

**UHS MEDIA CENTER
VIDEO COLLECTION**

500s NATURAL SCIENCES & MATHEMATICS

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| 500 Pse | Pseudoscience [videorecording] | DVD | Bill Nye explains how to determine the truth of outlandish claims by looking for scientific evidence and proof. Includes activities. Examines the differences between the process of testing claims or theories (science) and those claims which can't be tested (pseudoscience). |
| 500 Sea | Search for solutions [videorecording] : understanding science | DVD | 10 Episodes that take students on a journey exploring the nature and process of scientific discovery. More than 60 different scientists from all fields of study are guides and storytellers discussing their work and scientific philosophies. |
| 501 Sci | Scientific method [videorecording]. | DVD | Examines the basic elements of the scientific method: defining and researching the problem, forming a hypothesis, gathering information, etc. |
| 502.82 How | How to use a microscope (videodisc) [videorecording] | DVD | Identify different microscopes and learn the working parts of the light microscope in order to view the world of the very small. |
| 508 Top | 100 greatest discoveries [videorecording] : Top ten | DVD | |
| 508.2 Ear | Earth's seasons [videorecording] | DVD | "Bill Nye the Science Guy goes full tilt to give the reasons for the seasons. In Earth's Seasons, his worldly perspective show's why it's winter in America when it's summer in Australia"--Container. |
| 508.31 Eve | Everyone's space [videorecording] | DVD | Competition drives innovation -- even in space exploration. In the 1960s, the intense rivalry between the U.S. and the U.S.S.R. fueled the Space Race, culminating in Neil Armstrong's "giant leap" in 1969. The near future seemed to hold great promise for commercial space flight and space tourism. But in the intervening years, NASA's accomplishments have been underwhelming. Now, the most exciting innovations are found in the private sector, where the Ansari X-Prize contest inspired enterprising teams to race toward the goal of developing a cost-efficient, reusable space craft. |
| 510 Mat | Math...who needs it! [videorecording]. | VHS | From applications in skateboard design to sports mathhas a major role in everyone's world. |
| 510 Pro | Problem solving(VHS) [videorecording] | VHS | This program applies what the student has learned about combinations and permutations to the real world. The famous Bithday Problem and Envelope Stuffing puzzles are examined to derive mathematical sequences that lead us inevitably to Euler's constant. |
| 510.1 Gre | The great math mystery | DVD | Follows the history of math from Pythagoras to present day, as mathematicians and other scientists discuss whether math is an invention or a discovery. |
| 512.7 Rap | Rapmatics [videorecording] Sing & dance your way to algebra. | DVD | A teacher challenges his students to write rap songs about algebra; the program includes on-screen equations during the students' performances. |
| 513.14 Und | Understanding car crashes it's basic physics /VHS (Videorecording) | DVD | |
| 520 Ast | 100 greatest discoveries : Astronomy [videorecording] | DVD | |
| | Astronomy [videorecording] | DVD | Observes night sky, stars, planets and star movement to learn about constellations and how scientists have studied celestial bodies throughout history. NASA footage and hands-on investigations. |
| 520 Cos | Cosmos [videorecording] | DVD | A complete guide for the layman to modern thinking in all areas of astronomy and cosmology. |
| 520 Dis | Discovering our universe(VHS) [videorecording] | VHS | Follows alien explorers Galdar and Guydo on their mission to investigate energy sources in the Universe. |
| 520 Out | Outer space [videorecording (DVD)] | DVD | Bill Nye talks about Outer Space--planets, stars, galaxies, and the universe. He also visits the Mount Wilson Observatory in California to help illustrate how long it takes light to travel through the galaxy. |
| 520.28 Ein | Einstein's messengers. [videorecording] | DVD | Describes the people, ideas and instruments that drive LIGO's (Laser Interferometer Gravitational-Wave Observatory)search for gravitational waves. |
| 522 Roc | Rock & mineral [videorecording]. | DVD | Provides an overview of the changing nature of rocks and the geological history of the planet. |
| | Rocks [videorecording] | DVD | This video teaches students about rocks and what they can tell scientists about the age and geological history of the earth. |
| 522.29 Inv | Invisible universe revealed | DVD | Examines the history of the Hubble Space Telescope, including its initial failure and the efforts to repair the spacecraft. |

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| 522.2919 Hub | Hubble's amazing rescue [videorecording] | DVD | Takes viewers behind the scenes on a riveting journey with the astronauts and engineers charged with saving the famous Hubble Space Telescope. After nearly 20 years in space, and after capturing hundreds of thousands of spectacular images, the Hubble Space Telescope was dying. Stubborn scientists and the general public alike refused to abandon the telescope, and the mission was revived. |
| 523.1 Atl | Atlas of the sky (videodisc) [videorecording] | DVD | Presents original footage of astronomical objects and phenomena with information from world-renowned researchers that includes object origin, orbital dynamics, and features. |
| 523.1 Fut | The future of the Milky Way (VHS) [videorecording] | VHS | Presents computer animation of the Milky Way Galaxy's past and shows how scientists search for a huge black hole that threatens its future. |
| 523.1 Und | Understanding the universe (videodisc) [videorecording] | DVD | Find out how astronomers and physicists are coming closer to explaining the workings of the universe in one grand, unified theory. |
| 523.1 Uni | The universe: explore the edges of the unknown The complete season one [videorecording] | DVD | Uses computer-generated imagery to bring information gained from robotic probes and manned missions in space to life, illustrating black holes, comets, the births and deaths of solar systems and galaxies, and other aspects. |
| | The universe: explore the edges of the unknown The complete season two [videorecording] | DVD | Venture outside our solar system in another epic exploration of the universe and its mysteries. With strikingly realistic computer re-creations, feel like you have traveled to the edge of the unknown including visiting strange and unfamiliar worlds; prepare for the worst; uncover the secrets of our own galaxy. Learn what 'Dark matter' is and how it takes up 95% of the universe. Find out more about 'White holes,' which actually create matter. |
| | The universe: explore the edges of the unknown. The complete season one [videorecording] | DVD | Uses computer-generated imagery to bring information gained from robotic probes and manned missions in space to life, illustrating black holes, comets, the births and deaths of solar systems and galaxies, and other aspects. |
| | The universe: explore the edges of the unknown. The complete season two [videorecording] | DVD | Venture outside our solar system in another epic exploration of the universe and its mysteries. With strikingly realistic computer re-creations, feel like you have traveled to the edge of the unknown including visiting strange and unfamiliar worlds; prepare for the worst; uncover the secrets of our own galaxy. Learn what 'Dark matter' is and how it takes up 95% of the universe. Find out more about 'White holes,' which actually create matter. |
| | The universe. The complete season three [videorecording] : explore the edges of the unknown | DVD | With a cumulative audience of over 50 million viewers and shot in stunning HD, season three of this hit franchise utilizes breathtaking footage from NASA and state-of-the-art CGI graphics to bring the beauty and mysteries of the cosmos home to viewers. |
| | The universe. The complete season two [videorecording] | DVD | Venture outside our solar system in another epic exploration of the universe and its mysteries. With strikingly realistic computer re-creations, feel like you have traveled to the edge of the unknown including visiting strange and unfamiliar worlds; prepare for the worst; uncover the secrets of our own galaxy. Learn what 'Dark matter' is and how it takes up 95% of the universe. Find out more about 'White holes,' which actually create matter. |
| | Universe 2001 (VHS) [videorecording] : Planets | VHS | |
| 523.2 Sol | The solar system [videorecording] | DVD | Since manned space exploration was launched some four decades ago, scientists have made unprecedented discoveries about the planets that circle our sun. This far-ranging study presents compelling new information about space and introduces students to technologies that hold promise for future discoveries. |
| 523.3 IfW | If we had no moon [videorecording] | DVD | Experts reveal the moon's enormous impact on Earth's weather, gravitational pull, rotation, and living creatures, using computer simulations to explain how the moon was created and how it influences life on Earth. |
| 523.3 Moo | Moon [videorecording] | DVD | Learning about Earth's natural satellite is an out-of-this-world experience as loony Bill Nye illuminates the orbit and phases of the moon. |
| 523.4 Pla | Planets of gas [videorecording] | VHS | Looks at the Galileo spacecraft and at Jupiter and Saturn, which is seen through the world's largest group of radio telescopes, the Very Large Array in Socorro, New Mexico. |
| | The planets [videorecording] | DVD | Bill goes planet-gazing and takes a serious look at Jupiter's features, Earth's elliptical orbit, and the distances between planets. |
| 523.41 Mer | Mercury and Venus (VHS) [videorecording] | VHS | Explores the research and reality of what the planets Venus and Mercury are like. Discusses space probes to these planets to reveal what their surfaces really look like and what lessons we can apply to Earth. |
| 523.43 Ang | The angry red planet / VHS (Videorecording) | VHS | An in-depth look at Mars, showing how NASA scientists are mapping its surface from photographs taken by space probes. |

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| 523.44 Ast | Asteroids [videorecording] : deadly impact | DVD | Looks at the career of Eugene Shoemaker and how it led to his wife and his discovery of the famous Shoemaker-Levy comet and its spectacular confirmation of asteroid impact craters on earth. |
| 523.5 Met | Meteor strike [videorecording] | DVD | Follows impact scientists in the days after the meteor flashed across the sky over Russia's Ural Mountains in February 2013, as they hunt for debris and try to determine the meteor's origin. |
| 523.6 Com | BILL NYE : COMETS & METEORS | DVD | Experiments and activities demonstrate various facts about comets and meteors. |
| 523.7 Chi | The children of the sun (VHS) [videorecording] | VHS | Man's earliest ideas of the movements of the Sun, Moon and planets as gleaned from such ancient observatories as Stonehenge, contrasted with images obtained from Voyager space probes in an interview with Torrance Johnson at the Jet Propulsion Laboratory. |
| 523.7 Sav | Savage sun /VHS (Videorecording) | VHS | Demystifies the power, energy, forces, and other secrets of the sun. Explains new technology for exploring the exterior and interior of our nearest star. |
| 523.7 Uns | Unstoppable solar cycles [videorecording] | DVD | A look at climate changes, including past events in Greenland. |
| 523.8 Bla | Black holes the ultimate abyss/VHS (Videorecording) | VHS | Delves into the mysteries of a black hole, a star that has died and succumbed to gravity. Features physicist Stephen Hawking explaining the space - time concept and how black holes are formed. In two segments. |
| 525 Blu | The blue planet (VHS) [videorecording] | VHS | |
| 525 Mir | Extinction and rebirth [videorecording (DVD)] | DVD | A five part series that recounts the profound and gripping story of Earth's mysterious evolution. |
| | New frontiers. [videorecording (DVD)] | DVD | A five part series that recounts the profound and gripping story of Earth's mysterious evolution. |
| | Snowball earth. [videorecording (DVD)] | DVD | A five part series that recounts the profound and gripping story of Earth's mysterious evolution. |
| | Survival of the fittest. [videorecording (DVD)] | DVD | A five part series that recounts the profound and gripping story of Earth's mysterious evolution. |
| | The violent past [videorecording (DVD)] | DVD | A five part series that recounts the profound and gripping story of Earth's mysterious evolution. |
| 530 Mot | "Motion: Newton's three laws" [videorecording]. | VHS | |
| 530 Rol | Roller coaster physics [Videodisc]. | DVD | Learn about friction, potential energy, gravity, and acceleration and feel more comfortable on your next roller coaster ride. |
| 530 Why | Why physics? / VHS (Videorecording) | VHS | The host investigates the role of physics in our daily lives, emphasizing the fun side of physics, visiting people and places that reveal the effects of the fabulous forces of physics in our everyday lives. Illustrates that physics doesn't have to be abstract and remote. |
| 530.09 Phy | 100 greatest discoveries [videorecording] : Physics | DVD | |
| 530.4 Pha | Phases of matter [videorecording] | DVD | Bill Nye takes viewers on a tour of a steel mill to help demonstrate that matter exists in three phases-solids, liquids, and gases. |
| 530.425 Dif | Diffusion and osmosis. [videorecording] | VHS | A study of diffusion as it takes place in living cells. Uses photomicrography, time-lapse photography, simple laboratory demonstrations, and models to explain diffusion and to clarify how a selectively permeable membrane functions. Demonstrates osmosis, the diffusion of water through a selectively permeable membrane, and includes practical examples of diffusion and osmosis. |
| 531 Acc | Acceleration(videodisc) [videorecording] | DVD | This program defines and demonstrates the concepts of speed, velocity, and acceleration, using basic equations to stress their interrelation. There is also a demonstration of how a variation of Newton's second law of motion can be used to determine the weight of an object. In addition, the contributions of Galileo and Newton to the understanding of acceleration, gravity, and motion are discussed |
| 531 For | Force (videodisc) [videorecording] | DVD | Using visual examples and basic calculations, this program defines and illustrates the concept of force, with an emphasis on the relationship between force and motion. Several kinds of forces are examined, including gravity, friction, and centripetal, centrifugal, magnetic, electromagnetic, electrostatic, and nuclear forces. The experiments and findings of Galileo and Newton are introduced as well. |
| | Forces & motion /VHS (Videorecording) | VHS | What school-age kid doesn't marvel at the thought of sports cars, motorcycles or bungee jumping? This video puts them in the driver's seat. What causes acceleration? What is counterforce? |
| 531 Inv | Investigating motion, forces and energy (DVD) [videorecording] | DVD | How do we use physics in our everyday lives? This feature shows familiar examples such as speed and acceleration at a monster truck competition; inertia as the force that makes roller coasters fun; the failure of human engineering in the Titanic disaster; potential and kinetic energy in sports; the Wright brothers' use of scientific principles; and the importance of conduction, convection, and radiation. |

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| 531 Law | Laws of motion (VHS) [videorecording] : hovercrafts | VHS | Students learn about the principles behind the laws of motion as they design and build a craft that can travel by floating on a cushion of air. Covers the concepts of Newtonian mechanics using clear demonstrations and graphics, and looks at how technological advancements are built on scientific knowledge. |
| 531 Mas | Mass (videodisc) [videorecording] | DVD | Explains basic physical concepts, principles, and formulas associated with mass. |
| 531.11 Mot | BILL NYE : MOTION [videorecording] | DVD | Everything needs a push or pull--a force--to make it move or stop. Sometimes an object might seem to be at rest, even when it is in motion. |
| 531.14 Gra | Gravity : Bill Nye the science guy | DVD | Bill Nye explains what makes the world round, what holds us to the ground and other concepts of gravity. |
| 531.5 Inv | Invisible force /VHS (Videorecording) | VHS | How does gravity work? How has it shaped our planet, and the species living on it over millions of years? |
| 531.6 Mom | Momentum Bill Nye the science guy [videorecording] | DVD | Bill shows how weight and speed affect momentum. The crash test dummies know a lot about momentum in a car and the importance of wearing a safety belt. |
| 534 Inv | Investigating sound and light (VHS) [videorecording] | DVD | An introduction to the science of sound and light, covering various technical applications. Also touches upon electromagnetism and other wave-related topics. |
| 534 Sou | Sound [videorecording] | DVD | Bill's pickin' up good vibrations when he joins rock group Soundgarden in the recording studio. Bill and pals unleash the power of sound as they tap, sing, and band sound waves to eardrums everywhere. |
| 535 Lig | Light & color Bill Nye the science guy [videorecording (DVD)] | DVD | Bill Nye goes somewhere over the rainbow for an enlightening show as he reflects upon light and color. |
| 536 Hea | Heat/Energy (VHS) [videorecording] | VHS | Heat-Way Cool Scientist Bill Nye really radiates as the lab heats up. Tune into this sizzling program or be an absolute zero. Bill flies a glider plane on a buoyant natural air current of rising hot air and it's a disco inferno when "It.s Hot" becomes the music video parody of "Le Freak." Energy- This spirited episode is sure to rev things up when it covers water, muscle, heat, light, sound, and other types of energy that make things go, run, or happen. See how to conduct home experiments that will transform potential energy into kinetic energy and use falling water to make energy. |
| 537 Inv | Investigating electricity and magnetism (VHS) [videorecording] | DVD | Starting with a simple bar magnet, students explore the laws of electricity and magnetism and how they affect life on Earth. This presentation focuses on the magnetic properties of our planet; how we use electricity and magnetism in technological applications; and the invention and evolution of television as a mini-course in the history of electronics. |
| 537 Sta | Static electricity [videorecording] | VHS | Bill Nye knows how to provide easy access to hard science. What's his secret? A fast-paced approach blending humorous hijinks with hands-on activities. Bill encourages kids to ask interesting questions...then shows them how to discover fascinating answers. Each episode explores a single science topic in a variety of ways. The fast-pace, humor and home experiments are designed to engage kids' interest in science. |
| 537.2 Sta | Static electricity Bill Nye the science guy [videorecording (DVD)] | DVD | Why do socks stick together when taken from the dryer? Bill Nye helps you to learn the shocking truths about static electricity. |
| 537.6 Ele | Electrical current Bill Nye the science guy [videorecording (DVD)] | DVD | Get amped when Bill Nye the Science Guy gets a charge explaining watts up with electricity. Learn how electricity makes the world a brighter place. |
| 538 Aur | Aurora: rivers of light in the sky /VHS (Videorecording) | VHS | Shows the spectacular lights which are an atmospheric phenomenon, discusses the causes and explores the folklore which has evolved around them. |
| 538 Mag | Magnetism Bill Nye the science guy [videorecording (DVD)] | DVD | Bill shows all kinds of unexpected places where magnets can be found. In fact, the Earth itself is a huge magnet. Find out how to make a compass and why opposites attract. |
| 539 Ato | Atoms and molecules (DVD) [videorecording] | DVD | Presents an introduction to atoms and molecules, the fundamental building blocks of the universe, using computer animation to explore the different parts of the atom, examining the difference between the Bohr Model and the Quantum Mechanical Model of the atom, and explaining the Periodic Table. |
| 539 Boh | Bohr's model of the atom [videorecording] | DVD | Focuses on Niels Bohr, who worked with some of the best physicists of the 20th century to devise his atomic model. |
| 539 How | How atoms bond /VHS (Videorecording) | VHS | Discusses the forces of attraction and repulsion within atoms. Explains two different types of bonds that form: covalent bonds in which atoms share electrons, and ionic bonds in which an electron is traded from one atom to another. Part of a six-part series. |
| 539 Int | Introducing the players /VHS (Videorecording) | VHS | Introduces the atom and the three main sub-atomic particles, the electron, the proton, and the neutron. |
| 539 Rut | The Rutherford-Bohr atom /VHS (Videorecording) | VHS | Explores Bohr's hypothesis that electrons can occupy only definite energy levels. |

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| 539.2 All | All around us-- radiation [videorecording] | VHS | Explains radiation which is around us naturally, telling how it was discovered, what it is, and how it is measured. Examines its application and possible effects on health and shows how radiation is used in industry, medicine, and research. Includes animation. |
| 539.7 Ato | Atoms Bill Nye the science guy [videorecording] | DVD | Bill Nye explains how atoms combine to form molecules and that even though they're too small to see with our eyes, they are the building blocks of all matter. |
| | The atom (VHS) [videorecording] | VHS | What the atom is, how it was discovered, and its implications in human terms in the modern age. |
| 539.7 Who | Who found the missing link? (Uranium) /VHS (Videorecording) | VHS | Tells the story of Lise Meitner, one of the first women scientists to gain prominence and whose work led to the splitting of the atom. There is controversy in her story in that Otto Hahn took credit, as well as receiving the Nobel Prize, for her work. |
| 540 Che | 100 greatest discoveries : Chemistry [videorecording] | DVD | Bill Nye hosts a look at the history of discovery in chemistry, discussing the effects of electricity on chemicals, chemical combinations, the periodic table of elements, fullerenes, synthetic hardened plastic, and other topics. |
| | Chemistry at work (videodisc) [videorecording] | DVD | Shows how important science is in solving crimes, covering everything from analyzing bomb residue and carpet fibers, dating human bones, and matching DNA samples. |
| | Chemistry in everyday life [videorecording]. | VHS | |
| 540 Foo | Food science: kitchen mysteries revealed /VHS (Videorecording) | VHS | Explains things such as why we whip cream and beat eggs. |
| 540 Gas | Gases and states of matter [videorecording] | DVD | Presents humorous lessons on several chemistry concepts and topics, including Boyle's law, Graham's law, Dalton's law, the kinetic molecular theory, the ideal gas equation, diffusion and effusion, kinetic energy, hydrogen bonds, phase diagrams, vapor pressure, and ion-dipole, dipole-dipole, and London dispersion forces. |
| 540 Inv | Investigating chemical properties (videodisc) [videorecording] | DVD | An introduction to chemical elements and compounds. Topics covered in program include: how elements are formed; the chemical processes that occur when a diver gets "the bends"; naturally occurring polymers; the chemical make-up of stars. |
| | Investigating chemical reactions (videodisc) videorecording. | DVD | |
| 540 Wor | The world of chemistry [11&12] (VHS) [videorecording] | VHS | Program 11 explains that a mole of any substance contains a constant number of atoms or molecules, demonstrating the use of this important quantitative chemistry term from small laboratory settings to large-scale industrial processes. Program 12 explores the special chemical properties of water that make it necessary for life. The protection and conservation of this natural resource are reviewed. |
| | The world of chemistry [3&4] (VHS) [videorecording] | VHS | Program 3 explains why accurate and precise measurement is critical to modern chemistry. Program 4 examines the use of chemical models to explain phenomena that are beyond the realm of ordinary perception and demonstrates how models are used to assist in the description and understanding of nature. |
| | The world of chemistry [5&6] (VHS) [videorecording] | VHS | Program 5 looks at the properties of matter in the form of solids, liquids, and gases through computer animation, demonstrations, and "real-world" applications. Program 6 introduces modern concepts of the structure and chemical properties of the atom and shows how theory has been put into practice in recent technological advances. |
| | The world of chemistry [7&8] (VHS) [videorecording] | VHS | Program 7 explains the use and modern relevance of the periodic table, an important cornerstone of chemistry. Program 8 demonstrates how elements bond to form compounds by giving, taking, or sharing electrons. The differences between ionic and covalent bonds are explained by the use of scientific models and examples from nature. |
| 541 Ama | The amazing mole [videorecording] | DVD | Discusses the chemical mole and its relationship to mass, volume, concentration, and the particles which transformed science. Uses graphics and visual symbols to introduce students to this basic concept of chemistry. |
| 541.2 Ato | Atomic structure and the periodic table [videorecording]. | VHS | This program presents a detailed examination of the structure of the atom and provides background for understanding the organization of the Periodic Table. |
| 541.22 Pro | Properties of compounds [videorecording] | DVD | |
| 541.3 Che | Chemical reactions [videorecording] | DVD | Have a blast watching the explosive examples Bill Nye uses to explain that everything is made of chemicals. Guest star Candace Cameron ("Full House") shares the lab with Bill and shows that fire is actually a chemical reaction. Together they extinguish a "tornado" of fire. |
| 541.39 Ene | Energy & chemistry reactions /VHS (Videorecording) | VHS | Explains that chemical reactions release or absorb energy, describes the factors that affect the rate of a reaction, presents a laboratory investigation of the rate of a chemiluminescent reaction, and examines how some organisms use chemical reactions to emit light. |

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| 541.901 Per | Periodic table (videodisc) [videorecording] | DVD | Provides a comprehensive overview of the development of the table. |
| 546 His | The history of the periodic table (VHS) [videorecording] | DVD | Chronicles the historical development of the concept of an "element" from the ideas of ancient Greece through modern quantum theory. Learn about scientists such as Boyle and Dalton as they began to recognize patterns in the behavior of chemicals. Also find out how Mendeleev was able to predict the properties of the elements before they were even discovered. |
| 546 Inv | Invention: elements and compounds (Videorecording) | DVD | Explores some of the most important scientific investigations of nature's elements. Features Madame Curie's discovery of radioactivity and the use of reverse osmosis to turn seawater into drinking water. Explains how aspirin relieves pain. |
| 546 Oxy | Oxygen (videodisc) [videorecording] | DVD | A video of the University Theatre's production of the play by Carl Djerassi and Roald Hoffmann. |
| 546 Pro | Properties of elements (videodisc) [videorecording] | DVD | Explores the connection between the atomic structure of an element and its properties. Learn how the behavior of the elements and the compounds they form is related to their valence shells. |
| 547 Che | Chemistry of carbon [videorecording] : a very versatile atom | DVD | From charcoal to diamonds, carbon is essential to a multitude of products-and to life itself. This program illustrates the mechanics of the carbon cycle, explores some of the special properties of the ubiquitous element, and looks at the importance of carbon in the chemical makeup of all living things. Describing the best-known carbon allotropes, the program examines the characteristics and uses of charcoal, graphite, and diamond, including synthetic diamonds. Students witness an experiment showing that limestone contains carbon and are given important information on carbon dioxide and the molecules known as fullerenes. |
| 547 Dee | The deep-fried world of organic chemistry, parts 1&2(VHS) [videorecording] | VHS | Part 1 - Uses a humorous approach to present some important concepts of organic chemistry, including the basics of chemistry, organic chemistry, and hybridization states of carbon. Part 2 - Continues using a humorous approach to present some important concepts of organic chemistry, including an introduction to organic reactions, the alkenes, and electrophilic addition reactions. |
| 550 Ear | 100 greatest discoveries : Earth sciences [videorecording] | DVD | Bill Nye hosts a look at the history of discovery in chemistry, discussing the effects of electricity on chemicals, chemical combinations, the periodic table of elements, fullerenes, synthetic hardened plastic, and other topics. |
| 550 Fac | Faces of Earth [videorecording]. | DVD | Uncover the deep mysteries of our planet with top geologists. Using state-of-the-art computer animation and stunning photography, four in-depth, compelling programs explore how these forces shape the Earth and how the Earth has shaped human evolution. |
| 550 Geo | The geology of the earth: of forces, rocks, and time /VHS (Videorecording) | VHS | Outlines the forces that contribute to shaping the earth's surface, movement of crustal plates, volcanic activity, physical and chemical weathering and erosion. Three major rock groups are detailed igneous, sedimentary and metamorphic. |
| 550 Liv | The living planet [videorecording] : 1-2 | DVD | The building of the earth: Host David Attenborough reveals how huge forces formed the earth, how continents move, and how the planet earth has become so amazingly varied. He visits an erupting volcano in Iceland, finds giant plants on Mount Kenya, and investigates the recolonization of Krakatoa and Mount St. Helens by wildlife. The frozen world: Attenborough visits icy mountain slopes in the Andes and travels to the remote Arctic and Antarctic to explore how various plants and animals have adapted to these frigid, forbidding conditions. |
| | The Living planet [videorecording] : 10-12 | DVD | Worlds apart: Despite their often-small size and isolation many islands are inhabited by wildlife. Attenborough investigates the ways in which plants and animals arrive at these locations and how they survive when they get there. Oceans: This program looks at the oceans, from drowned plains and hidden mountains to the minute drifting plankton and forests of kelp. The food webs of the oceans and the evolution of fish and mammals that live there are featured. New worlds: Humans have changed the face of the planet in many ways, causing willful damage and destruction while also creating new habitats for plants and animals. Adaptability is the key to success and this program looks at the mixed fortunes of a wide variety of wildlife. |
| | The living planet [videorecording] : 3-4 | DVD | The Northern forests: Trees of the coniferous forests have special adaptations that enable them to survive long cold winters. Many animals that inhabit these vast forests are dependent on the trees for leaves, cones or bark. Further south, in the deciduous woodland, we see how bears, skunks, raccoons, squirrels and opossums put on fat for the winter. Jungle: Attenborough makes a vertical journey down a kapok tree, whose crown emerges above the jungle canopy. He descends through the various layers to the forest floor below finding en route some of the most colorful and extraordinary plants and animals on earth. |

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| | The living planet [videorecording] : 5-6 | DVD | Seas of grass: Attenborough visits the African grasslands, where antelope, zebra and wildebeast reside with their predators, lions and cheetahs. The Baking deserts: Desert animals survive heat and drought in a variety of ingenious ways. |
| | The living planet [videorecording] : 7-9 | DVD | The Community of skies: The atmosphere is a covering that is constantly on the move with a current of air, often global in scale, manufacturing the world's weather. In order to drift and fly, plants and animals must overcome gravity. Sweet fresh water: The world's largest river system, the Amazon, is followed by Attenborough from its source in the Peruvian Andes to its huge coastal delta in Brazil. The Margins of the land: Life between the tides makes great demands on the inhabitants, yet many creatures have made their home in this shifting world of mud and sand. |
| 550 Los | Lost worlds, vanished lives (VHS) [videorecording] | VHS | A look at the distant past of planet Earth. |
| 550 Mei | Meiosis (videodisc) [videorecording] | DVD | This video series covers the basic principles of general biology as they relate to the cellular, organismic, and population levels of organization. Includes cell ultrastructure and function, energy transfer, reproduction, genetics, evolution, diversity of organisms, and ecology. |
| 551 How | How the Earth was made. The complete season one [videorecording]. | DVD | Examines the physical processes that created some of the most well-known of Earth's geological formations. |
| 551 Nat | Nature's fury [videorecording] | DVD | Earthquakes, hurricanes, tornadoes, and floods: these colossal powers of nature have had dramatic consequences for humankind. But as massive as these forces are, the stories of heroism and tragedy are very personal. You'll meet heroes, fighting to save homes and lives, but see victims, too, suffering unspeakable tragedies. Join scientists as they study the elemental killers. |
| 551 Pla | Planet earth [videodisc] The solar sea; gifts from the earth; fate of the earth | DVD | Part 5: Experience the solar wind raging through the cosmos at a million miles per hour, and witness to the power of the solar sea's sunspots; Part 6: Examines how mankind has been made aware that earth is a closed system and its resources are finite. Questions what treasures lay hidden beneath the Red Sea and Antarctic ice cap, how the theory of plate tectonics has revolutionized the search for minerals and energy, and if mankind is ruining the land and running out of water. Part 7: Explores the role of life in shaping the earth and in shaping the future. Probes the question: is man a threat to earth's future or is he emerging as the brain or nervous system of this living organism called earth? Reveals new theories about global consequences of a nuclear winter and an ultraviolet spring. |
| | Planet earth [videorecording] the living machine; the blue planet | DVD | Part 1: Explores the controversial theory called plate tectonics that studies the constantly moving plates that form Earth's outer surface, creating new land masses as they devour the old; Part 2: Points out that the oceans may still be the last unexplored frontier on earth. Features a scientist aboard a space shuttle exploring new aspects of oceanography and a visit to the depths of the middle oceans where new species are seen for the first time. Also discusses the El Nino current which has caused worldwide devastation. |
| | Planet earth the climate puzzle; tales from other worlds [videorecording] | DVD | Part 3: Examines milestones in climate science that reveal a half million year history of Earth's weather, including the forces that generate our climate and what our climate will be in the future; Part 4: Through the use of footage shot on location in space and special effects, viewers visit the great failed star of Jupiter, probe the raging volcano of Io, and peer through acid rain clouds to see the full surface of Venus. Also tells why the earth is unique in relation to other planets. |
| 551.1 Con | Continents adrift (VHS) [videorecording] | VHS | Examines the recent discovery of the relationship between plate tectonics, continental drift, and the volcanic and earthquake actions which jar the world. |
| 551.1 Pla | Plate tectonics (VHS) [videorecording] : The puzzle of the continents. | VHS | Explores the scientific revolution that began with Alfred Wegener's hypothesis on Continental Drift and ends with today's theory of Global Plate Tectonics. |
| 551.2 Ear | Earthquake [videorecording] | VHS | NOVA examines what we know, and what we don't know, about earthquakes. For Millennia, humans tried to fathom the periodic shifting and shaking of solid ground. The theory of plate tectonics, depicting the earth as made up of overlapping, continent sized segments was the first to adequately explain the phenomenon. |
| 551.2 For | Forces of nature [videorecording] | VHS | |
| 551.2 Sto | The story of America's great volcanoes [videorecording] | VHS | Discusses how volcanoes are formed, and treats them in historical and mythological perspective, with attention to Mt. St. Helens, Mt. Rainier, and volcanoes in Hawaii. Has a segment on the Modoc Indian fighting in the lava beds of California. |
| 551.21 Vol | Volcano [videorecording] : nature's inferno | DVD | Take a firsthand look at some of the world's most notorious volcanoes, including Mount Pinatubo in the Philippines and Japan's Mount Unzen. |

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| 551.22 Ear | Earthquakes [videorecording (DVD)] | DVD | Thousands of earthquakes happen each year and Bill Nye the Science Guy trembles in his boots when he explains what causes them. In Earthquakes, find out what makes big pieces of the Earth's crust (the plates) move and what you should have on hand in case of a quake. |
| 551.3 Wea | Weathering, mass wasting and erosion (VHS) [videorecording] | VHS | Describes the processes of geologic weathering, the breaking down of rock by mechanical and /or chemical processes. Discusses the effects of running water, air, heat, and cold on topographic features and landforms. Explains why soil is so important to terrestrial life and how farmers can conserve what they have of arable soil. |
| 551.307 Kil | Killer Landslides [videorecording] | DVD | |
| 551.4 Bea | The beach (VHS) [videorecording] : a river of sand. | VHS | An analysis of currents produced by waves proves that most of the pronounced net movement of sand is usually along the shore. Film demonstrates that the beach is thus a river of sand, existing between land and breaking waves. Agi/ebe earth science program. |
| 551.4 Buo | Buoyancy (VHS) [videorecording] | VHS | Bill Nye uses comedy to present information on buoyancy. He takes to the sky in a hot air balloon and goes scuba diving in the Seattle Aquarium to explain why objects like boats, helium, and balloons are buoyant. This video contains an experiment to show that the shape of an object determines its buoyancy and an experiment to show that pressure can affect the buoyancy of objects. The inside cover and paper inset contain an experiment to determine whether the mass and density of an object would determine its buoyancy and an experiment to demonstrate that weight determines displacement. |
| 551.4 Run | Running water - from rain to river to ocean / VHS (Videorecording) | VHS | Introduces students to the characteristics of different types of streams, and how they affect our earth. |
| 551.4 Wat | Water cycle (VHS) [videorecording] | VHS | The phases of the water cycle are demonstrated and some ways we can keep the water supply clean and healthy are explained. |
| 551.41 Cli | Clipperton: the island time forgot / VHS (Videotape) | VHS | Captain Jacques Cousteau visits the uninhabited Pacific island of Clipperton and explores its freshwater lagoon. |
| 551.41 Ear | Earth revealed [videorecording] : classroom adaptation. | DVD | |
| 551.46 Dis | Discovering our rivers, lakes and oceans / VHS (Videorecording) | VHS | Presents an overview of the most important concepts and issues regarding the earth's water resources. |
| 551.46 Fin | Finite oceans /VHS (Videorecording) | VHS | Shows viewers the political, economic and environmental aspects of the oceans, finite bodies of water which must be preserved and protected from pollution. |
| 551.46 Oce | Ocean dynamics, the work of the sea [videorecording] | VHS | Investigates ocean movement, from the obvious effects of waves on the land and the weather, to the less apparent, but equally profound, forces deep within the oceans. |
| | Oceans, coasts and tides [Videorecording]. | VHS | Explores the formation and transformation of water areas and coastal landforms such as fjords, rias, tidal bores, and reversing falls, and discusses the ways Earth's movement affects the oceans and coasts. |
| 551.46 Sav | Killer storms [videorecording] | VHS | Explores some of the seas most vicious and puzzling phenomena, including mudslides, cyclones, and icebergs that, for now, keep the Ice Age at bay. |
| | Killer waves [videorecording] | VHS | Climb on board the cruise ship Oceanos as it rapidly sinks in tumultuous water near South Africa. |
| 551.47 Wav | Waves and beaches (VHS) [videorecording] | VHS | Examines the various shapes taken by a beach to dissipate wave energy. Two beaches are compared: a steep one with sand and shingle, and a flat one. Field measurement and laboratory demonstration show how wave type and sediment variability cause changes in the beach profile. |
| | Waves, shores and beaches (VHS) [videorecording] | VHS | As waves and tides rush toward shore, they participate in an ongoing process of shaping the Earth that has created various geographical formations. |
| 551.48 Hyd | Hydrolic cycle (VHS) [videorecording] : water in motion. | VHS | How water moves through the hydrolic cycle. |
| 551.48 Pon | Pond-life food web [Videorecording] | VHS | Examines the microscopic world of a pond, identifying its inhabitants and their interrelationships, including the complex pattern of food chains within the pond. |
| 551.5 Atm | Atmosphere [videorecording] | VHS | There is something in the air as Bill Nye the Science Guy talks about atmosphere, its five different levels. And how it protects the Earth. Bill soars into the heavy topic of atmospheric air pressure and radio waves. |
| 551.5 Ear | Earth's atmosphere, weather, and climate (videodisc) [videorecording] | DVD | An examination of Earth's atmosphere, weather and climate, looking at the layers of gases surrounding the planet, and discussing the role of the atmosphere in weather patterns, global climate zones, factors that shape local weather conditions, storms, and air pollution. |
| 551.5 Lig | Lightning! [videorecording]. | DVD | A high-voltage trip into the most electrically-charged weather in the world. |
| 551.5 Rag | Raging planet Lightning [Videorecording]. | VHS | A look at the science behind nature's electrical outlet in the sky. |

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| 551.55 Hun | Hunt for the supertwister [videorecording] : chasing nature's most powerful tornadoes. | DVD | Examines scientific research on tornadoes as fieldworkers gather data to help create forecasting models. |
| 551.55 Hur | Hurricane! [videorecording] | DVD | Hurricanes Andrew & Gilbert are two of the recent hurricanes that caused much damage. Scientists are making efforts to understand these powerful natural phenomena. |
| 551.55 Meg | Megastorm aftermath : investigating Hurricane Sandy | DVD | One year after Superstorm Sandy devastated parts of the East Coast, scientists discuss what preparations can be done to prepare for another such hurricane. |
| 551.552 Hur | Hurricane Katrina the storm that drowned a city [videorecording] | DVD | Explores the extremity of hurricane Katrina as well as the reasons why New Orleans, LA was so vulnerable to its effects. |
| 551.76 Lif | Life in Mesozoic times (videodisc) [videorecording] | DVD | Explores the major life forms which existed during the Mesozoic Era. Explains that at the beginning of the Mesozoic Era, the major landmasses were joined together into a supercontinent called Pangaea so animals could move easily from place to place. In the warm environment life flourished and reptile-like animals such as the dinosaurs developed. Also reviews Mesozoic ocean life and new plant forms and discusses the mass extinction that occurred during this period. |
| 552 Roc | Rocks and soil (VHS) [videorecording] | VHS | In this video Bill Nye uses comedy to present facts on volcanoes, landslides, tectonic plates, rivers, and weather, and their varied effects on the creation of rocks and soil. Bill shows how to unearth fossils and explains why there's a piece of quartz in watches. This video contains an experiment to make crystals and a music video parody on Nirvana's "All Apologies" entitled "If I Was a Rock". The inside cover and paper inset contain an experiment to demonstrate the three basic forms of rock and an experiment to demonstrate how hot, molten magma could penetrate the Earth's layers through vents. This video is closed captioned. |
| 553.7 Wat | Water: to the last drop /VHS (Videorecording) | VHS | Reveals that although water is in plentiful supply, contamination and misuse make less of it available to drink. Presents the natural history of water and the latest technologies used to make it safe. |
| 560.176 Lif | Life during the mesozoic era (VHS) [videorecording] | VHS | Examines the development of life during the Mesozoic Era, as evidenced by the study of fossil remains. Includes descriptions of plant life and dinosaurs. |
| 567.8 Bir | The birth of earth & ancient oceans [VTC]. | VHS | Go back to primordial times in "The Birth of Earth", when creatures first emerged from a sea of toxins to fight for a foothold in existence. Then descend into Earth's "Ancient Oceans" to witness the explosion of life that took place there. |
| 567.8 Evo | The evolutionary arms race & why sex? [videorecording] : | DVD | |
| 567.9 Din | BILL NYE : DINOSAURS [videorecording] | DVD | "Robin Leach and John Ratzenberger drop by to help Bill Nye take a closer look at dinosaurs and what has been discovered about the lifestyles of the big and extinct"--Container. |
| 570 Hum | Humans, who are we? [videorecording] | VHS | See how our ancestors went from bipedal apes to modern humans. Going from early humans to homo sapiens meant changes in brain size, diet, and stark changes in anatomy, leading to such "modern" innovations as language, culture, and technology. Explore the amazing story of how our species outlived other species of humans to become the only one of its kind on earth. |
| 570 Nat | Nature of biology (VHS) [videorecording] : why study biology? | VHS | Introduction to the study of biology. The program is organized around general themes of biology: Diversity of Life, Heredity, Cells, Interdependence of Life, Flow of Matter and Energy, and Evolution of Life. |
| 570 One | 100 greatest discoveries : Biology [videorecording] | DVD | Bill Nye hosts a look at the history of discovery in chemistry, discussing the effects of electricity on chemicals, chemical combinations, the periodic table of elements, fullerenes, synthetic hardened plastic, and other topics. |
| 570.1 Lif | Life [videorecording] | DVD | Explores the variety of tactics plants and animals use to survive in their environments. |
| 571.3 Com | Comparative anatomy: dissection /VHS (Videorecording) | VHS | Uses systematics and anatomy to illustrate the similarities and differences of systems. |
| 571.6 Cel | Cell structure and function/cell division (VHS) [videorecording] | VHS | Basic cell structure and steps of meiosis and mitosis. |
| | Cells : an introduction [videorecording] | DVD | Describes and shows examples of cells, explores structure and functions of different types of cells, defines eukaryotes and prokaryotes, and compares plant and animal cells. |
| | Cells [videorecording (DVD)] | DVD | Mad scientist Bill Nye CELLebrates the basic unit that makes up all living organisms-the cell. This exCELLent program zooms in on DNA and creatures like amoebas and paramecium. |
| | Cells The building blocks of life. | DVD | "Begins by introducing cells as the building blocks of life; describes the two basic types of cells; illustrates the major components of eukaryotic cells; nucleus, nuclear membrane, Golgi bodies, microtubules, microfilaments, cytoplasm etc. The importance of the cell membrane in the processes such as respiration, photosynthesis and reproduction are also discussed. |

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| | Cellular signaling (videodisc) [videorecording] | DVD | Featuring animations, this program introduces cellular signaling. It explains why cells signal, discusses signal transduction, examines signaling molecules, considers membrane receptors, explores hormones and neurotransmitters, and outlines signal processing. |
| 571.6 Dis | Discovering the cell [Videorecording]. | VHS | This film surveys the early history of microscopes and examines the discovery of cells and introduces cell components. |
| 571.6 Ins | Inside a cell! [videorecording]. | VHS | A simple lab project turns into a rollicking adventure when a student is trapped inside a cell and his lab partners have to help him get out. |
| 571.6 Int | An introduction to the living cell [videorecording] | DVD | A visual tour of the living cell. Learn why all organisms rely on cells to grow, reproduce, and generate energy. Discover how subcellular organelles work together to meet the continuously changing needs of the cell.--container. |
| 571.6 Liv | The living cell [videorecording] | DVD | Teaches children about the parts of a cell, diffusion and osmosis, cell theory, and other related topics through a game of "Cell-ebriety Squares." |
| 571.6 Mag | The magic of cells [videorecording]. | VHS | Explains what cells are, explores the parts of an animal cell, & finally looks at the amazing diversity of cells. |
| 571.6 New | The new cell (VHS) [videorecording] | VHS | Explores the submicroscopic world of the living cell. |
| 571.6 Oxi | Oxidative phosphorylation (VHS) [videorecording] | VHS | This process depends on the creation of hydrogen gradient that in turn drives the synthesis of ATP molecules. The program totals the ATP's produced from a single glucose molecule through the combined process of glycolysis, the Krebs cycle, and oxidative phosphorylation. |
| 571.6 Str | The structure of the cell (VHS) [videorecording]. Introduction to the cell structure. | VHS | Examines the fundamental unit of life, the cell, focusing on its structure. |
| 571.64 Cel | Cell membranes [videorecording] : the boundaries of life | DVD | Partially animated feature illustrating cell walls, the structure of the phospholipid bilayer, membrane proteins, transport proteins, receptor proteins, recognition proteins, diffusion, passive transport, simple diffusion, facilitated diffusion, isotonic, hypertonic, and hypotonic solutions, active transport, protein pumps, endocytosis, and exocytosis. |
| 571.64 Kee | Keeping it together [videorecording] : cell membranes | DVD | |
| | Keeping it together [videorecording] : cell membranes. | DVD | Closely examines the structure and function of cell embranes, including compartmentalization, intercellular interaction, regulation of the movement of materials, and as a location for biochemical activities. |
| 571.65 Ins | Inside cells [videorecording] : cells and their organelles | DVD | Walks viewers through the basic components of a cell. The tour looks in detail at the structure and function of cellular organelles, including cell membranes, nuclei, mitochondria, chloroplasts, smooth and rough endoplasmic reticula, ribosomes, lysosomes, vacuoles, cytoplasm, cytosol and cytoskeleton, microtubules and microfilaments, and the Golgi complex. |
| 571.75 Fee | The feedback cycle (VHS) [videorecording]. | VHS | Describes the feedback cycle, the ongoing monitoring of homeostasis to inhibit or stimulate the release of hormones. The program shows how negative feedback works and the many ways the body responds to messages from receptors. The monitoring of blood temperature is used as an example. |
| 571.75 Hom | Homeostasis [Videorecording]. | VHS | Examines the physiological process known as homeostasis, how all of the body's systems are regulated simultaneously. |
| | Homeostasis(VHS) [videorecording] : coping with change. | VHS | Introduces the concept of homeostasis, with a basic model of how it works. Using the example of changing temperature in the external environment and our bodies' own internal responses, the program illustrates one way the process of homeostasis maintains a relatively balanced internal condition. |
| 571.8 Lif | BILL NYE : LIFE CYCLES [videorecording] | DVD | Did you know that all living things grow, reproduce, and die in cycles? Bill Nye explains "Life cycles" and shows us why many different living things have similar life cycles. |
| 571.84 Bio | Biology [videorecording] : cell division & metabolism. | DVD | |
| | | VHS | |
| 571.84 Gen | Generations: mitosis and meiosis [videorecording]. | DVD | |
| 571.84 New | The new cell (VHS) [videorecording] | VHS | Explores the submicroscopic world of the living cell. |
| 571.844 Cel | Cell division: [videorecording] mitosis, meiosis and cytokinesis | VHS | This program unravels the mystery of cell division using clear and simple animation, together with microphotographic images of cell division occurring in animal and plant cells. Topics covered are: mitosis, meiosis, cytokinesis, morphogenesis and embryogenesis. |
| 571.844 Mit | Mitosis (VHS) [videorecording] : 2nd edition. | VHS | Uses microphotography, animation, and artwork to illustrate the basic process of mitosis in plant and animal cells. Identifies and explains the role of the cell nucleus, DNA, chromosomes, chromatids, and the centriole in the mitosis process. Also discusses cloning. |
| 571.845 Mei | Meiosis (VHS) [videorecording] : 2nd edition. | VHS | This film takes viewers up close, through microscopic footage, concise animation, and artwork, to illustrate the complex and continuing process of meiosis. |

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| | Meiosis [videorecording] : the key to genetic diversity | VHS | 8 Focus is on two important functions of meiosis. Meiosis insures that individuals in a sexually reproducing species maintain the same number of chromosomes in their cells generation after generation. Meiosis is also a key mechanism for the diversity found in any sexually reproducing species. |
| 571.9 Eme | Emerging diseases (videodisc) [videorecording] | DVD | What precautions is the USDA taking to reduce the likelihood of occurrence and stem the spread of these degenerative neurological disease among animals and people. And what might happen if those precautions fail? This program answers those and other questions as it sheds light on this emerging froup of food-borne diseases. |
| 571.978 Cel | Cell biology and cancer (videorecording) | VHS | Examining normal cell function, this video explains that cancer develops when genes required for normal cell function undergo mutataions that ultimately lead to uncontrolled division. It discusses proto-oncogenes and tumor suppressor genes and considers their role in the cell cycle. |
| 572.4 Che | The chemistry of living organisms (VHS) [videorecording] | VHS | |
| 572.46 Bio | Biology : photosynthesis (videodisc) [videorecording] | DVD | Photosynthesis, the process by which green plants convert the sun's energy into chemical energy, is considered by many scientists to be the ultimate source of life. How do plants convert light into food? With creative illustrations and informative dialogue, this program helps teach the amazing stages of photosynthesis. |
| | Biovideo [videorecording] : introduction to photosynthesis. | DVD | Presents an introduction to the basic features of photosynthesis in higher plants. Includes simple classroom experiments, animation, and graphic presentations. |
| 572.46 Pho | Photosynthesis [videorecording] | DVD | Discover why plants are so unique by studying the chemical process of photosynthesis. |
| 572.47 Cel | Cellular respiration (VHS) [videorecording] : the cell and energy. | VHS | Computer animation illustrates some facets of cellular respiration. Begins by examining the cell's energy molecule, glucose. The process of extracting energy from glucose and transferring it to ATP in specific organelles called mitochondria is discussed. The structure, function, and evolution of these organelles are illustrated in relation to their role in cellular respiration. |
| 572.47 Gly | Glycolysis 1 (VHS) [videorecording] | VHS | Begins with the discovery of the energy role played by the cell cytosol. Noting this setting as the starting point of cellular respiration, the program then begins the sequential breakdown of glucose through the process of glycolysis that leads to the production of ATP molecules. |
| | Glycolysis 2(VHS) [videorecording] | VHS | Continues the glycolysis process, introducing the energy intermediate molecule NAGH and ending with the production of the molecule pyruvate. Also shows how simple life forms produce alcohol. |
| 572.475 Kre | The Krebs cycle (VHS) [videorecording] | VHS | While glycolysis is sufficient to fuel the requirements of simple life forms, the question of how it could meet the larger energy requirements of more complex organisms is posed. Examines the process known as the Krebs cycle: the synthesis of ATP and cell's energy intermediates, NADH and FADH. |
| 572.6 Pro | Protein : the stuff of life [videorecording]. | DVD | This series uses computer animation to demonstrate the complex process of protein synthesis, a process fundamental to all living organisms. The first program examines the marvellously varied protein compounds, their biological functions, the way they bind, and how organisms synthesize the complex chains of amino acids that make up proteins. |
| 572.645 Ato | Atoms and molecules of life/DNA and protein synthesis (VHS) [videorecording] | VHS | The first segment of this videotape demonstrates safe laboratory techniques. Special attention is paid to the safe use of a Bunsen burner, electrical equipment, and dissecting instruments. Aseptic tecnique is also demonstrated for students. In the last portion of this segment, students are shown how to use a microscope: how to place a coverslip on a slide, how to adjust the magnification, how to focus the imag, and how to avoid eye strain. The second segment of the videotape discusses the nature of science and follows scientists as they use the steps of a scientific method. |
| 572.8 Con | Control of gene expression & chromosome replication | DVD | This program examines topics in gene expression and chromosome replication, including repressible and inducible operons, eukaryotic chromosomes, activator and inhibitory proteins, hypercoiling, telomeres, and causes of shortening. |
| 572.8 Cri | Crime seen advances in DNA testing [videorecording] | VHS | 3 When Virginia resident Edward Honaker, a known troublemaker, was identified in a lineup as a rapist, he was charged with and subsequently convicted of the crime. Centurion Ministries, an organization dedicated to reviewing claims of innocence by convicts, had the case reopened. DNA tests, which did not exist at the time of Honaker's trial, were performed. This program spotlights recent advances in DNA analysis, such as PCR and DQ Alpha tests, and addresses the sometimes faulty nature of eyewitness identification. |
| 572.84 Met | Metabolism and nutrition(VHS) [videorecording] | VHS | An examination of cellular respiration. |
| 572.844 Con | Continuity of life (VHS) [videorecording] | VHS | |

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| 572.86 DNA | DNA : the molecule of heredity [videorecording]. | DVD | This series uses computer animation to demonstrate the complex process of protein synthesis, a process fundamental to all living organisms. This program explains that the synthesis of protein begins with the DNA molecule. Found in the nucleus of all cells, DNA molecules are grouped in complex structures called chromosomes. The two outer rails of a DNA molecule are coiled in a double helix; between these rails, two kinds of molecules link to form endless possible sequences. The order of these sequences constitutes the genetic code for the construction of protein. |
| | DNA restriction analysis [videorecording] | VHS | Demonstrates how to prepare for and perform a simple DNA restriction analysis. |
| | DNA the amazing double helix (Videorecording) | DVD | Explains the function of DNA in the human body during the replication of cells, during the formation of new reproductive cells, and in the synthesis of proteins for gene expression. Explores some of the practical applications of genetic engineering. |
| | DNA--laboratory of life [videorecording] | VHS | Explains how DNA functions in the cell and points to the importance of DNA research. Includes animation. |
| 572.86 Dou | Double helix [videorecording] | DVD | "Dramatization ... of the diligent research, creative analysis, and perseverance of James Watson and Francis Crick that led to the discovery (structure of DNA). With the help of their colleague, Maurice Wilkins, they also earned the 1962 Nobel Prize"--Container. |
| 572.86 Hum | Human genome [videorecording]. | DVD | It's a project of enormous magnitude: mapping the human genome. Learn how what began with the discovery of DNA has led to the understanding of which human genes are responsible for specific human traits, including growth, development, health and even personality. |
| 572.86 Rap | Rapid colony transformation [videorecording] | VHS | Demonstrates transformation of E. coli to a structure that is resistant to ampicillin. |
| 572.8645 DNA | DNA replication : the repeating formula [videorecording]. | DVD | This series uses computer animation to demonstrate the complex process of protein synthesis, a process fundamental to all living organisms. In this program the synthesis of a DNA molecule is represented step by step, as the fertilization of the egg starts the process of cell division that grows into the living organism. The ability of DNA to replicate itself during the process of cell division enables the blueprints for creating proteins to be passed on. |
| 572.88 Tra | Transfer RNA : the genetic messenger [videorecording]. | DVD | Explains the importance of proteins as the basic building blocks of life and the fundamental role that protein synthesis plays in all living things. Explores the different aspects of the process from the manufacture of DNA to the roles of the messenger and transfer RNA. |
| 572.8845 RNA | RNA synthesis : the genetic messenger [videorecording]. | DVD | Explains the importance of proteins as the basic building blocks of life and the fundamental role that protein synthesis plays in all living things. Explores the different aspects of the process from the manufacture of DNA to the roles of the messenger and transfer RNA. |
| 572.886 Rib | Ribosomal RNA : the protein maker [videorecording]. | DVD | Explains the importance of proteins as the basic building blocks of life and the fundamental role that protein synthesis plays in all living things. Explores the different aspects of the process from the manufacture of DNA to the roles of the messenger and transfer RNA. |
| 573.1 Ana | Anatomy of circulation [videorecording] | DVD | Viewers are taken into the inner workings of the respiratory and circulatory systems. |
| 573.2 Ape | Apeman: the story of human evolution Giant strides. | VHS | Once humans learned to walk, they began to take giant developmental strides. |
| 573.2 Res | Respiratory system (videodisc) [videorecording] | DVD | Dr. Know looks at how the respiratory system works. |
| 573.496 Hom | Homeostasis (VHS) [videorecording] : osmoregulation. | VHS | Explores the process of osmoregulation, using as an example the complex filtering process that takes place in the kidneys. |
| 573.7 Ana | Anatomy of movement [videorecording] | DVD | Anatomist Gunther von Hagens, the world's leading expert in human dissection, reveals the kinetic framework of the body in this program -- as well as the neural expressway that enables the structure to move. Von Hagens' dissection shows how the skeleton operates like a system of levers, giving viewers a detailed look at the shape, composition, and mobility of bones, muscles, ligaments, tendons, and cartilage. Special attention is also given to the brain and spinal cord. |
| 575 Bra | Brain power [videorecording]. | VHS | More than three years in the making, Triumph of Life combines dramatic storytelling with powerful, ground-breaking scientific ideas in a sweeping story about survival and the survivors--the winners, for the moment at least, in an eternal battle. This video shows how brain power has actually led to some of the most fascinating innovations in the evolutionary arms race. |
| 575 Evo | Evolution [videorecording] | VHS | Traces scientific thought through the ages down to Darwin's published theories and the subsequent controversy that exists even today. Explores the concept of natural selection, presents a condensed plant and animal time frame, and provides evidence supporting the evolutionary theory. |

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| 575.01 Dar | Darwin, naturally / VHS (Videorecording) | VHS | The stage is set for Charles Darwin, who theorized that nature imitates the selective hand of humans in controlling variation within a species. Darwin coined the phrase "natural selection" to explain how variations within species are preserved or rejected. |
| 575.01 InT | In the beginning / VHS (Videorecording) | VHS | Examines the contributions of pioneers Carl Linnaeus, le Comte de Buffon, and Jean Lamarck who laid the groundwork for the modern theory of organic evolution which refuted the biblical account of creation. |
| 575.1 Clo | The clone age [Videorecording]. | VHS | Discusses the science underlying the controversial technology of cloning. Explains how cells function and reproduce, and how science can manipulate them. Explores possible ethical questions raised by cloning. In two segments. |
| 575.1 Dis | Discover magazine Genetics /VHS (Videorecording) | VHS | This video explores the complex and controversial field of genetics. |
| 575.1 Gen | Genetic discoveries, disorders, and mutations [videorecording] | VHS | 3 (Producer) This program analyzes the contributions of Mendel and Darwin, the transmission of single- and multiple gene disorders, and genetic mutation. The principles of heredity are applied to the spread of congenital conditions such as cystic fibrosis, hemophilia, myotonic dystrophy, and Duchenne muscular dystrophy. The second half of the program centers on types of mutation. |
| | Genetics [videorecording] | DVD | |
| 575.1 Her | Heredity (VHS) [videorecording] : 2nd ed. | VHS | Uses microphotography and animation to illustrate the genetic basis of heredity and to explain the role of DNA in the transmittal of genetic information. Defines genetic disorders such as Down's syndrome and sickle-cell anemia and describes amniocentesis, a technique used to identify genetic defects before birth. |
| 575.1 How | How genes work /VHS (Videorecording) | VHS | |
| 576 Ebo | Ebola, the plague fighters [videorecording] | VHS | An investigation into the deadly Ebola virus and the 1995 outbreak of the disease in Kikwit, Zaire. |
| 576 Pro | Protists: : Threshold of life [videorecording]. | VHS | Presents the tiny organisms called protists, including the euglena, amoeba, and paramecium. Shows how thousands of single cells join together to form the colonial protist volvox. |
| 576 Sup | Super bugs(VHS) [videorecording] : when antibiotics don't work. | VHS | VRE, usually a harmless microbe found in the human bowels already drug-resistant. And MSRA, currently treatable with Vancomycin-type antibiotics, is quickly becoming resistant to their effects. Using real-life case studies of patients who are infected, this program studies the effects of the viruses, how they are contracted, and their often deadly consequences. |
| 576.5 Gen | Genes [videorecording] | VHS | "Did you know that genes determine everything from hair and eye color to whether or not you can roll your tongue? It's all in the genes you inherited from your mother and father. Join Bill in Genes, as he explores the chromosomal world of DNA"-- Container. |
| | Genetics [videorecording] | DVD | |
| | Genetics and heredity [videorecording] : the blueprint of life. | DVD | ◆Explores the role of DNA in reproduction.◆. |
| 576.5 Pat | Patterns of inheritance [videorecording] : understanding genetics | VHS | Presents Gregor Mendel's ideas and principles of genetics and describes some advances since Mendel. |
| 576.5 Und | Understanding the power of genes /VHS (Videorecording) | VHS | |
| 576.8 Bio | Biological concepts (VHS) [videorecording]. | VHS | |
| 576.8 Dar | Darwin's dangerous idea [videorecording] | DVD | |
| 576.8 Evo | Evolution (VHS) [videorecording] : learning and teaching evolution. | VHS | |
| | Evolution [videorecording] | DVD | Bill Nye the Science Guy discusses Charles Darwin, genetics, the characteristics all living things share, and the possible relationship between birds and dinosaurs. |
| | Evolution Darwin's dangerous idea (videodisc) [videorecording] | DVD | Offers a groundbreaking and definitive view of the extraordinary impact the evolutionary process has had on our understanding of the world. |
| | Evolution Great transformations & extinction! (videodisc) [videorecording] | DVD | Offers a groundbreaking and definitive view of the extraordinary impact the evolutionary process has had on our understanding of the world. |
| | Evolution The evolutionary arms race and Why sex? (videodisc) [videorecording] | DVD | Examines the power of microorganisms to develop resistance to treatment. Explores the power sex has on all aspects and levels of life. |
| | Evolution The mind's big bang & What about God? (videodisc) [videorecording] | DVD | Offers a groundbreaking and definitive view of the extraordinary impact the evolutionary process has had on our understanding of the world. |
| | Evolution's next step /VHS (Videotape) | VHS | A series that explores the evolutionary development of life on Earth. This segment explores man's impact on Earth and our survival as a species. |
| 576.8 Gre | Great transformations & Extinction! [videorecording] | DVD | |

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| 576.8 Ins | The insect world & Apes to Man /VHS (Videotape) | VHS | A series that explores the evolutionary development of life on Earth. These segments explore the survival strategies and adaptations of Earth's insect species. |
| 576.8 Min | The mind's big bang & what about God? [videorecording] | DVD | |
| 576.8 Ori | The origin and evolution of life [videorecording] | DVD | 3 (Producer) This program presents 10 milestones that have helped to tell life's story: the K-T asteroid theory of dinosaur extinction; the first identification of dinosaur fossils; the simulation of the early atmosphere, leading to organic compound formation; the discovery of hydrothermal vent ecosystems; the Burgess Shale; the Linnaean classification system; the theory of natural selection; "Lucy"; the Laetoli footprints; and the Toumai skull. |
| 576.8 Und | Understanding evolution : inheritance & change | DVD | |
| 576.82 Cla | Classroom challenge (videodisc) [videorecording] : debating Darwin in the 21st century | DVD | Examines the controversy over intelligent design and science education and sorts through arguments on both sides. Examines the debate in the context of America's political climate, and explores its fundamental questions: evolution and I.D. incompatible? Is exposure to both ideas harmful or beneficial to schoolchildren? Does fossil evidence make evolution immune to challenge? |
| 576.84 Lif | Life after people. The complete season one [videorecording] : the series | DVD | Explores the possibilities of life on Earth after humans are gone. |
| 577 Bio | Biobasics [videorecording] : organization and diversity | DVD | Looks at the variety of animal and plant species throughout a number of ecosystems and why it is important to preserve habitats and species. |
| 577 Eco | Ecology (VHS) [videorecording] | VHS | |
| 577.16 Foo | Food web [videorecording] | DVD | Watch Bill Nye become tangled in a complex food web in his quest to demonstrate that all living things depend on other living things to survive. |
| 577.18 Suc | Succession, from sand dune to forest [videorecording] | VHS | aExplains that ecological succession is the process by which a given area changes slowly until it becomes a stable community. Highlights the principles involved in ecological succession and illustrates the many changes, both large and small, that take place as a sand dune evolves into a beech-maple forest |
| 577.272 Car | Cars of the future : engineering for the environment. [videorecording] | DVD | A look at purchasing a car, taking the environment into consideration. |
| 577.3 Dec | Deciduous forests [videorecording] | DVD | Forests are biomes in which trees are the main life form, but what makes a forest deciduous? Students will explore these colorful woodlands that change with the seasons. |
| 577.34 Cit | The city in the forest (DVD) [videorecording] | DVD | Looks at urbanization and its effect on the rainforest. |
| 577.34 Exp | Exploiting the forest (DVD) [videorecording] | DVD | This program looks at large scale agriculture and industry. |
| 577.34 For | The forest (DVD) [videorecording] a global challenge. | DVD | Looks at the consequences if clearing continues at the present rate. |
| 577.34 How | How the forest works (DVD) [videorecording] | DVD | Looks at the forest as an ecosystem. |
| 577.34 Liv | Living in the forest (DVD) [videorecording] | DVD | Looks at the agricultural systems of the Indians and the Brazilian settlers in the region. |
| 577.6 Wat | Water in your life (VHS) [videorecording] | VHS | Discusses the problems with water supplies in the United States. |
| 577.7 Dee | Deep blue [videorecording (DVD)] | DVD | Twenty specialized camera teams shot over 7,000 hours of footage in more than 200 locations around the world and descended as far as 5,000 meters in the most powerful submersible crafts to bring the audience this spectacle of the seas. |
| 578 Pla | Planet Earth : [videorecording (DVD)] the complete series | DVD | |
| 578.012 Cla | Classification of living things [videorecording] | DVD | This program examines classification of living things. |
| | Classifying living things [videorecording]. | VHS | Uses animation to bring philosopher Aristotle, botanist Carolus Linnaeus, and naturalist Charles Darwin back to life to discuss taxonomy. |
| 578.65 Eat | Eaten alive [videorecording] parasites and their human hosts | DVD | Shows the remorseless battle between parasites and humans and how understanding it is of vital importance. Patients discuss their encounters with maggots, leeches, and other parasites. |
| 579 Ody | Odyssey of life. The unknown world [videorecording] | DVD | Lennart Nilsson's micro-photography introduces the viewer to the world of microscopic insects and microorganisms that live on and in our bodies and our homes. |
| 579.2 Vir | Viruses [videorecording] : what they are | VHS | Describes the structure, function, and reproduction of viruses and examines their effect on organisms. Explains how vaccines are produced and how they work in combating viruses. Reviews the history of research on viral diseases such as polio and AIDS. |
| 580 Pla | Plants (VHS) [videorecording] | VHS | |
| 581 Pho | Photosynthesis [videorecording] | VHS | Tells how plants use light to make food. Information on gasses and nutrients. |
| 581 Pri | The private life of plants (VHS) [videorecording] : branching out. | VHS | Naturalist David Attenborough looks at plant seeds as travelers. |

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| | The private life of plants (VHS) [videorecording] : it's a jungle out there. | VHS | Journeys to the four corners of the Earth and encounters plant life from the coldest Arctic wastes to the driest deserts; where plants endure in a harsh and changing world and in environments where humans often cannot exist. |
| | The private life of plants (VHS) [videorecording] : living together. | VHS | Naturalist David Attenborough looks at animal partnerships and some of the relationships between species. |
| | The private life of plants (VHS) [videorecording] : plant politics. | VHS | Struggling for survival, plants use some hair-raising strategies, such as arson, to engineer catastrophes. Attenborough show how plants exploit disaster to meet their species' needs. |
| | The private life of plants (VHS) [videorecording] : putting down roots. | VHS | This program shows the complex daily life of plants; viewers see different species fight for sunlight and make food. |
| | The private life of plants (VHS) [videorecording] : the birds and the bees. | VHS | This program offers a close look at some ingenious methods plants use to lure animals into transporting pollens to female plants. |
| 581.1 Bio | Biovideo [videorecording] : introduction to photosynthesis | VHS | |
| | The biology of plants [videorecording] : (an introduction to photosynthesis and the major plant groups) | VHS | Topics include chloroplast structure, the light dependent reactions, the light independent reactions, liverworts, mosses, ferns, horsetails, gymnosperms, angiosperms, observations. |
| 581.1 Exp | Experiments in photosynthesis (VHS) [videorecording] | VHS | Explores photosynthesis, the process by which green plants and other organisms transform light energy into chemical energy. |
| 581.1 Pho | Photosynthesis /VHS (Videorecording) absorbing the light. | VHS | With the aid of computer animation, this program explores the stages of photosynthesis at the cellular level. Two photosystems, P680 and P700 are introduced. |
| | Photosynthesis /VHS (Videorecording) C3 and C4 plants. | VHS | This program explores the ability of plants to utilize atmospheric carbon dioxide. |
| | Photosynthesis /VHS (Videorecording) seeing the light. | VHS | This program offers an introduction to the process of photosynthesis through the historical discoveries of Joseph Priestley and others. |
| | Photosynthesis and cellular respiration (VHS) [videorecording] | VHS | The steps of photosynthesis and cellular respiration are demonstrated in this videotape. The first segment explains how energy is captured during photosynthesis. Electron micrographs and computer graphics show the structure of a chloroplast. The light and dark reactions of photosynthesis are explained, with graphic animation illustrating the steps of the electron transport chain and the Calvin cycle. The second segment explains how energy is released during cellular respiration. Animations demonstrate glycolysis, alcoholic fermentation, lactic acid fermentation, and aerobic respiration. |
| | Photosynthesis The dark reaction (VHS) [videorecording] | VHS | Shows the step by step developments in the dark reaction, including the processes in the Calvin cycle and the production of glucose and starch. |
| | Photosynthesis The fluid transportation system [videorecording] | VHS | Looks at the carbon cycle and illustrates the role that plants play in ensuring the survival of animal life. |
| | Photosynthesis The light reaction [videorecording] | VHS | Explores light reaction in depth with computer animation, following electrons through P680 and P700 photosystems, and eventually, out into the stroma, where they are used in the dark reaction. |
| | Photosynthesis: Life energy [videorecording]. | VHS | |
| 581.104 Lea | The leaf DVD [videorecording] | DVD | |
| 581.35 Sec | Secrets of plant genomes: [videorecording] : revealed! | DVD | Takes students on a lively, upbeat journey that explores how these plants got to be the way they are and investigates how we can make better use of them in the future. Plant scientists are hard at work -- in the lab, in the field, and at the computer -- to increase our understanding of nature. |
| 589.9 Bac | Bacteria [videorecording]. | VHS | Describes the helpful and harmful roles of bacteria. Examines the principal forms in which bacteria occur, explores the structure of a typical bacterial cell, and explains its reproductive processes. |
| | Bacteria and viruses (VHS) [videorecording] | VHS | Discusses the biology of bacteria and viruses as well as distinguishing between those which are beneficial to humans and those which invade our systems and cause disease. |
| 590 Ear | Earth [videorecording] | DVD | A remarkable story of three animal families on a journey across our planet - polar bears, elephants, and humpback whales. |
| 591.51 Ani | Animal populations (VHS) [videorecording] : nature's checks and balances. | VHS | No organism can exist alone. Through a complex network of interdependent relationships, nature maintains a delicate balance among living things. Climate, food supply, predation and disease are all critical factors that affect the composition of communities and determine the continuing existence of all life on earth. |
| 592 Inv | Invertebrates [videorecording] | DVD | "You may not believe it, but these 'spineless wonders' far outnumber those of us animals with backbones. In 'Invertebrates, ' Bill Nye explains the unique characteristics of these animals and why we are dependent on them"--Container cover insert. |
| 593.1 Amo | Amoeba (VHS) [videorecording] | VHS | "Focuses attention on details of structure, shape, and movement of microorganisms. Views the amoeba under a high-powered microscope. |

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| 595.789 Int | In the company of wild butterflies (videodisc) [videorecording] | DVD | This study of several species of wild butterflies describes the parts of a butterfly, the life cycle, and details of its life and strategies for survival. |
| 597.954 Dra | The Dragons of Galapagos. [videorecording] | VHS | Jacques Cousteau and his crew aboard the Calypso study the metabolic adjustments that allow the air-breathing iguana of the Galapagos Islands to forage for extended periods under water. |
| 598 Bir | Birds [videorecording] | DVD | Fly the coop with Bill Nye the Science Guy as he explores his fascination with birds. Bill shows us how these feathery friends stay airborne, where they live, and what they eat. |
| 599.64 Wil | Wildebeest: the great African migration [videorecording]. | DVD | Documents one of the largest migrations of land animals in the world as the wildebeest herd makes its seasonal trek from Masai Mara National Reserve in Kenya to Tanzania's Serengeti National Park, giving birth to one half million young along the way. |
| 599.93 Bec | Becoming human [videorecording] : unearthing our earliest ancestors | DVD | Examines how early hominids lived and how they evolved into today's human being. |
| 599.935 Cra | Cracking the code of life [videorecording] | DVD | Describes the race to decode human DNA and raises questions of whether or not we may want to know what's in our genes and whether decoding DNA will lead to cures. |
| 599.935 Han | Hand-me-down genes: an introduction to genetics. [videorecording] : family patterns. | DVD | This program explains how the formation of sex cells, from the first gamete to chromosome pairs, determines our genetic makeup. |
| 599.938 Jou | Journey of man [videorecording] | DVD | 0 How did the human race populate the world? A group of geneticists have worked on the question for a decade, arriving at a startling conclusion: the "global family tree" can be traced to one African man who lived 60,000 years ago. Dr. Spencer Wells hosts this innovative series, featuring commentary by expert scientists, historians, archaeologists, and anthropologists. |