodiversity to the more advanced concepts of cell replication and genetic engineering.

Interactive Biology CD-ROMs deliver the power of "true" interactive multimedia with: dynamic animations and powerful special effects that are used in an instructional manner. Biological structures and processes are displayed with full color illustrations, photographs, electron micrographs, and two-dimensional images. Mind stimulating interactive tutorials provide a "hands-on" approach to learning. Professional narratives present the information in an interesting manner. Program operation is easy and highly maneuverable.

Interactive Biology CD-ROMs present complete, accurate, and up-to-date biological concepts and theories in an interesting and highly motivational manner. Flexible and individualized instruction is achieved through a variety of learning experiences, instructional approaches and options. Appropriate for use by one student, a group of students or can be used by the teacher with the entire classroom. A multi-user networking version is available for all Interactive Biology CD-ROMs. This allows several students at their workstations to access a product at the same time.

These products use new scripts and visuals that parallel current secondary level biology textbooks. Though the majority of the Interactive Biology users are at the high school level, a significant number of junior college and universities are using the programs for their introductory level classes. In addition, a number of vocational institutions, especially in the medical and dental industry, are using the Interactive Biology programs to supplement their course content.

Tangent Scientific

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Individual Topics:

Diversity of Life Series:

Classification of Living Things (#5047)

Classification of Living Things immerses students in the dynamic study of taxonomy, highlighting the importance of this central field of biology and showing how new ideas and new technology lead to the refinement of classification schemes.

Students learn about the hierarchical classification scheme and binomial nomenclature, as well as other aspects of classification. Compelling interactive lessons give students hands-on experience in constructing cladograms and classifying organisms using dichotomous keys.

Topics covered on this program: History of classification - criteria for classification - the Five Kingdom classification scheme - Six-plus classification schemes - three domain classification scheme - taxonomic keys - the traditional school of Systematics, Cladistics, and Phenetics.

Invertebrates (#5048)

Invertebrates guides students through an investigation of the majority of Earth's animal phyla.

In this overview of the animals without backbones, students gain an understanding of the evolutionary relationships between organisms by following trends in increasing complexity in body plans and levels of organization. Important details in animal development and categorization are reinforced as students tour the phyla, examining differences in development and organization as well as ways in which the various types of animals survive and reproduce to create new generations.

Topics covered in this program include: Origins of Multicellular Organisms; Distinctive Animal Characteristics; Binomial Classification of Animals; Embryonic Development and the Importance of Ectoderm, Endoderm, Mesoderm, and the Coelom; Symmetry; and An Overview of Invertebrate Phyla: Porifera, Cnidaria, Ctenophora, Platyhelminthes, Nematoda, Rotifera, Mollusca, Annelida, Arthropoda, Echinodermata, and the Invertebrate Chordates.

Vivid diagrams and animations along with electron photomicrographs, photographs, and narratives cover viruses and bacteria comprehensively.

The Vertebrates (#5042)

The Vertebrates examines the natural history as well as the forms and functions of this subphylum. This wide-ranging program begins by exploring the fundamental differences between animal and plant life. Whether characteristics were derived or conserved determines the direction of vertebrate evolution and explains the incredible diversity exhibited.

Topics covered in this program include: A Survey of the Animal Kingdom; Animal versus Plant Cell Structure; Binomial Nomenclature; Linnaean Classification; Chordate Characteristics and Classification, Vertebrate Characteristics and Classification; Vertebrate Evolution; Vertebrate Form and Function as well as Characteristics and Adaptations of Fishes, Amphibians, Reptiles, Birds, and Mammals.

Viruses & Bacteria (#5027)

Often just as beautiful as they are devastating, viruses and bacteria wreck havoc on all life forms. Safely explore the fascinating microscopic world of viruses and bacteria with this program.

Virus topics covered in this program include: Size, Shape and Structure; Attachment to Host Cell; Entry into Host Cell; Reproduction – Lytic Cycle, Lysogenic Cycle, Retrovirus Reproduction; Transmission; Viral Diseases; and Viral Vaccines.

Bacteria topics include: Size, Shape, and Structure; Classification by Respiration; Classification by Mode of Nutrition; Reproduction; Genetic Exchange Methods; Types of Bacteria – Archaeobacteria, Eubacteria; Bacterial Diseases; Transmission; Disease Prevention; Pasteur; Koch; Sir Alexander Fleming; Biological and Economic Importance of Bacteria .

Protista (#5031)

Micrographs, photographs, and detailed illustrations coupled with impressive special effects depict the various phyla. A thoughtful narration elaborates on the physical characteristics and biological structures of protists. Various diseases caused by protists are examined. Protista concludes by explaining the beneficial roles that protists play in the environment and their importance to life on Earth.

Topics covered in this program include: Evolution of Protists; Plant-Like Protists; Animal-Like Protists; Fungi-Like Protists; and Diseases Caused by Protists.

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Fungi (#5030)

Fungi explains the differences between members of this biological kingdom through 3-D animations and thoughtful narratives. You'll see representative organisms from each phyla, explore typical fungal structures, and find insight to the uses and contributions made by fungi. Animated sequences vividly depict extra cellular digestion, asexual reproduction, sexual reproduction by the process of conjugation, and more. Topics covered in this program include: Similarities between Fungi and Plants; Fungal Habitats and Sizes; Typical Structures; Evolution of the Fungi; Asexual and Sexual Reproduction; Zygomycota – the Conjugation Fungi; Ascomycota – the Sac Fungi; Basidiomycota; Deuteromycota; Fungal Diseases; and Symbiosis between Fungi and Plants.

The Plant Anatomy Series:

Roots & Stems (#5024)

Learn about these two very important sections responsible for taking in water and nutrients as well as anchoring the plant to its substrate. Roots and Stems makes this subject come alive with vivid graphics, detailed illustrations, electron micrographs, and concise narratives. Students learn about the hierarchical classification scheme and binomial nomenclature, as well as other aspects of classification. Compelling interactive lessons give students hands-on experience in constructing cladograms and classifying organisms using dichotomous keys. Topics covered on this program: History of classification - criteria for classification - the Five Kingdom classification scheme - Six-plus classification schemes - three domain classification scheme - taxonomic keys - the traditional school of Systematics, Cladistics, and Phenetics.

Flowering Plants (#5044)

Beautifully animated and illustrated, this program provides vivid images describing the life cycle from flower production to seed set and germination. Each event is broken into separate series of detailed illustrations and voice-overs describing the processes of pollen formation, egg production, and fertilization. Watch fruit dispersal occur before your eyes! Clear up the confusion about the differences between fruits and vegetables. You'll find that flowers are more than just pretty blooms.

Topics covered in this program include: Plant Classification, Structure and Function of a Flower; Modes of Pollination; Sexual Reproduction versus Asexual Reproduction; Lifecycle of an Angiosperm; Fruit Production; Differences Between Fruits and Vegetables; and the Importance of Fruits and Vegetables to Humans and Other Animals.

Non-Flowering Plants (#5045)

Detailed illustrations show land adaptations in the three groups of nonflowering plants: the nonvascular plants, the seedless vascular plants, and the seed-bearing vascular plants. Aided by beautiful photographs and plant descriptions, you'll be able to differentiate and understand the value of nonflowering plants, from the often-overlooked hornworts and the bizarre *Welwitschia* to the more familiar ferns and pines.

Topics covered in this program include: Characteristics of Plants; Classification of the nonflowering Plants; Plant Adaptations; a brief description and survey of the plants in the Three Groups of Nonflowering Plants: the Bryophytes, the Seedless Vascular Plants, and the Seed-Bearing Vascular Plants (gymnosperms); and a Representative Lifecycle for Each Group of Nonflowering Plant.

The Leaf (#5026)

Electron micrographics and colorful graphics illustrate the tissues and cells of leaves. Watch the animated guard cell in action as it opens and closes. Find out about the circulatory system and the basis of photosynthesis. Topics covered in this program include: The Importance of the Leaf in Plants; The External Appearance of a Leaf including the Blade, Apex, Margin, Base, and Petiole; Simple versus Compound Leaves; Patterns of Leaf Arrangement; Veins in Leaves; Conducting Tissue; Tissues and Cells of Leaves; Guard Cells; Transpiration; Photosynthesis; Importance of Leaves in Oxygen and Carbon Dioxide.

Genetics & Evolution Series:

Mendel's Principles of Heredity (#5017)

Multimedia at its finest! Mendel's Principles of Heredity follows a monk named Gregor Mendel, known as the father of genetics, as he performs intriguing experiments to uncover the mysteries of heredity. Modern terms such as genes and alleles are also explored in this program. Mind stimulating activities help with practice using Punnett squares to predict outcomes. This program is a valuable addition to any genetics inclusive curriculum.

Topics covered in this program include: Mendel's Biography; Mendel's Pure Breeding Pea Plant; Self-Fertilizing Pea Plants; The Seven Famous Traits of Mendel's Pea Plants; Mendel's Experiment on the Inheritance of Seed Color; Modern Terms in Genetics; Heredity Based in Probabilities; Mendel's Law of Segregation; The Punnett Square; and Mendel's Law of Independent Assortment.

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DNA, The Molecule of Life (#5013)

DNA: The Molecule of Life examines the experiments that provided clues to DNA's function as the carrier of hereditary information. Detailed illustrations and insightful animations allow students to follow the steps that led to the discovery of DNA's exact chemical structure. Students will also learn how DNA is duplicated and repaired before it is transferred to new living cells.

Topics covered on this program: An introduction to DNA, genes, traits and heredity - the discovery of nucleic acid and chromosomes - chromosomal theory of inheritance - DNA chemical composition - Purine, Pyrimidine, and nucleotide structure - experiments leading to the discovery of DNA as hereditary material - Griffith's pneumococcus experiment - Avery, MacLeod, & McCarty cell extract experiments - Chargaff's Rules - Hershey & Chase bacteriophage experiment - x-ray diffraction studies of DNA structure - Watson & Crick identify the double helix - Messelson & Stahl experiments show DNA undergoes semiconservative replication - DNA replication and repair processes.

From DNA to Protein (#5015)

From DNA to Protein explains the reasons why offspring usually resemble their parents. Colorful models illustrate how genes are expressed – how the information encoded in DNA is used to build proteins. This involved subject is handled in a thorough and concise manner. Animations reproduce microscopic concepts such as amino acid attachment to RNA, polypeptide elongation, and more.

Topics covered in this program include: One Gene-One Enzyme Hypothesis; The Studies of Sir Archibald Garrod; The Studies of George Beadle and Edward Tatum; One Gene-One Polypeptide Hypothesis; The Structure of DNA; The Structure of RNA; Transcription; and Translation

Investigating Heredity (#5033)

Investigate heredity and learn how parents pass traits from parents to offspring. An overview of Mendel's famous pea plant experiments introduces fundamental heredity concepts.

Special effects and animations show experiments performed by Thomas Hunt Morgan on fruit flies (*Drosophila melanogaster*). Also included is a thorough examination of various human genetic disorders. Investigating Heredity captures the fascinating aspects of studying genetics while providing a comprehensive review.

Topics covered in this program include: Gregor Mendel/Principles of Heredity; Chromosomal Inheritance including studies by Walter Sutton and Thomas Morgan; Patterns of Heredity; Human Heredity and Genetic Disorders; and Gene Therapy.

Genetic Engineering (#5037)

In this program, you'll see that organisms have a remarkable ability to manipulate DNA and transfer genes between organisms, keeping certain traits and dropping others.

A graphic, step-by-step examination of the procedures involved in transferring a human insulin gene to bacteria illustrate the techniques and processes of gene manipulation and transfer. With Genetic Engineering, you'll see genetic changes occurring from the cellular point of view.

Topics covered in this program include: DNA Composition and Its Function as Genetic Material; The Use of Natural Variation in Genes for Selective Breeding; Changes in Genes Through Mutation; A Step By Step Guide Through the Experimental Process of Genetic Engineering; Examples of modern Genetic Engineering in Microbes, Plants, and Animals; and the Applications of Genetic Engineering in Medicine and Gene Therapy.

Evolution: The 3 1/2 Billion Year Journey (#5029)

Get ready to take a trip back 3 ½ Billion years to learn about early life on Earth. Evolution: The 3 ½ Billion Year Journey utilizes informative narratives, dynamic graphics, and animations to present the expansive subject area of evolution.

Test your knowledge with scenarios such as: identify the moth coloration preyed upon more frequently; complete various sentences pertaining to heredity; drag each type of natural selection term up to the correct graph; and more.

Topics covered on this program: Earth's Prehistoric Life; Early Views on Evolution; Charles Darwin; Heredity; Natural Selection; Micro Evolution; Variation; Evolutionary Fitness; Speciation; Fossil Finds; Macro Evolution; and Mass Extinctions.

Animal Kingdom Series:

Sponges (#5041)

Pop-up graphics illustrate the characteristics classifying sponges as animals as well as the qualities that make them unique. Intriguing animations show the relationships between sponge cells and how entire colonies of relate to other organisms. Soak up information about sponge anatomy and reproduction through 3-D presentations and easy to use tutorials.

Topics covered in this program include: Paths of Evolution; The Definitions of an Animal, Vertebrate, and Invertebrate; Characteristics of Sponges; Somatic Embryogenesis; Theories of Multi-Cellular Origin; External Structures; Canal Systems; Cell Types; Asexual and Sexual Reproduction; and Ecology.

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Cnidarians (#5035)

Come explore the magnificent underwater world of the Cnidarians, an ancient yet successful group of animals that include colorful corals, strange sea anemones, and elegant jellyfish.

Creative animations and illustrations bring to life the unusual strategies the members of the phylum use to eat, move, reproduce, and survive. Customize your review of the Cnidarians by choosing specific interactive lesson modules or by taking the pre- and post-tests in this fascinating program.

Topics covered on this program: Evolutionary history - what makes a Cnidarian an animal - phylum Cnidaria characteristics - primitive versus advanced features - polyp and medusa body types - tentacles - nerve nets - specialized muscular cells - colonies - digestion - lifecycles - the Anthozoans - the Hydrozoans - the Scyphozoans - the Cubozoans.

Mollusks (#5040)

In Mollusks you'll learn about the biology of this unusual phylum through detailed animations that show processes as they really occur in these "soft bodied" animals.

From unique evolutionary adaptations of the four major classes to in-depth examinations of unifying organ systems and body structures, Mollusks provides a comprehensive study of these remarkable creatures.

Topics covered in this program include: Classifying Mollusks; Mollusk Organ Systems; Specialized Structures and Appendages, including the Foot, Mantle and Mantle Cavity, Tentacles, Eyes, and the Radula; The Evolution of Mollusks from Cambrian Ancestors; An In-Depth Look at Diversity and Biology of the Classes Gastropoda, Polyplacophora, Bivalvia, and Cephalopoda, with Emphasis on Torsion, Segmented Shells, Filter Feeding, and Jet Propulsion Respectively; and Mollusk Defense Mechanisms and Adaptations.

Arthropods (#5034)

Arthropods answers students' major questions about insects, spiders, crustaceans, and other organisms with jointed legs. Phylum Arthropoda contains the most diverse animals on the planet in terms of both species diversity and numbers.

Full-color photographs, detailed illustrations, and interesting animations depict the biology of these unique and fascinating creatures.

Topics covered on this program: Classification of arthropods - the importance of the exoskeleton, jointed appendages, and segmentation - arthropod organ systems - feeding and foraging techniques - and more!

Annelids (#5046)

Explore the biology and natural history of segmented worms! Learn how earthworms improve soil and why they come to the surface on rainy days. Discover features that annelids share with all animals as well as distinctive characteristics found only in phylum Annelida.

Annelids' interactive overview of the three largest annelid classes teaches students the importance of oligochaetes, the different body plans of polychaetes, and the actual medical uses of leeches.

Topics covered on this program: Animal characteristics - the importance of annelid segments, symmetry and development in classifying annelids - annelid evolution - annelid anatomy and organ systems involved with the integument, support, movement, digestion, excretion, circulatory, respiration, and sensation - diversity, feeding and reproduction in the three largest annelid classes - Oligochaeta - Polychaeta - Hirudinea.

Birds: Characteristics & Adaptations (#5020)

Explore the biology and natural history of segmented worms! Learn how earthworms improve soil and why they come to the surface on rainy days. Discover features that annelids share with all animals as well as distinctive characteristics found only in phylum Annelida.

Annelids' interactive overview of the three largest annelid classes teaches students the importance of oligochaetes, the different body plans of polychaetes, and the actual medical uses of leeches.

Topics covered on this program: Animal characteristics - the importance of annelid segments, symmetry and development in classifying annelids - annelid evolution - annelid anatomy and organ systems involved with the integument, support, movement, digestion, excretion, circulatory, respiration, and sensation - diversity, feeding and reproduction in the three largest annelid classes - Oligochaeta - Polychaeta - Hirudinea.

Biomes (#5043)

Discover how organisms survive the challenges of unique environments such as the cold, dry tundra and the warm, moist tropical forest. Learn about the underlying forces shaping climate, then investigate the features of the major terrestrial biomes and aquatic ecosystems.

Each tour destination examines the climate of the specific biome and surveys the unique ways organisms survive. Engaging visuals and narration complement the subject matter as the climate and organisms of the world's biomes come to life.

Topics covered on this program: Climate - solar energy - patterns of air and ocean circulation - geographical influences on climate - microclimate - the physical characteristics of each biome - plant and animal adaptations - aquatic ecosystems - roles of humans in altering biomes.

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Ecology Series

The Biosphere (#5025)

Take a virtual tour of planet Earth's systems. With The Biosphere, you'll learn about the delicate balance between the living and non-living on our planet. Forest, mountains, oceans, and animals are beautifully displayed throughout the program in numerous photographs. The water, carbon, nitrogen, and phosphorus cycles are all illustrated through the use of special effects and animations. Topics covered on this program: Lithosphere - hydrosphere - atmosphere - biotic and abiotic symbiosis - Mutualism - Commensualism - Parasitism - ecological succession - and the Biosphere (Biodome) Project in Arizona.

Food Chains & Webs (#5022)

Food Chains and Webs illustrates one of the most fundamental concepts in life science: how organisms in biological communities depend upon one another for energy and survival.

Learn about different types of autotrophs and heterotrophs and their niches. Explore different ways of examining community trophic structures through various food chains, food webs and ecological pyramids. Biological magnification and human interactions with food chains and webs wrap up the program and demonstrate the interrelatedness of communities and their relevance to students' lives.

Topics covered in this program include: Energy Transfer through Living Things; Producers, Consumers and Decomposers; Photosynthesis and Chemosynthesis in Autotrophs; Different Feeding Styles of Heterotrophs; Community Trophic Structure; Food Chains; Food Webs; Ecological Pyramids; Energy Availability in a Community; Biological Magnification; Overpopulation and Human Interactions with Food Chains and Webs.

Population Ecology (#5032)

Population Ecology explores patterns in population growth, gives reasons populations grow and stop growing, and reveals trends in human population.

Animated graphs and diagrams vividly depict core population concepts including: the lag phase, exponential growth, J curve, dynamic equilibrium, and carrying capacity. Challenging "hands-on" tutorials consist of spelling the correct word after reviewing a clue, correctly labeling diagrams and graphs, clicking on a term that correctly describes a picture, and more.

Topics covered in this program include: Defining a Population; Characteristics of Populations; Types of Populations; Growth Rate of Populations; Strategies of Reproduction; Human Population Growth; Limiting Factors; Age Structure of Populations; and Interactions between Populations including endangered species.

Human Impacts on the Environment (#5038)

Packed with up-to-date information and functional graphics, Human Impacts on the Environment condenses complex environmental problems into a presentation, giving you the chance to appreciate how human activity impacts the environment.

The interactive lessons reinforce connections between actions and consequences. This program will stimulate you to think and go beyond explanations about the causes, effects, and solutions to environmental problems.

Topics covered in this program include: Human History and the Environment; Population Growth; Environmental Compartments; Ozone Depletion; Global Warming; Smog; Acid Deposition; Water Pollution; Pollution Control; Habitat Destruction; Natural Resource Exploitation; Biodiversity; Extinction; Conservation Biology; and Solutions.

Cell Structure & Specialization Series

Inside the Cell (#5039)

Inside the Cell illustrates cellular organization, the structure of organelles, and the physiological processes for which they are responsible.

Features include engineered cutaways of the more complex organelles, detailed models of plant and animal cells, animated special effects, and electron micrographs.

Topics covered in this program include: Cellular Organization; Historical Perspectives; Chemical Constituents; Biochemistry; Classification; Prokaryotic and Eukaryotic Cells; Comparisons between Plant and Animal Cells; Plasma Membrane; Cytoskeleton; Cytosol; Nucleus; DNA; Nuclear Membrane; Nuclear Pores; Nucleolus; Ribosomal RNA; Ribosomes; Endoplasmic Reticulum; Golgi Complex; Lysosomes; Mitochondria; Vesicular Transport.

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Plasma Membrane & Cellular Transport (#5019)

The importance of the membrane surrounding the cell, as a regulator of the passage of materials to and from the cell, becomes apparent in The Plasma Membrane and Cellular Transport.

Captivating animations show the fluid-mosaic model in action. An impressive array of models, graphics, and accompanying narratives keep the program flowing at a lively pace.

Topics covered in this program include: Structure of the Plasma Membrane (The Fluid-Mosaic Model); Brownian Motion; Diffusion; Concentration Gradient; Dynamic Equilibrium; Diffusion of Oxygen and Carbon Dioxide; Osmosis; Osmotic Pressure; Isotonic; Hypotonic, and Hypertonic Solutions; Passive Transport; Facilitated Diffusion; Active Transport; Endocytosis; Receptor-Mediated Endocytosis; and Exocytosis.

Mitosis (#5018)

Learn about the remarkable process of cell reproduction as Mitosis examines how cells divide. All non-sexual cellular reproduction occurs through Mitosis, providing the organism an ability to grow and replace damaged cells. A multitude of diagrams, photographs, animations, special effects, and electron micrographs provide the visual component to learning the process.

Topics covered in this program include: The Prokaryotic Cell; the Eukaryotic Cell; Nuclear Envelope; Organelles; Cytoplasm; Nucleus; Genetic Material within a Cell - Prokaryotic Cell Division; Eukaryotic Cell Division; Eukaryotic Cell Cycle Interphase; M Phase (Mitosis); Prophase; Centrioles; Spindle; Metaphase Plate; Metaphase; Anaphase; Telophase; and Cytokinesis.

Meiosis (#5016)

Explore Meiosis, an essential process of cell division necessary in forming sex cells, namely sperm, and eggs. Core processes such as prophase II, metaphase II, anaphase II, and telophase II, depicted by graphics that utilize powerful special effects and animations showing each step.

Concise narratives describe in detail all vital aspects of meiosis. To assure mastery of subject material, basic concepts of cell biology are reviewed prior to presenting more involved topics.

Topics covered in this program include: The Prokaryotic and Eukaryotic Cell; Genetic Material within a Eukaryotic Cell including Chromosomes, Karyotype, Homologous Chromosomes, Sex Chromosomes, and Autosomes; Eukaryotic Cell Division; Asexual versus Sexual Reproduction; Sexual Reproduction including Fertilization, Zygote, Meiosis, Diploid (2n), and Haploid (n); Meiosis I, Meiosis II; Nondisjunction; Spermatogenesis; and Oogenesis.

Blood & Immunity (#5021)

With Blood & Immunity you get two programs on one CD-ROM! The first part of the program explores the components of blood, while the second introduces the components and processes the immune system.

Some of the many amazing animations include: the actions of antibodies attaching to a bacterium; phagocytes squeezing through the blood vessel wall; phagocytes consuming bacteria; enzymes digesting bacteria and phagocytes; and blood clotting.

Topics covered on this program: Functions of blood; the components of blood- plasma - plasma proteins - red blood cells (erythrocytes) - white blood cells (leukocytes)- blood clotting against infection by pathogens - first line of defense - second line of defense - third line of defense - immune system defects - HIV and AIDS.

Introduction to Biology Series

Biology: The Study of Life (#5028)

Biology: The Study of Life provides an important introduction to the fascinating science of biology. What it means to be alive, how observations can be used in reasoning, and the process of developing a hypothesis are all discussed in this program, complete with special effects and detailed graphics.

Understand the principles behind scientific methodology - testing to determine the validity of phenomena. Then practice identifying signs of life and the correct sequence of events when applying scientific methodology in a variety of interactive lessons.

Topics covered on this program: Signs of life - themes in biology including energy, systems and interactions - stability - evolution - unity within diversity - inductive and deductive reasoning - scientific methodology - and from hypothesis to theory.

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Exploring Biology: Careers & Issues (#5036)

Whether you're interested in arthropods or zoology you'll find Exploring Biology: Careers & Issues to be a helpful tool in your quest for biology-related job information. This program provides brief job descriptions as well as the education experience required for each job. Learn about the research and work involved in several fields through interesting animations and visual displays. Program-provided questions give you a chance to consider various aspects of each field and encourage consideration of the advances in many of the disciplines. Major Fields in Biology Include: Genetics, Microbiology, Cell Biology, Human Biology, Botany, Zoology, Ecology, and Evolution. Job Descriptions include: Genetic Engineer, Human Geneticist, Medicinal Microbiologist, Soil Microbiologist, Dentist, Pharmacologist, Plant Physiologist, Forester, Veterinarian, Wildlife Biologist, Environmental Biologist, Field Biologist, Paleo-Biologist, Museum Curator, Biological Consultant, and more...

Energy & Chemistry of Life Series

Cellular Respiration (#5012)

Eye-catching animations and special effects illustrate important processes occurring during cellular respiration. The program's flexible 'replay' feature allows students to review involved concepts, such as the electron transport chain, until they are understood. Topics covered on this program: Energy - structure of ATP and ADP - oxidation-reduction reactions - description of anaerobic and aerobic respiration - the glycolytic chemical pathway and the role of glucose and enzymes - and more.

Photosynthesis (#5023)

Photosynthesis explains the necessity of chlorophyll, carbon dioxide, and the sun to plants as well as life as we know it. Photosynthesis comes alive through dynamic animations showing photosystems and other essential processes in action. Full color graphics and models artfully depict photosystem I, photosystem II, electrons, photons, thylakoids, and more. Involved concepts become easier to understand with animations and helpful narration.

Topics covered in this program include: The Roles of Carbon Dioxide, Water, Oxygen, Glucose, and Pigments including Chlorophyll a, Chlorophyll b, and the Carotenoids; Chloroplasts; the Chemical Reaction for Photosynthesis; Light Reactions Including a Detailed Examination of Photosystems I and II; Electron Transport Chains, and the Generation of ATP and NADPH; Dark Reactions; and the Calvin Cycle.

Enzymes (#5014)

In Enzymes, you'll learn the importance of enzymes and how they work. Microscopic events are animated in this program, vividly revealing how enzymes sustain life.

Two dimensional models illustrate enzyme activity and factors affecting them. The narration provides a concise, step-by-step approach to learning about enzymes, ensuring student comprehension.

Topics covered on this program: Where are Enzymes Produced?; Where do Enzymes Act?; Chemical Reaction; Catalyst Substrates; Energy of Activation; Enzyme Nomenclature; Enzyme Structure; Lock-and-Key Model; Induced-Fit Model; Enzyme Activity: Effects of Enzyme on Substrate; Reusable Characteristic of Enzymes; Factors Affecting Enzyme Activity: Temperature, Enzyme Concentration, Substrate Concentration, pH, Cofactors, Noncompetitive Enzyme Inhibition, Competitive Enzyme Inhibition, Allosteric Activation, and Cooperativity.

Biochemistry (#5010)

Do you want to better understand life on the molecular level? Explore atoms, elements, molecules, and the chemical compounds of life with Biochemistry: The Chemistry of Living Things.

Colorful molecular models utilize special effects to achieve a feeling of movement and transformation as the various chemical bonds and compounds are covered. Tutorials reinforce concepts and help students learn the practice of identifying chemical formulas and their corresponding structural formulas. Learn about essential compounds, how to label amino acids, and more!

Topics covered on this program: Atoms, elements, and molecules - atomic structure - electron energy levels - compounds - chemical bonds - valence electrons - single, double, and triple covalent bonds - and more.

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System Requirements:

Windows:

Pentium class processor
S-VGA graphics card with compatible monitor and 640x480 resolution
Windows 9.x, XP, Me, 2000
16 MB of available memory (RAM)
2 MB hard disk space
mouse
sound card
CD-ROM drive.

Macintosh:

Power Mac, iMac, or PowerPC
OS 9.x, OS 10.x
16 MB of available memory (RAM)
2 MB hard disk space
mouse
sound card
CD-ROM drive.

List Price:

Interactive Biology: Complete 38 Title Series, Hybrid CD's, Single Set
Item: 99500001 Price: \$2848.95

Also available for purchase individual titles (38 to choose from):

Single: 99.95

5 Pak: 240.00

Network 10: 240.00

Interactive Biology: Complete 38 Title Series, Hybrid CD's, 5 Pak
Item: Price: \$6840.00

Interactive Biology: Complete 38 Title Series, Hybrid CD's, Network 10
Item: 98500010 Price: \$6840.00

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