

# Technology Education

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## Architecture and Construction

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TE CD ROM 2

### **The Great Buildings Collection**

*Kevin Matthews*

CD ROM — Take a virtual tour of more than 750 important structures from around the world and throughout history. This CD ROM based multimedia designer's library of architecture includes photographic images, drawings, videos, textural commentary, and interactive three-dimensional models of the structures represented. Includes a printed user's guide. Eugene, OR, Artifice, Inc, 1999.

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TE CD ROM 5

### **Architecture: Residential Drafting and Design**

*Clois E Kicklighter*

CD ROM — Instructor's Resource CD with G-W Test Creation Software. This CD provides comprehensive instruction for preparing architectural working drawings using traditional and computer based methods. Organized logically around the design-building process in an exciting format. Content is up-to-date with coverage of state-of-the-art technology. Tinley Park, IL, The Goodheart-Willcox Co Inc, 2004.

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TE CD ROM 6

### **Architecture: Residential Drafting and Design**

*Clois E Kicklighter*

CD ROM — Instructor's PowerPoint Presentations. This CD provides comprehensive instruction for preparing architectural working drawings using traditional and computer based methods. Organized logically around the design-building process in an exciting format. Content is up-to-date with coverage of state-of-the-art technology. Tinley Park, IL, The Goodheart-Willcox Co Inc, 2004.

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TE CD ROM 7

### **Modern Carpentry, Building Construction**

*Willis H Wagner, Howard Bud Smith*

CD ROM — G-W Test Creation Software. This software enables an instructor to quickly create tests using a furnished test bank, or by adding their own questions. Tinley Park, IL, The Goodheart-Willcox Co Inc, 2004.

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TE DT K31

### **Architecture Residential Drafting and Design**

*Clois E Kicklighter*

BOOK — This book provides the basic information for planning various types of dwellings. It presents basic instruction in preparing architectural working drawings using traditional and includes excellent coverage of computer aided drafting and design (CADD). Tinley Park, IL, The Goodheart-Willcox Co Inc, 2004.

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TE DT K31.1

### **Architecture Residential Drafting and Design**

*Clois E Kicklighter*

BOOK — Instructor's Resource Binder. Featuring: 1) List of Architecture and Construction Associations, Institutes, and Publications; 2) Internet Resources; 3) Pedagogical Charts; 4) Personal Portfolio Activity; 5) Teaching Aids Consisting of: objectives, display suggestions, instructional materials, teaching strategies; 6) Chapter Pretests and Posttests; 7) Answers and Solutions for: text review questions, workbook questions, workbook problems, chapter pretests and posttests; 8) Color Transparencies. Tinley Park, IL, The Goodheart-Willcox Co Inc, 2004.

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TE DT K31A

### **Architecture Residential Drafting and Design**

*Clois E Kicklighter*

BOOK — Workbook. This workbook is designed for use with the Architecture - Residential Drafting and Design textbook. The workbook includes several types of questions, problems, and activities. Tinley Park, IL, The Goodheart-Willcox Co Inc, 2004.

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TE DVD ROM 10

### **Deconstruction: The Science of Building a House-Foundation to Roof**

*Discovery Channel University*

DVD ROM — This video highlights scientific aspects of concrete, steel, wood, and nails—and the forces that impact them. Experiments done on the building site and at materials testing labs investigate the strengths of concrete, rebar, and engineered lumber; the chemical properties of Portland cement and galvanized nails; and the effects of dead load and live load, torque and shear induced by wind and earthquakes, and Bernoulli's Principle as it relates to the effects of tornadoes on roofs. Microscope and infrared imaging plus animations give extra angles of insight. So do field trips to a concrete batch plant, a tree farm to study silviculture, and a saw mill to see how computerized cutting and sorting are done.50 minutes. Lawrenceville, NJ, Shopware, 2004.

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TE DVD ROM 11

### **Deconstruction: The Science of Building a House-Plumbing to Paint**

*Discovery Channel University*

DVD ROM — A home is more than a house; technologically speaking, it's an engineered habitat. This video explains how electrical, plumbing, and HVAC systems work with selected parts of the building envelope—building wrap, windows, fiberglass insulation, gypsum wallboard, and paint—to keep the weather out and comfort in. Animated diagrams, microscopic and thermal imaging, on-site demonstrations, and off-site tests are used to show how things like circuit breakers and P-traps work; to define U-factor, R-value, permeance, and other technical terms and concepts; to demonstrate color-matching and paint-making; and to isolate envelope failures leading to moisture infiltration and mold. A visit to a USG wallboard plant is also included.50 minutes. Lawrenceville, NJ, Shopware, 2004.

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TE DVD ROM 13

### **The Future of Home Construction: New Techniques, New Technologies**

*Meridian Education Corporation*

VIDEO — This program travels to the National Association of Home Builders' Research Center to study four townhouses constructed using some of today's most innovative building materials and energy-saving technologies. Filmed at each stage of construction, these houses showcase foundations made of precast, pre-insulated, high-strength reinforced concrete or insulating concrete forms; walls made of ICFs, Hebel blocks, or steel framing; exterior finishes that incorporate thermally elastic stucco; and standing seam steel roofs. Photovoltaic roofing panels, a natural gas heat pump that uses a non-CFC refrigerant, an electronic home energy management system, gas fireplaces, doors made from sawmill residue and wood scraps, a geothermal heat pump, a... Monmouth Jct., NJ, Meridian Education Corporation, 2001.

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TE DVD ROM 40

**Quake Proof: Building the Perfect Bridge**

*Films for the Humanities & Sciences*  
DVD ROM — A behind-the-scenes look at modern anti-earthquake preparation, this program documents the replacement of a major section of the San Francisco-Oakland Bay Bridge. Anticipating the 2007 demolition of the bridge's eastern cantilever span, the video shows viewers how the new design and construction will presumably withstand a high-magnitude earthquake. Footage of the construction process accompanies detailed scenes of seismologists and engineers at work—testing bridge columns with a giant “shake table,” predicting the area's next quake, and demonstrating the phenomenon known as liquefaction. The result is a first-rate architectural case study. 52 minutes. Princeton, NJ, Films Media Group, 2005.

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TE EXPL F13

**Concrete Principles**

*Thomas P Fahl*

BOOK — This completely new, full-color text provides a comprehensive overview of the tools, materials, and practices commonly used in the concrete industry. The content areas covered correlate with established training programs. The information presented in the text is designed to serve as a teaching tool or as a reference for upgrading knowledge and skills. Homewood, IL, American Technical Publishers Inc, 2001.

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TE EXPL F13A

**Concrete Principles**

*ATP Staff*

BOOK — Workbook. This workbook is designed to reinforce information presented in the Concrete Principles textbook. Each chapter in the workbook covers information in the corresponding textbook chapter. Activities reinforce comprehension of related concepts and mathematical principles. Homewood, IL, American Technical Publishers Inc, 2001.

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TE EXPL K52

**Carpentry, Fourth Edition**

*Leonard Koel*

BOOK — Carpentry has been thoroughly updated and expanded to reflect the latest trends and accepted practices of the carpentry trade. This full-color text provides comprehensive coverage of tools, equipment, materials, and trade practices. New and expanded content areas reflect industry trends and user suggestions. Homewood, IL, American Technical Publishers Inc, 2004.

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TE EXPL P65

**Carpentry, Fourth Edition**

*Thomas E Proctor*

BOOK — Workbook. Carpentry has been thoroughly updated and expanded to reflect the latest trends and accepted practices of the carpentry trade. This workbook is comprised of 70 unit tests and 16 section tests designed to aid student comprehension. Multiple choice, true-false, identification, completion, short answer, and math questions are used throughout the workbook. Homewood, IL, American Technical Publishers Inc, 2004.

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TE KIT 2

**Concrete Principles Resource Guide**

*American Technical Publishers Staff*

KIT — The Concrete Principle Resource Guide is a valuable instructional tool designed for training in group settings. The Resource Guide provides an out-of-the-box approach designed for maximum flexibility. It is divided into sections for easy use in a classroom or seminar setting. The Resource Guide includes a CD ROM with Electronic Slides of all the illustrations from the textbook and web links to valuable instructional resources on the Internet. This is a complete instructional package for teaching concrete principles. Homewood, IL, American Technical Publishers, Inc, 2003.

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TE VIDEO 12

**The Future of Home Construction: New Techniques, New Technologies**

*Meridian Education Corporation*

VIDEO — This program travels to the National Association of Home Builders' Research Center to study four townhouses constructed using some of today's most innovative building materials and energy-saving technologies. Filmed at each stage of construction, these houses showcase foundations made of precast, pre-insulated, high-strength reinforced concrete or insulating concrete forms; walls made of ICFs, Hebel blocks, or steel framing; exterior finishes that incorporate thermally elastic stucco; and standing seam steel roofs. Photovoltaic roofing panels, a natural gas heat pump that uses a non-CFC refrigerant, an electronic home energy management system, gas fireplaces, doors made from sawmill residue and wood scraps, a geothermal heat pump, a... Monmouth Jct., NJ, Meridian Education Corporation, 2001.

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TE VIDEO 42

**Super Bridge**

*Thomas Friedman, Neil Goodwin*

VIDEO — Super Bridge covers every phase of the construction of the Clark Bridge that spans the Mississippi at Alton, Illinois. Featuring modern cable-stayed design, the bridge was built over four years in often adverse conditions. See how its builders overcame the project's unique challenges. Level: Middle School-High School. 120 minutes. South Burlington, VT, WGBH Educational Foundation, 1997.

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TE VIDEO 52

**Building Trades Video Series: Foundations**

*James E Duffy*

VIDEO — This video provides dynamic visual instructions to improve understanding of important construction methods. This video is paced with practical examples that emphasize the use of the latest materials, tools, and techniques. Tinley Park, IL, The Goodheart-Willcox Co Inc, 2002.

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TE VIDEO 53

**Building Trades Video Series: Wall and Ceiling Framing**

*James E Duffy*

VIDEO — This video provides dynamic visual instructions to improve understanding of important construction methods. This video is paced with practical examples that emphasize the use of the latest materials, tools, and techniques. Tinley Park, IL, The Goodheart-Willcox Co Inc, 2002.

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TE VIDEO 54

**Building Trades Video Series: Roof Framing**

*James E Duffy*

VIDEO — This video provides dynamic visual instructions to improve understanding of important construction methods. This video is paced with practical examples that emphasize the use of the latest materials, tools, and techniques. Tinley Park, IL, The Goodheart-Willcox Co Inc, 2002.

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TE VIDEO 55

**Building Trades Video Series: Floor Framing**

*James E Duffy*

VIDEO — This video provides dynamic visual instructions to improve understanding of important construction methods. This video is paced with practical examples that emphasize the use of the latest materials, tools, and techniques. Tinley Park, IL, The Goodheart-Willcox Co Inc, 2002.

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TE VIDEO 58

**Why Buildings Stand Up: Loads On Buildings**

*Mario Salvadori*

VIDEO — Program 1. Demonstrations of static and dynamic loads, and the effects of winds and earthquakes on buildings. 29 minutes. Allegan, MI, VMS, Inc, Copyrighted date not available.

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TE VIDEO 59

**Why Buildings Stand Up: Equilibrium and Materials**

*Mario Salvadori*

VIDEO — Program 2. Tension, compression, bending; beams, columns, cables arches, steel, concrete, and wood. 28 minutes. Allegan, MI, VMS, Inc, Copyrighted date not available.

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TE VIDEO 60

**Why Buildings Stand Up: Bridges**

*Mario Salvadori*

VIDEO — Program 3. An exploration of framed structures, arches, and truss and suspension bridges. 26 minutes. Allegan, MI, VMS, Inc, Copyrighted date not available.

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TE VIDEO 61

**Why Buildings Stand Up: Paper Structures**

*Mario Salvadori*

VIDEO — Program 4. Using paper to create folded plates, beams, arches, and domes. 22 minutes. Allegan, MI, VMS, Inc, Copyrighted date not available.

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TE VIDEO 62

**Why Buildings Stand Up: Monuments on Architecture & Engineering**

*Mario Salvadori*

VIDEO — Program 6. A survey of architectural and engineering monuments from 8000 BC to the present. 28 minutes. Allegan, MI, VMS, Inc, Copyrighted date not available.

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TE VIDEO 63

**Why Buildings Stand Up: Swing Bridges**

*Mario Salvadori*

VIDEO — Program 7. Bridges with an emphasis on swing bridges. 15 minutes. Allegan, MI, VMS, Inc, Copyrighted date not available.

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TE VIDEO 64

**Why Buildings Stand Up: Skyscrapers**

*Mario Salvadori*

VIDEO — Program 8. Illustrates high-rise buildings in New York City. 13 minutes. Allegan, MI, VMS, Inc, Copyrighted date not available.

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## Arts, A/V Technology and Communications

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TE DVD ROM 2

**Digital Photography: The Camera**

*Media West Home Video*

DVD ROM — Learn the fundamentals of digital photography. Fundamentals of digital camera imaging. Includes choosing a camera, use, and more. Includes teachers guide, assignments, quizzes, terms, and glossary. 85 minutes. Lake Grove, OR, Media West Home Video, 2003.

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TE DVD ROM 3

**Digital Photography: Crafting Images**

*Media West Home Video*

DVD ROM — Learn the fundamentals of digital photography. Teaches the fundamentals of making, not taking, digital images. 97 minutes. Lake Grove, OR, Media West Home Video, 2003.

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TE EXPL S29

**Exploring Communication**

*Richard D Seymour, John M Ritz,*

*Florence A Cloghessy*

BOOK — This book will introduce you to the communication process. This text is divided into five sections. Each section ends with a section review and activities. You will examine the technical devices that aid human communication. This book focuses on two areas, printed communication and electronic communication. This book will help you gain a broad background in the study of communication. Tinley Park, IL, The Goodheart-Willcox Co Inc, 2000.

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TE EXPL S29A

**Exploring Communication**

*Richard D Seymour*

BOOK — Instructor's Manual. This manual is intended for use with Exploring Communication Textbook. The text and accompanying manuals provide a complete instructional package for the middle school technology education program. The three educational materials outline content, suggested activities, student handouts, worksheets, and evaluation materials. Tinley Park, IL, The Goodheart-Willcox Co Inc, 2000.

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TE EXPL S29B

**Exploring Communication**

*Nancy Henke-Konopasek, Florence A Cloghessy*

BOOK — Student Activity Manual. This manual is designed to be used with Exploring Communication textbook. The study questions and hands-on activities will enhance your study of the communications field and the career opportunities within the communications industry. Tinley Park, IL, The Goodheart Willcox Co Inc, 2000.

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## Career Exploration

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TE DVD ROM 50

**Women in Engineering: The Best Kept Secret to Changing the World**

*Engineering Education Service Center*

DVD ROM — Engineering is humanitarian, caring and possibly the most effective, hands-on approach to make the world a better place. This program features women engineers from companies all over the United States, and offers middle and high school girls encouragement to pursue engineering. Ages 12+. 25 minutes. Springfield, OR, Engineering Education Service Center, 2007.

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TE VIDEO 36

**Technical Education**

*Missouri Western State College*

VIDEO — An overview of career options in technological areas. Training offered in two year postsecondary classes. 7 minutes. St. Joseph, MO, Missouri Western State College, 1997.

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## Classroom Activities

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TE CLASS 1

**Problem Solving**

*OK Department of Vocational and Technology Education*

BOOK — Technology Learning Activity series. Secondary. OK Department of Vocational and Technology Education, 1991.

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TE CLASS 6

**Technology Learning Activity: Drafting**

*OK Department of Vocational and Technology Education*

BOOK — Technology Learning Activity Series. Secondary. OK Dept of Voc and Tech Ed, 1993.

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TE CLASS 7

**Audio-visual Programming**

*OK Department of Vocational and Technology Education*

BOOK — Technology Learning Activity series. Secondary. OK Department of Vocational and Technology Education, 1992.

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TE CLASS 17

**Problem Solving Activities for Technology Education**

*Ronald Roncs*

BOOK — Activities for the classroom. TX, University of TX, 1991.

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TE CLASS K17

**Technology Projects for the Classroom**

*Allan Kaufman, Jim Flowers*

BOOK — Twenty low-cost projects for middle school and High School science and technology students. Required materials are readily available and largely free or low cost. Each project features background information, safety guidelines, detailed procedure with many illustrations, and study questions. Projects include a small-scale hot-air balloon, a fiber-optic communicator, a hydraulic robot arm, an electronic sound amplifier, and a small solar-powered race boat. Includes Teacher's Guide. 134 pages. Ann Arbor, MI, Prakken Publications, Inc., 1996.

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TE CLASS K17.1

**More Technology Projects For the Classroom**

*Allan Kaufman, Jim Flowers*

BOOK — Nineteen fun and fascinating low-cost projects that educate and motivate students. Background information provides solid math and science content. Projects include design and testing of model car frames and model gliders; experimentation with plastics, plaster, and concrete; construction and use of a simple sextant and gyroscopes. Includes Teacher's Guide. 160 pages. Ann Arbor, MI, Tech Directions Books, Prakken Publications Inc., 2000.

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TE CLASS K17.12

**Exploring Solar Energy: Principles & Projects**

*Allan Kaufman*

BOOK — This easy-to-understand book covers the major aspects of solar energy use and discusses passive solar energy, active solar energy, and solar electricity. Project section includes step-by-step hands-on activities that let students apply solar energy principles. 98 pages. Ann Arbor, MI, Prakken Publishing, Inc., 1992.

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TE CLASS K17.13

**Exploring Solar Energy II: Activities in Solar Electricity**

*Allan Kaufman*

BOOK — This easy-to-understand book covers: Photovoltaics; Theory of sunlight into electricity; Material and processes; Solar cells for the experimenter. Projects include a solar sun racer, solar-powered rover robot, solar music box, solar rechargeable flashlight and solar-powered FM Transmitter. 102 pages. Ann Arbor, MI, Prakken Publications, Inc., 1995.

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TE CLASS R57

**Handbook Two for Aerospace Education: A Guide to Projects and Applications**

*John Paul Rossie, Editor*

BOOK — This handbook provides a wealth of aerospace-related course materials and projects for both group and individual study. It also gives information on organizations that offer teachers resources and support. 102 pages. Ann Arbor, MI, Prakken Publications, Inc., 1991.

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TE CLASS S14

**The Art of Construction**

*Mario Salvadori*

BOOK — Projects and principles for beginning engineers and architects! The easy-to-read chapters will teach students the basics of structures: Shape and Strength, What Do We Build Structures With?, and The Part of the Building You Don't See. Then, students' newly acquired knowledge is applied as they do enlightening activities that use common items such as craft sticks and string. Level: Middle/High School. Chicago, IL, Chicago Review Press, 1990.

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TE VIDEO 41

**Sculpting Characters With Clay**

*Mark Sawicki A Biztoon Production*

VIDEO — A Beginners Guide To Animation. This program describes the properties of polymer clay, the tools used to sculpt, bake and paint the material and illustrates the basic forms that you can make out of clay that provide the basis for any sculpture. 48 minutes. Venice, CA, First Light Video Publishing, 2001.

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## Design Technology

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TE 13.1397 T33

**Girls Think of Everything: Stories of Ingenious Inventions by Women**

*Catherine Thimmeah*

BOOK — Celebrates the clever and creative inventions of women from candles, helmets, and baby carriers to cancer-fighting drugs and details their determination to make their dreams come true. For middle school. New York, NY, Houghton Mifflin Company Boston, 2000.

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TE DVD ROM 6

**Design-Product Design: A Hand-Made Stereo for a Hand-Made Car**

*Films for the Humanities & Sciences*

DVD ROM — The sound system that goes into a hand-assembled Aston-Martin sports car must be special indeed. In this program, designers at Linn, a precision-engineering company specializing in state-of-the-art sound reproduction, draft and build a compact stereo for this elite automobile. Project leaders demonstrate the use of 3-D CAD in the drafting process. The outsourcing of a component provides a good example of how to work with subcontractors. 15 minutes. Princeton, NJ, Films for the Humanities & Sciences, 2002.

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TE DVD ROM 7

**Design-Systems and Control: Design in the Abstract**

*Films for the Humanities & Sciences*

DVD ROM — Hydrovision specializes in the design and manufacture of remotely operated vehicles, or ROV, for use underwater. The company has decided that it is time to come up with a new and improved version of their long-standing, highly successful model. This program looks specifically at how electronics and software engineers at Hydrovision use block diagrams to organize the onboard component systems of the ROV. The designers also get a chance to test and debug the prototype. 15 minutes. Princeton, NJ, Films for the Humanities & Sciences, 2002.

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TE DVD ROM 8

**Design-Graphic Design: What's in a Logo?**

*Films for the Humanities & Sciences*  
DVD ROM — Graphic designers with the consulting firm Navy Blue must produce a new corporate identity for Digital Animations Group, a Scottish company on the cutting edge of 3-D technology. Their task is to create a logo that captures the company's spirit and works across different formats, such as on paper, signs, windows, and Web pages. This program follows the entire process, from sitting down with the client to determine the mission, to brainstorming and pitching proposals, to unveiling the finished product. 15 minutes. Princeton, NJ, Films for the Humanities & Sciences, 2002.

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TE DVD ROM 9

**Design-Electronics: Polaroid's Passport Photo Business in a Box**

*Films for the Humanities & Sciences*  
DVD ROM — The task: design and build an all-in-one camera with an integrated printer that produces instant digital pictures. This program follows a team of industrial and electronics designers at Polaroid's U.K. headquarters as they take on this challenge. The whole process unfolds neatly as the idea jumps from paper to 3-D model to computer-assisted design program to prototype. Eventually, the designers debug the prototype and a professional photographer puts the production model through its paces. 15 minutes. Princeton, NJ, Films for the Humanities & Sciences, 2002.

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TE VIDEO 72

**Collapse: Failure by Design**

*Discovery Channel School*  
VIDEO — When builders use innovative materials or implement creative design, sometimes the result is disastrous. Explore the flaws of four structures that failed the test of integrity and collapsed. Grades 6 - 12. 25:50 minutes. Bethesda, MD, Discovery communications, Inc., 2001.

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## Drafting and CAD Technology

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TE CD ROM 8

**Computer Aided Design Techniques**

*CEV Multimedia*

CD ROM — Advancements have been made using CAD techniques to speed the production of metal and non-metallic materials. In order for students to upgrade their knowledge of Computer Aided Drafting, they will be introduced to scanning, prints and templates, which can be converted from graphic packages into the final production. This Microsoft® PowerPoint® presentation also will introduce basic fundamentals of non-metallic fabrication: planning, sketching, cost evaluation, ordering, layout and material preparation. 30 slides. Requires PC/MAC OSX, Office 2000 or better, IE 5.5, Internet connection, Adobe® Acrobat® Reader®, Flash 5 Player. Lubbock, TX, CEV Multimedia, 2004.

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## Energy

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TE DVD ROM 19

**Fossil Fuel**

*Landmark Media Inc.*

DVD ROM — This program considers the possible implications of society's addiction to fossil fuels for planet earth. It examines the opportunities offered by fossil fuel replacement and shows how transitional cars that run on such energy sources as hydrogen, solar, wind, and hydroelectricity will help reduce the greenhouse effect and lessen the political power of oil-rich nations. 52 minutes. Falls Church, VA, Landmark Media Inc., 2006.

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TE VIDEO 23

**The Prometheus Principle--Energy for the Future: The Grand Vision**

*Landmark Media Inc.*

VIDEO — Addressing the ever-changing global climate, this program discusses the increasing global demand for energy. It looks at the race to find the most efficient and sustainable use of resources and energy, considering such forms as solar, wind, biomass, nuclear, and hydroelectric energy. 25 minutes. Falls Church, VA, Landmark Media Inc., 2001.

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## Exploring Technology

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TE DVD ROM 20

**Technology and Space**

*Discovery Communications, Inc.*

DVD ROM — Discover the far-reaching influence of technologies developed for space exploration, including polarized sunglasses, product bar codes, laser surgery, and satellite communication systems. Grades 6 - 8. 25 minutes. Silver Spring, MD, Discovery Communications, Inc., 2006.

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TE DVD ROM 21

**How Things Work**

*Discovery Communications, Inc.*

DVD ROM — See how airports operate and how a daily newspaper is produced, discover what happens to recycled items and how clothes are drycleaned, and watch advertising billboards going up as well as other interesting facilities and their inner workings. Grades 6 - 12. 30 minutes. Silver Spring, MD, Discovery Communications, Inc., 2006.

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TE DVD ROM 22

**Supercomputing: The Power of Visualization**

*Films for the Humanities & Sciences*

DVD ROM — This program explores the phenomenal growth of supercomputing and its impact on medicine, oceanography, air traffic control, law enforcement, and other fields. Showcasing practical examples of dynamic visualization technology, the video looks at three-dimensional renderings of cities accurate to the square foot, medical imaging capabilities on the cellular level, and instantaneous collaboration between laboratories a hemisphere apart. Commentary by virtual reality pioneer Jaron Lanier and other innovators underscores the need to recognize the human factor in the age of supercomputers. 27 minutes. Princeton, NJ, Films Media Group, 2005.

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TE EXPL 3

**Technology Today and Tomorrow**

*James Fales*

BOOK — Includes sections on communication, manufacturing, construction, transportation, and bio-related technology. IL, Glencoe, 1999.

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TE EXPL 5

**Technology: Shaping Our World**

*John Gradwell*

BOOK — Book serves as an intro to various technologies and shows how they've used basic scientific principles. Textbook. Tinley Park, IL, Goodheart-Willcox, 2000.

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TE EXPL 7

**Living With Technology**

*Michael Hacker*

BOOK — Intended to guide teachers, librarians, and administrators in meeting the educational technology needs of students at all grade levels and subject areas, this curriculum focuses on how computers, telecommunications, automated libraries, television, and satellite links, impact schools. The curriculum addresses both the teaching of technology and the use of technology to teach. The curriculum is set up so that grades K-4 receive foundational information, grades 5-8 focus on skill-building, and grades 9-12 refine knowledge and skills. NY, Delmar, 1993.

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TE EXPL 8

**Technology Interactions**

*Henry R. Harms*

BOOK — Includes sections on communication, production, power, bio-related, control and integrated technologies. Peoria, IL, Glencoe/McGraw-Hill, 1999.

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TE EXPL 11

**Exploring Technology Education - Introduction To Technology Education; Teacher**

*John D. Joerschke*

BOOK — These instructional materials include a teacher's guide designed to assist instructors in organizing and presenting an introductory course in technology education and a student guide. The materials are based on the curriculum-alignment concept of first stating the objectives, developing instructional strategies for teaching those objectives, and then evaluating based on the objectives. The course contains six units, each designed for use in more than one class period: What Is Technology Education?; Basic Laboratory Safety; Measuring and Related Math; Thinking Skills; Career-Exploration Process; and Evaluating the Consequences of Using Technology. OK, MAVCC, 1997.

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TE EXPL W13

**Modern Carpentry, Building Construction Details in Easy-to-Understand Form**

*Willis H Wagner, Howard Bud Smith*

BOOK — This book is a colorful, easy-to-understand source of authoritative and up-to-date information on building materials and construction methods. It includes basic information covering stair construction, chimney and fireplaces, systems-built structures, solar construction, remodeling, cabinet-making, painting, and decorating. It also serves as an introduction to other building trades and is designed to provide basic instruction for students in high school, vocational-technical schools, college classes, and apprentice training programs. Tinley Park, IL, The Goodheart-Wilcox Co Inc, 2003.

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TE EXPL W13.1

**Modern Carpentry: Building Construction**

*Willis H Wagner, Howard Bud Smith, Michael B Kopf*

BOOK — Teacher's Resource Binder. This provides up-to-date information about equipment, methods, and materials used in residential and light commercial construction. The text is designed to provide fundamental information and instruction and addresses an industry need for persons who are able to understand and apply their skills and techniques. Tinley Park, IL, The Goodheart-Wilcox Co Inc, 2003.

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TE EXPL W13A

**Modern Carpentry, Building Details in Easy-to-Understand Form**

*Willis H Wagner, Howard Bud Smith*

BOOK — Workbook. This workbook has been prepared for use with the Modern Carpentry textbook. It is designed to help you in your study of carpentry. The units in the workbook correlate with those in the textbook. A number of the units in the workbook include problems in estimating amounts of material and other calculations. Tinley Park, IL, The Goodheart-Wilcox Co Inc, 2003.

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TE VIDEO 3

**You, Me, And Technology: The Technology Spiral**

*Agency for Instructional Technology*

VIDEO — Explore the trade-offs between the costs and benefits of living in a technological society and promote an objective attitude toward technologies. As a society becomes more advanced, the choices become more complex and only those who are technological literate will be able to participate fully. 20 minutes. Bloomington, IN, Agency for Instructional Technology, 1986.

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TE VIDEO 13

**Supply Chain Management in the Internet Age**

*Hau Lee*

VIDEO — This video features the commentary of Stanford Business School Professor Hau Lee, and identifies the three stages of innovation--substitution, scale, and structural effect--and considers the impact of the Internet on supply chain management. It presents examples of supply chain structural changes that resulted in important new profit centers. 55 minutes. Mill Valley, CA, Kantola Productions, 2001.

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TE VIDEO 14

**Technology: Making It Simple: Video 1 - Technology At Home - Remote Control, Satellite Dish, Microwave, CD's**

*Film Ideas, Inc.*

VIDEO — This is a technology exploration series that shows the viewer how technology works. All of us use technology everyday in some way. But technologies we are capable of using often times leave us bewildered as to how they actually work. Learn how it works! (Ages 7-12) 17 minutes. Northbrook, IL, Film Ideas, Inc., 1995.

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TE VIDEO 17

**Technology: Making It Simple: Video 4 - Technology and the Desktop - Modem, CD-ROM, Mouse**

*Film Ideas, Inc.*

VIDEO — This is a technology exploration series that shows the viewer how technology works. All of us use technology everyday in some way. But technologies we are capable of using often times leave us bewildered as to how they actually work. Learn how it works! (Ages 7-12) 12.2 min. Northbrook, IL, Film Ideas, Inc., 1995.

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TE VIDEO 18

**Technology: Making It Simple: Video 5 - Technology Around the World - Internet, E-Mail**

*Film Ideas, Inc.*

VIDEO — This is a technology exploration series that shows the viewer how technology works. All of us use technology everyday in some way. But technologies we are capable of using often times leave us bewildered as to how they actually work. Learn how it works! (Ages 7-12) 10 minutes. Northbrook, IL, Film Ideas, Inc., 1995.

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TE VIDEO 22

**The 10 Gallon Bet**

*ITEA*

VIDEO — Technology at work. Changing the geometry of a structure so it can be taller and stronger. Glass and plastic illustrate the science of optics. Sound equipment magnetism and more. 11 minutes. Reston, VA, ITEA, 1998.

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TE VIDEO 38

**Why Study Technology**

*The School Company*

VIDEO — At work, in the car, at the bank, and even at the grocery store; technology surrounds us. A basic knowledge of how technology is used will enable you to survive the technology part of the puzzle of success. Vancouver, WA, The School Company, 1996.

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TE VIDEO 39

**Technology: At Your Service**

*Meridian Education Corporation*

VIDEO — This program explores how the equipment we often take for granted has become an integral part of our daily lives. At work, at school, and in the home, technology has become one of our most valuable resources. Robots, computers, and many other types of high-tech hardware are introduced. 19 minutes. Bloomington, IL, Meridian Education Corporation, 2000.

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TE VIDEO 76

**Masters of Technology-Part One & Two**

*WGBH Boston Video*

VIDEO — Meet five revolutionary thinkers who have changed the way we live today, and discover how their scientific and technological innovations will shape our future: Vinton Cerf, a digital pioneer; the first female to lead a NASA team, Donna Shirley; Geoffrey Ballard who developed a hydrogen fuel cell; Robert Langer whose inventions have impacted medical treatments; and pilot of experimental aircraft, Burt Rutan. Two videos. Total running time 150 minutes. Boston, MA, WGBH Boston Video, 2001.

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## Manufacturing

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TE DVD ROM 12

**Understanding Gizmos and Widgets: How Stuff is Made**

*Discovery Channel University*

DVD ROM — In the 21st century, manufacturing is anything but boring. This program goes inside high-tech factories to see how products ranging from toys and makeup to bulldozers and helicopters are made. Viewers gain insights into the workings of the value stream—a process of going from raw materials to finished products that today includes on-demand fabrication, advanced robotics, and zero-defect quality control standards. 49 minutes. Princeton, NJ, Films for the Humanities & Sciences, 2002.

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TE DVD ROM 60

**Field Trip: Tractor Manufacturing**

*CEV Multimedia*

DVD ROM — The John Deere tradition of building quality tractors started in 1918 and continues today at a factory in Waterloo, Iowa. View the many steps involved in the manufacturing of John Deere tractors. Beginning at the product engineering site and ending at the tractor assembly site, this program provides a comprehensive look at tractor manufacturing. A supplement is included. 18 minutes. Lubbock, TX, CEV Multimedia.

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TE EXPL W63

**Exploring Manufacturing**

*R Thomas Wright*

BOOK — This book provides a complete picture of two activities: Material Processing Technology and Management Technology. You will learn about the types of materials from which manufactured products are made and their properties (what makes them what they are). Using this information you will be better able to assume the adult role of consumer, citizen, and career person. Tinley Park, IL, The Goodheart-Willcox Co Inc, 2000.

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TE EXPL W63A

**Exploring Manufacturing**

*R Thomas Wright*

BOOK — Instructor's Manual. The study of manufacturing is a key part of Technology Education. Technology Education describes an educational program concerned with : Technology - its evolution, utilization, and significance; Industry - its organization, management, processes, and products; The social-cultural impacts of technology and industry. Tinley Park, IL, The Goodheart-Willcox Co Inc, 2000.

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TE EXPL W63B

**Exploring Manufacturing**

*R Thomas Wright*

BOOK — Student Activity Manual. It is designed to be used with the Exploring Manufacturing textbook. This manual was developed to help you with your study of manufacturing industries, related occupations, and the many opportunities for a career that these industrial activities might offer you. Tinley Park, IL, The Goodheart-Willcox Co Inc, 2000.

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TE VIDEO 26

**Field Trip: Tractor Manufacturing**

*CEV Multimedia*

VIDEO — The John Deere tradition of building quality tractors started in 1918 and continues today at a factory in Waterloo, Iowa. View the many steps involved in the manufacturing of John Deere tractors. Beginning at the product engineering site and ending at the tractor assembly site, this program provides a comprehensive look at tractor manufacturing. A supplement is included. 18 minutes. Lubbock, TX, CEV Multimedia.

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## Safety

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TE VIDEO 66

**Shop Safety**

*Meridian Education Corporation*

VIDEO — This video demonstrates the types of dangers present in any industrial or manufacturing atmosphere and then explains how to prevent accidents. Actual industrial accidents (cranes collapsing, foundry explosions) are used to stress the importance of using proper methods when in a general shop. 22 minutes. Monmouth Junction, NJ, Meridian Education Corporation.

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TE VIDEO 67

**Metal Shop Safety**

*Meridian Education Corporation*

VIDEO — This video demonstrates the kind of precautions that should be taken when working with metals. Sheet metal work, soldering, welding, foundry work, forging, along with general safety are summarized. Footage of actual fatal accidents is used to strengthen the importance of safety in the metals lab. Watch what happens when molten metal is spilled on water, when it explodes, and when molten aluminum is spilled on a non-protective tennis shoe. 19 minutes. Monmouth Junction, NJ, Meridian Education Corporation, 1993.

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TE VIDEO 68

**Auto Shop Safety**

*Meridian Education Corporation*

VIDEO — This video stresses the need to follow safety rules in an auto shop to avoid serious injury or death. Running engines, moving cars, cars on jack stands or floor jacks, open fuel lines, and other things all have the potential to cause a catastrophe. Methods for preventing accidents are shown and emphasized. 22 minutes. Monmouth Junction, NJ, Meridian Education Corporation, 1999.

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TE VIDEO 69

**Electrical Safety**

*Meridian Education Corporation*

VIDEO — This video provides a basic explanation of electricity, what it is and how it affects us. It also covers the color coding of wire and what each color means, the role of circuits and circuit breakers, and fuses and how to replace them. Also, examines insulation and how it works, the various hand tools used in electrical work, and what gauge wire to use in certain applications. Covers preventing electrical shock and how to treat a person who has received an electrical shock. 30 minutes. Monmouth Junction, NJ, Meridian Education Corporation, 1993.

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**Science, Technology,  
Engineering and Mathematics**

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TE DT P27

**Invention by Design, How Engineers  
Get from Thought to Thing**

*Henry Petroski*

BOOK — Engineering entails more than knowing the way things work. What do economics and ecology, aesthetics, and ethics have to do with the shape of a paper clip, the tab of a beverage can, or the cabin design of a turbojet? How do the idiosyncrasies of individual engineers, companies, and communities leave their mark on projects from Velcro to fax machines to waterworks? This book offers an insider's look at these political and cultural dimensions of design, development, construction, and production. Level: High School-Adult. Cambridge, MA, Harvard University Press, 1996.

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TE DT S53

**The Illustrated Guide to Aerodynamics**

*H C Skip Smith*

BOOK — Avoiding technical jargon and dry scientific explanations, Hubert Smith demonstrates how aerodynamic principles affect aircraft in terms of lift, thrust, drag, in-air performance, and more. Level: High School, Adult. New York, NY, TAB Books, 1992.

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TE DT W63

**Technology: Design and Applications**

*R Thomas Wright, Ryan A Brown*

BOOK — This book does more than tell you about technology. You will have a chance to apply what you have learned through carefully designed activities. You will build and test products. You may even use the products in competition with other students. You may be introduced firsthand to mass production or the use of tools. Another activity may ask you to investigate careers of your own choice and rate them against your own interests and expectations. Tinley Park, IL, The Goodheart-Willcox Co, Inc, 2004.

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TE DT W63.1

**Technology: Design and Applications**

*R Thomas Wright, Ryan A Brown*

BOOK — This teacher's Resource Binder has been designed to present a broad, introductory, hands-on presentation of technology to young learners in this age group. The system is designed to help students develop technological literacy, which can be described as an ability to locate, interpret, and use information about tools, materials, and processes. Tinley Park, IL, The Goodheart-Willcox Co Inc, 2004.

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TE DT W63A

**Technology: Design and Applications**

*R Thomas Wright, Ryan A Brown*

BOOK — Teacher's Wraparound Edition. This book will help students learn how technology affects people and the world in which we live. Tinley Park, IL, The Goodheart-Willcox Co Inc, 2004.

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TE DT W63B

**Technology: Design and Applications**

*R Thomas Wright, Ryan A Brown*

BOOK — Student Activity Manual. The manual goes hand-in-hand with the Technology: Design and Applications textbook. Each section contains several activities. Some of them correspond to activities in the textbook, while others are independent of the text. Worksheets for the activities in your textbook are also included in this manual. Each chapter also contains study questions corresponding to the material in the textbook. Tinley Park, IL, The Goodheart-Willcox Co, Inc, 2004.

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TE DVD ROM 4

**Measurement: The Long and the Short  
of It**

*Shopware*

DVD ROM — Emphasizing hands-on practice, this program is an excellent tool for introducing the basics of linear measurement: its history, terminology, systems, and practical applications. Using both customary and metric rulers, Measurement: The Long and the Short of It will guide your students through the process of taking measurements, performing related calculations using whole numbers and fractions, and arriving at answers they can feel confident with. Middle school, high school, and vocational/technical school. 16-minutes. Lawrenceville, NJ, Shopware, 2007.

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TE DVD ROM 5

**Math in the Real World**

*Films for the Humanities & Sciences*

DVD ROM — This DVD ROM uses fascinating video segments and computer graphics to explore the math behind real-world events. A cross-curricular resource in math and physics, this DVD ROM offers an innovative new angle on teaching and testing upper high school and college-level mathematics. The program contains over 12 hours of video, including 15 mathematical modeling case studies, as well as text solutions, interactive exercises, explanatory video seminars, a built-in CAL program, and links to a related Web site. Requires a DVD ROM drive. Princeton, NJ, Films for the Humanities & Sciences, 2003.

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TE DVD ROM 30

**Everyday Physics**

*Discovery Communications, Inc.*

DVD ROM — Examine the principles of physics behind activities of ordinary life, including climbing a ladder, riding a swing, and stacking dominoes to start an interesting chain reaction. Grades 6 - 12. 30 minutes. Silver Spring, MD, Discovery Communications, Inc., 2006.

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TE DVD ROM 41

**The Lost City of New Orleans: A Case Study**

*Films for the Humanities & Sciences*

DVD ROM — Throughout the world, sea levels are rising, coastlines are crumbling, and the intensity of hurricanes is increasing. Is the situation in New Orleans a glimpse into the future of all cities that exist near major bodies of water? Filmed six months after Katrina, this program analyzes why New Orleans flooded so catastrophically and asks whether the city—constructed on a steadily subsiding floodplain and losing coastal barrier land at the highest rate in the U.S.—should be rebuilt at all. Louisiana State Climatologist Barry Keim; Harry Roberts, director of LSU's Coastal Studies Institute; hurricane expert Ivor Van Heerden; Colonel Richard Wagenaar, of the Army Corps of Engineers; and Hassan Mashriqui, who is developing coastal... Princeton, NJ, Films Media Group, 2006.

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TE KIT 1

**Measurement and Scale-Elementary**

*Discovery Communications, Inc.*

KIT — In Measurement and Scale's three sections, students learn the use of units in measurement and scale. The sections cover time, how measurement standards are calibrated, how precious stones are measured, and more. Includes a teacher's guide on CD ROM. Grades 3 to 6. 26 minutes. Bethesda, MD, Discovery Channel Education, 2001.

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TE MST B16

**Science and Math for Technology**

*Thomas Barrowman*

BOOK — This book organizes information by topic, including electricity, motion, power transmission, liquid, gases, and biotechnology, and includes an extensive cross-referenced index so beginning and advanced students can find the information they need in a hurry. Science concepts and math formulas and their relation to technology are explained in easy-to-understand text that is complimented by photographs and unusually descriptive drawings and cartoons. Level: Elementary-High School. Glens Falls, NY, Thomas R Barrowman & Ruth K Barrowman, 2001.

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TE VIDEO 2

**Science as Inquiry in Action**

*Schlessinger Media*

VIDEO — Through engaging examples, viewers will learn how scientific evidence and explanation play important roles in scientific inquiry. Students will trace the path of scientific inquiry--guided by knowledge, observations, ideas and questions--as they combine scientific reasoning and critical thinking. This program is based on the concepts outlined in the National Science Education Standards for Science as Inquiry; Abilities Necessary To Do Scientific Inquiry and Understandings About Scientific Inquiry. 23 minutes. Grades 5 - 8. Wynnewood, PA, Schlessinger Media, 2000.

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TE VIDEO 10

**Space Facts**

*Global Sciences*

VIDEO — This video takes a fact-filled look at 23 of the most important events from man's on-going adventure in space. Among the subjects covered are: The Mercury Astronauts, the first woman in space, the Gemini program, the race to the moon, Apollo 13, Skylab, the Viking and Voyager probes, the Space Shuttle and the discovery of possible life-form remains in a meteorite from Mars. 50 minutes. Thousand Oaks, CA, Goldhil Video, 1997.

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TE VIDEO 11

**Space Facts II**

*Adler Media, Inc.*

VIDEO — This video explores the link between space exploration and its impact on technological, environmental and medical advances. The program examines the role of space exploration in fighting forest fires, controlling diseases, combating air pollution and mapping solar and lunar cycles which can inspire discussion on current and future gains from space exploration. 50 minutes. McLean, VA, Adler Media, Inc., 2000.

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TE VIDEO 20

**Designing A Product-Interactions: Real Math, Real Careers**

*AVA*

VIDEO — How is a pair of sunglasses like a coffee maker? Both are the end result of problem-solving. Bausch and Lomb senior product designer takes students into the design studios and factory to see a new style of Ray Bans being created and produced. Math topics include: statistics, percents, geometry. Grades 6-9. 11:40 minutes. Lincoln, NE, AVA, 1994.

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TE VIDEO 43

**Modern Marvels: The Great Bridge 8 Miles of Steel**

*A & E Television Network*

VIDEO — This eight-mile long span was once chosen as one of the seven engineering wonders of the modern world. Modern Marvels explores the history of the Oakland Bay Bridge from the plans of dreamers more than a hundred years before the bridge was built to the ambitious retrofit required by the damage from the 1989 earthquake that shook the Bay Area. Extensive footage chronicles the perilous construction, which claimed the lives of 29 workers. New York, NY, A & E Television Network, 1996.

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TE VIDEO 45

**Engineering Technology: Model Bridges**

*Shopware*

VIDEO — This new video takes the viewer to the annual college engineering students' model bridge-building contest. Teams of students design 20' long bridges at their schools and then reconstruct them on location during a limited time. Bridges are stress tested for load capabilities. Level Middle and High School. 23 minutes. Monmouth Junction, NJ, Shopware, 2003.

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TE VIDEO 56

**Interactions Real Math - Real Careers: Solar Energy**

*Foundation for Advancements in Science & Education*

VIDEO — Solar Energy: Can people in remote rural areas who are far from electric generating plants get power for their lights and appliances? Beth Richards, a senior mechanical engineer with Sandia National Laboratories, walks through a field of giant solar arrays, describing projects she heads that bring solar power to people living in some of the most remote areas of the world. Miguel Contreres, an electrical engineer, takes students inside the ongoing development process of solar cells. 12 minutes. Lincoln, NB, Foundation for Advancements in Science & Education, 1996.

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TE VIDEO 71

**Engineering Drawing and Design: Orthographic Projections**

*Delmar*

VIDEO — This video explains the applications of orthographic projections and teaches the necessary skills for mastering their use. It provides detailed discussion of the engineering drawing and design process. 20 minutes. Clifton Park, JY, Delmar Learning, 2001.

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TE VIDEO 80

**Discovering Math: Concepts in Geometry**

*Discovery School*

VIDEO — This program shows the role that math plays in the design, technology, and construction of buildings, from ancient Greek architecture to modern skyscrapers. Grades 9-12. 56 minutes. Silver Spring, MD, Discovery Education, 2005.

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**Teacher Resources**

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TE CD ROM 4

**Technology: Design and Applications**  
*Teacher's Resource CD*

CD ROM — This CD will help you develop an effective technology education course, and includes ExamView Test Generator Software, which allows you to quickly and easily create and print tests from a test bank of over 1200 questions. System Requirements: Windows 98 SE or later; Min 32 megabytes of memory (64 megabytes RAM recommended); Adobe Reader (also supplied on CD). Tinley Park, IL, The Goodheart-Willcox Co Inc, 2004.

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TE EQUITY 1

**Female Educators and Students Assess Gender Equity in Technology Education**

*James C. Flowers*

BOOK — A Survey of Women involved in Technology Education. VA, VA Vocational Curriculum & Resource Center, 1996.

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TE KIT 3

**Carpentry Resource Guide (Fourth Edition)**

*American Technical Publishers Staff*  
KIT — The Carpentry Resource Guide provides a wealth of tools for delivering high-quality instruction in carpentry courses. The Resource Guide includes an Instructor's Guide, Electronic Slides, modifiable PowerPoint Presentations, Master Math Worksheets, ExamView Test Development Software, Pretest and Posttest Exams, a copy of the Carpentry textbook and workbook and Answer Keys for the Workbook, Pretest and Posttest Exams, and Master Math Worksheets. Homewood, IL, American Technical Publishers, Inc, 2004.

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TE TR A47

**Women Inventors**

*Linda Jacobs Altman*

BOOK — This book introduces students to inventive women who have had an often-overlooked impact on the world, and it discusses some of the prejudices and difficulties they overcame (or failed to overcome) because of the gender. New York, NY, Factson File, Inc, 1997.

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TE TR A52

**Simple Machines Made Simple**

*Ralph St Andre*

BOOK — Teach your students essential scientific principles and basic mechanics through hands-on, cooperative learning activities that are not only easy to teach but also inexpensive and fun. As students experiment with gadgets that slide, pivot, turn, rub, and work, they learn why and how machines operate the way they do. Includes illustrated step-by-step instructions, material lists, reproducible activities, assessment sheets, and estimated time required for the activities. Level: Middle School. Englewood, CO, Teacher Ideas Press, 1993.

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TE TR B76

**The Day the Universe Changed**

*James Burke*

BOOK — This book examines eight periods in history when our view of the world shifted dramatically: The eleventh century, when extraordinary discoveries were made by Spanish crusaders; The fourteenth century when perspective in painting emerged; The fifteenth century with the advent of the printing press; The sixteenth century, with gunnery developments; The eighteenth century with the Industrial Revolution; The nineteenth century, when the discovery of dinosaur fossils led to the theory of evolution. Boston, MA, Little, Brown and Company, 1995.

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TE TR D75

**The Giza Power Plant: Technologies of Ancient Egypt**

*Christopher Dunn*

BOOK — The author, a mechanical engineer, reverse-engineered the Great Pyramid at Giza to discover its use and his conclusions are startling. This book considers existing fact and artifact without relying on unprovable assertions that have given pyramid studies a bad name. Rochester, VT, Bear & Company, 1998.

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TE TR K24

**The Building of the Panama Canal in Historic Photographs**

*Ulrich Keller*

BOOK — In 164 historic photographs and a well-researched text, noted photohistorian Ulrich Keller tells the compelling story of this hitherto unparalleled technological achievement. These historic prints document the Canal's construction and its way of life. New York, NY, Dover Publications, Inc., 1983.

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TE TR M11

**The Great Bridge: The Epic Story of the Building of the Brooklyn Bridge**

*David McCullough*

BOOK — In the years around 1870, when the project was first undertaken, the concept of building an unprecedented bridge to span the East River between the great cities of Manhattan and Brooklyn required a vision and determination comparable to that which went into the building of the great cathedrals. Throughout the fourteen years of its construction, the odds against the successful completion of the bridge seemed staggering. This book is a sweeping narrative of the social climate of the time and of the heroes and rascals who had a hand in either constructing or exploiting the enterprise. New York, NY, Simon & Schuster Paperbacks, 1972.

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TE TR M15

**Against the Grain: How Agriculture has Hijacked Civilization**

*Richard Manning*

BOOK — Drawing on the work of anthropologists, biologists, archaeologists, and historians, as well as his own extensive research, the author traces a commodification of grain that has reached its apex in contemporary agribusiness and that has helped to build some of the most familiar--and dysfunctional--features of our political and economic landscape. New York, NY, North Point Press, 2004.

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TE TR P27

**The Evolution of Useful Things**

*Henry Petroski*

BOOK — The author takes a microscopic look at artifacts that most of us count on but rarely contemplate, including such icons of the everyday as pins, Post-its, and fast-food "clamshell" containers. At the same time, he offers a convincing new theory of technological innovation as a response to the perceived failures of existing products--suggesting that irritation, and not necessity, is the mother of invention. New York, NY, Vintage Books, 1994.

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TE TR R77

**Teachers On Call: Activities for Subs and Odd Days**

*Brian Rutherford*

BOOK — Whether you are going to be away for a day or for a week, there are plenty of activities in this book to keep your students challenged and happy. Activities are most suitable for Grades 6-12 technology education or science classes, but many can be used anywhere. Pittsburg, KS, Pitsco, 2002.

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TE TR W27

**Primitive Technology II: Ancestral Skills**

*David Wescott*

BOOK — This book will guide you to a better understanding of the skills and crafts that bind us all into this great human family. Learn to create stone tools that may be used to fabricate more complex technologies. Master the art of the bow and arrow, and the preparation of food. Build a shelter or fashion clothing from fibers or buckskin. Salt Lake City, UT, Gibbs Smith, 2001.

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TE VIDEO 1

**Reading a Ruler**

*Shopware*

VIDEO — In the first lesson, the different forms of English measurement are discussed and displayed as they would appear on a ruler. The viewer also learns how to understand fractions when measuring and how to find exact measurements using a ruler. The second lesson deals with the metric system by introducing the meter and other metric measurements. Viewers learn how to read a meter stick, and common abbreviations of metric measurements are discussed. Viewers also learn how to convert measurements using the decimal point. 18 minute video and quiz. Monmouth Junction, NJ, Shopware, 1994.

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TE VIDEO 4

**Digital Dark Age? Gambling with Humankind's Knowledge**

*Films for the Humanities & Sciences*

VIDEO — In this program, Stewart Brand, co-inventor of the TCP/IP Internet protocol, and others in the know assess the rapid proliferation of digitization; confront the alarming risk of massive data loss through technology obsolescence, platform incompatibilities, and storage media degradation; explore the potentially catastrophic impact of data loss on cultural identity; and outline some of the efforts being made to stave off a digital dark age. 53 minutes. Princeton, NJ, Films for the Humanities & Sciences, 2004.

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TE VIDEO 28

**Technology Education: A New Paradigm**

*International Technology Education Association*

VIDEO — Emphasizes the importance of technological literacy for everyone and knowing when and how to use technological advances. 14 minutes. Reston, VA, International Technology Education Association, 1997.

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TE VIDEO 31

**A World-Class Education**

*International Technology Education Association*

VIDEO — Emphasizes the need for technology education in schools. Information geared to parents, school administrators and teachers. 12 minutes. Reston, VA, International Technology Education Association, 1995.

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TE VIDEO 40

**Technology Unplugged**

*NMSU Board of Regents*

VIDEO — A training expert uses plain English to explain fundamental concepts such as RAM, hard drives, databases, networks, and more. Las Cruces, NM, Leading Object, 2000.

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TE VIDEO 44

**Building BIG Bridges**

*Larry Klein, Mark Olshaker*

VIDEO — Tower above the clouds on the Golden Gate, build the Brooklyn Bridge, and explore Europe's groundbreaking spans. Level Middle and High School. 60 minutes. South Burlington, VT, WGBH Educational Foundation, 2000.

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TE VIDEO 46

**The Edison Effect, The Phonograph**

*The History Channel*

VIDEO — Life in the modern world would be unthinkable without the inventions of Thomas Alva Edison. How did a man with only three months of formal schooling change the way we live? The Edison Effect shows the complete story of the feuds, the ingenuity, the mistakes, and the successes behind Edison's most famous inventions. 50 minutes. New York, NY, A & E Television Networks, 1996.

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TE VIDEO 47

**The Edison Effect, The Electric Light**

*The History Channel*

VIDEO — Life in the modern world would be unthinkable without the inventions of Thomas Alva Edison. How did a man with only three months of formal schooling change the way we live? The Edison Effect shows the complete story of the feuds, the ingenuity, the mistakes, and the successes behind Edison's most famous inventions. 50 minutes. New York, NY, A & E Television Networks, 1996.

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TE VIDEO 48

**The Edison Effect, The Motion Picture**

*The History Channel*

VIDEO — Life in the modern world would be unthinkable without the inventions of Thomas Alva Edison. How did a man with only three months of formal schooling change the way we live? The Edison Effect shows the complete story of the feuds, the ingenuity, the mistakes, and the successes behind Edison's most famous inventions. 50 minutes. New York, NY, A & E Television Networks, 1996.

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TE VIDEO 49

**History of Spaceflight, Reaching for the Stars**

*Finley-Holiday Films*

VIDEO — This fascinating video traces the evolution of spaceflight from earliest speculations to the marvels of future space technology. 60 minutes. Level: Middle School-Adult. Whittier, CA, Finley-Holiday Films.

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TE VIDEO 50

**Alternative Energies, Fuels for the Future**

*Scott Resources Inc*

VIDEO — A video from the Earth Science Video Library uses computer graphics and footage from actual locations to show how solar, wind, biomass, hydroelectric, and geothermal energy sources are helping to meet our increasing demand for renewable and sustainable energy sources. The video describes the source of each type of energy and the technology we use to exploit each type. An excellent introduction to alternative energy sources. 20 minutes. Level: Middle/High School. Fort Collins, CO, Scott Resources Inc, 1990.

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TE VIDEO 51

**Invent It!**

*Insights Visual Productions Inc*

VIDEO — Meet real-life inventors, some as young as third grade, as they display their inventions and explain how they got their ideas. Hear their thought processes, and see how they used common objects in unique ways to solve everyday problems. This video is sure to inspire every young inventor in your classroom! Includes a comprehensive teacher's handbook. 28 minutes. Level: Intermediate/Middle School. Encinitas, CA, Insights Visual Productions Inc, 1993.

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TE VIDEO 57

**Brooklyn Bridge**

*Ken Burns*

VIDEO — Ken Burns captures the physical majesty of this greatest of all achievements of the industrial age, the dramatic story of the larger-than-life men who imagined and built it, and the immense charm this granite and steel structure has exerted on generations of city dwellers. 58 minutes. Alexandria, VA, Public Broadcasting Service, 1981.

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TE VIDEO 65

**Famous Americans: Henry Ford**

*Questar, Inc*

VIDEO — View the intriguing story of how Henry Ford became the father of the American auto industry and invented mass production, sparking the twentieth century Industrial Revolution. 55 minutes. Level: Middle School & High School. Chicago, IL, Questar, Inc, 1999.

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TE VIDEO 70

**Hot Zones**

*Screenscope, Inc.*

VIDEO — This video shows how closely human health depends on environmental health. The consequences of altering ecosystems and the outbreak of thirty previously unknown diseases in the last two decades are examined. The program visits Kenya, Peru, Bangladesh, and the United States to show how uncontrolled development leads to an increase in infectious disease. 57 minutes. Washington, DC, Screenscope Inc, 2003.

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TE VIDEO 75

**Technology In Action**

*Stanley Jacobs*

VIDEO — Introduction to simple machines. Introduces students to the theory and applications of pulley systems, levers, the wheel and axle, inclined plane and screw. Allegan, MI, Vocational Marketing Services, 1993.

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## Transportation, Distribution and Logistics

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TE DVD ROM 1

**The Wright Stuff**

*Nancy Porter*

DVD ROM — They were the two men who drastically changed the way we look at transportation, aerospace, and the science of flight - Orville and Wilbur Wright. Introduce your students to these amazing brothers, and watch how they made history in the early 1900s by demonstrating that powered flight in a controlled plane was possible. Although they were known as a modest pair, their lives are shared with viewers in this thorough film, which includes archival photos, home movies, and expert commentary. Boston, MA, WGBH Educational Foundation, 2003.

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TE EXPL J53

**Exploring Transportation**

*Stephen R Johnson, Patricia A Farrar-Hunter*

BOOK — This text is concerned with relocation; it provides a thorough understanding of the systems and jobs that we use daily. Tinley Park, IL, The Goodheart-Willcox Co Inc, 2000.

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TE EXPL J53A

**Exploring Transportation-Instructor's Manual**

*Stephen R Johnson, Patricia A Farrar-Hunter*

BOOK — This manual provides the necessary resources to teach students about the variety of ways technology can be used for transportation as well as exploring the interrelationships of these technologies. Tinley Park, IL, The Goodheart-Willcox Co Inc, 2000.

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TE EXPL J53B

**Exploring Transportation-Student Activity Manual**

*Stephen R Johnson, Patricia A Farrar-Hunter*

BOOK — The activities found in this manual will challenge you to use the ability to come up with original ideas and to find new ways to solve problems. Tinley Park, IL, The Goodheart-Willcox Co Inc, 2000.

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TE TRANS 1

**Exploring Transportation**

*Stephen R. Johnson*

BOOK — Two technology educators introduce the energy, power, and vehicular systems behind current and future modes of transportation. Includes color photos and illustrations, exercises, and a dictionary of technical terms. As Johnson teaches at Lawrenceburg High School, IN, the text aptly appears to be geared to high school students. Tinley Park, IL, Goodheart-Willcox, 2000.

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TE VIDEO 5

**Day of the Sun Cars**

*Gasless Carriage Videos*

VIDEO — This program chronicles the beginnings of solar racing. It includes footage from the Sunrayce across Australia, the Swiss Tour de Sol, and the American Tour de Sol. In addition, there are excerpts from technical lectures by experts on various aspects of building solar race cars, including; photovoltaics, batteries, chassis, suspension and wheels, brakes, bodies, motors, and controllers. 90 minutes. Felton, CA, Electro Automotive, 1990.

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TE VIDEO 6

**Women In Electric Vehicles**

*Gasless Carriage Videos*

VIDEO — This program is a collage of interview, action footage, and vignettes with more than a dozen women pioneers in the field of electric vehicles. Listen and watch as they relate what brought them to electric cars, and the excitement and love for the technology they share. 120 minutes. Felton, CA, Electro Automotive, 1993.

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TE VIDEO 7

**Electric Vehicles: Fact, Fiction, & Fantasy**

*Gasless Carriage Videos*

VIDEO — In a seminar given to the Automotive Service Councils of California, Mike Brown (Electro Automotive) provides the answers to the questions everyone asks about electric cars: How far do they go, how fast do they go how much does it cost to run one, how many batteries do they use, and how do they work? 59 minutes. Felton, CA, Electro Automotive, 1992.

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TE VIDEO 8

**Mike Brown's Electric Vehicle Components Primer**

*Gasless Carriage Videos*

VIDEO — Electric cars are simple, but choices of components can be confusing. Conversion authority Mike Brown (Electro Automotive) helps you sort out the pros and cons. 92 minutes. Felton, CA, Electro Automotive, 1991.

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TE VIDEO 9

**Convert It**

*Gasless Carriage Videos*

VIDEO — Conversion authority Michael Brown, of Electro Automotive, leads you through the conversion process, from choosing a chassis and stripping it to maintenance and driving. 90 minutes. Felton, CA, Electro Automotive, 1994.

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TE VIDEO 21

**Shifting Gears: A Look at Alternative Transportation**

*University of Calgary*

VIDEO — At no other time in human history has it become so apparent that we must reduce our reliance on fossil fuels and vehicles powered by internal combustion engines. In Canada and in the rest of the developed world we are learning about the economic limitations and environmental problems related to our transportation decisions. This video looks at examples from The Netherlands and China where the bike is either the primary mode of transport or co-exists with the car. The video was designed for junior and senior high school students to encourage them to question and discuss their current modes of transportation and to evaluate the many alternatives available to them. 15 minutes. Calgary, Canada, University of Calgary, 2001.

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TE VIDEO 27

**Field Trip: Southwest Airlines**

*CEV Multimedia*

VIDEO — Watch daily operations, pilot and flight attendant training, mechanical maintenance and safety procedures. Historical clips, interviews- including co-founder and CEO Herb Kelleher- and footage of airline activities and the national headquarters in Dallas tell the tale of the airline famous for peanuts, prices and people. A supplement is included. 29 minutes. Lubbock, TX, CEV Multimedia, 1999.