CANADIAN LEARNING COMPANY

Learning Resources

A selection of Math programs on videotape

Discrete Mathematics

The Graphing Calculator Series

This program features an expert mathematics teacher explaining classroom use of the calculator. Using examples from personal experience, you see how challenges are met applying this new technology to mathematics instruction.

The Graphing Calculator, produced in 1992 by the Nebraska Math and Science Coalition, also shows students using calculators in collaborative work groups and includes interviews during which students describe their feelings about using the calculator. Studio discussions with the expert teacher covers other issues of classroom use and calculator maintenance.

Animation and dramatizations illustrate many of the examples shown throughout the program. A large screen graphing calculator is used in the sequence explaining calculator keystrokes, making it easier for viewing students to practice on their own calculators.

The accompanying study guide includes summaries of all calculator input sequences, extensions of mathematics concepts included in the programs, and further examples of problems formatted for classroom use.

30 minutes, order 5-4228-IN

Fast Forward To Math & Science: Using Tv & Tech Effectively

Cd-rom

Professional
minutes, order 5-4595-IN

The Graphing Calculator Series

This interesting and challenging math instruction series is built around four major themes which are the subject of each of the series' four programs... classroom use, discrete mathematics, programming and visualization.

Each program feature an expert mathematics teacher explaining her or his classroom use of the graphing calculator. Using examples from their own teaching experiences, the teachers show how they meet the challenge of applying this new technology to mathematics instruction.

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In the Classroom
Order 5-4227

Discrete Mathematics
Order 5-4228

Programming
Order 5-4229

Visualization Tools
Order 5-4229
30 minutes each

Professional
120 minutes, order 5-42270-IN

Interactions: Real Math, Real Careers Series

"At last, a series where kids get the connection that they need math to make their dreams come true...from playing in a rock band, to making movies, designing fashions, or commanding a space flight! INTERACTIONS should be in every middle and high school classroom." Colleen Hartry, Parent Film and Television Reviews.

Demonstrating the range of math applications in the workplace is a challenge for most teachers. The mandate of INTERACTIONS was to bring real-world math applications into the classroom, and that's what it does.

Every program is videotaped on location so students can experience the adventure of successful professionals applying real math principles.

Created by the Foundation for Advancements in Science and Education (FASE), each title comes with a Teacher's Guide.

Solar Energy

Can people in remote rural areas who are far from electric generating plants get power for their lights and appliances? Solar cells make it possible.

Mechanical and electrical engineers take your students through the process of designing and installing solar cell panels in remote locations. Math topics include: geometry, percentages.

12 minutes, order 5-4436

Water Resources

What does it take to estimate how much water a large city will need 25 years from now? The chief of urban water conservation for the State of California explains the challenges of supplying water to a growing population of millions, much of which lives in the desert. Math topics include: patterns/functions, measurement.
12 minutes, order 5-4437

Endangered Species

Can we bring back animal species that are on the brink of extinction? A Native American biologist, who combines scientific training and traditional values, recalls his part in bringing the bald eagle off the endangered species list. Math topics include: ratios, patterns.
11 minutes, order 5-4438

Recycling

A few years ago, Seattle faced an overwhelming garbage crisis. City planners and engineers describe how they created a recycling program that has become a model for North America. Your students will see, from beginning to end, how the recycling process gets done. Math topics include percents and fractions.
13 minutes, order 5-4439

Digital Communication

What is the information "superhighway" really all about? Communications engineers at GTE and US West Provide a remarkably clear introduction to the basic concepts of the digital communications revolution. Your students will see how trillions of 1's and 0's make up the digital codes that become video images, graphics and sounds on computers, and increasingly, on our television screens. Math topics include: exponents, patterns/functions, powers of 10.
11 minutes, order 5-4440

Making Music

Do musicians really use math? A composer takes students behind the scenes as she creates music for HBO's "Comic Relief" special, and a renowned percussionist demonstrates the rhythmic patterns used to create familiar musical styles. Math topics include: ratios, proportions, fractions.
13 minutes, order 5-4441

The Fashion Business

In a rare visit to the design studios and factory at Levi Strauss & Company, design, marketing, and sales professionals reveal how they meet the demand for everybody's favourite clothing. Your students may never look at their jeans in the same way again. Math topics include: decimals, percents and statistics.
10 minutes, order 5-4442

Coaching an Athlete

What young athlete doesn't dream of being in the Olympics? From a dawn run, to workouts on the mats, the head judo coach for the U.S. Olympic Training Team uses math to create training programs that put his athletes at the peak of physical ability. Math topics include: percents, statistics.
11 minutes, order 5-4443

Designing a Product

How is a pair of sunglasses like a coffee maker? Both are the result of problem solving. A senior product designer at Bausch and Lomb takes students into the company's design studios and factory to see a new style of sunglasses being developed and manufactured. Math topics include: statistics, percents and geometry.
12 minutes, order 5-4444

Building a Rover

To traverse the surface of the Moon or Mars, a vehicle must be able to think for itself. At NASA's Jet Propulsion Lab, a team of scientists demonstrates the rover which will one day wander over Martian landscapes. Math topics include: geometry, patterns/functions.
11 minutes, order 5-4445

Voyage to Mars

How do you plot a course to Mars, from one moving planet to another? What are the impacts of space travel on the body and can human beings survive the trips?

Your students take a look at plans for a flight to Mars. Math topics include: geometry, decimals.
11 minutes, order 5-4446

Deep Sea Missions

It's cold, it's dark. The pressure is immense. A pilot and scientist navigate a remotely operated vehicle through one of the Earth's deepest underwater canyons, filming the ocean floor and collecting fragile marine samples.
12 minutes, order 5-4447
Ages 9 to 11, Ages 12 to 14
140 minutes, order 5-44360-IN

Power Of Algebra Series: (Ten, 15 Minute Programs)

State-of-the-art computer animation and on-site interviews with professionals who use algebra in their daily work, enhances this award winning new series that helps students turn mathematical stumbling blocks into building blocks for the future.

The series, which won a Gold Award from the Corporation for Public Broadcasting as well as a Bronze Apple in the 1989 National Educational Film and Video Festival, introduces viewers to important algebra concepts such as positive and negative numbers, exponents, basic properties, order of operations and inverse operations.

Each episode takes viewers on field trips to different locations where algebra is important to day-to-day operations.

Basic Properties

Explores the properties of addition and multiplication of numbers and variables. Discusses how these properties may be used to simplify algebraic problems.
code 5-2015

Factoring I

Defines variable and constant terms, polynomial, monomial, binomial, trinomial, factor, multiple, prime factor, divisor, the degree of polynomial, and quadratic equation.
code 5-2063

Factoring II

Reviews the vocabulary from Factoring Part One, and develops techniques for factoring a quadratic equation.
code 5-2064

Fractions

Shows the relationship between arithmetic fractions and algebraic fractions. Demonstrates how to reduce algebraic fractions by dividing out common fractions. Discusses addition, subtraction, multiplication and division.
code 5-2065

INVERSE OPERATIONS

Explores the nature of variables and introduces the process of solving equations through the formation of equivalent equations. Shows how algebra is used in everyday life to solve problems.
code 5-2013

Order Of Operations

Defines the order of operations for multiplication, division, addition and subtraction and within grouping symbols. Also covered are exponents and a discussion how these rules are used to simplify problems.
code 5-2014

Polynomials And Equations

Develops an understanding of like and unlike terms and defines polynomials. Explores the nature of different kinds of polynomials and presents methods for solving 2 equations in 2 unknowns. Demonstrates solving verbal problems.
code 5-2062

Positive & Negative Numbers

Explains the real number line and the effect of directions on the set of real numbers. Also shows relationship between positive, negative, and zero and shows the need and uses of positive and negative numbers.
code 5-2016

Using Positive Exponents

Defines exponents using positive integers and scientific notation. Illustrates the usefulness of exponents and introduces the rules of using them. Reinforces use of exponents in computing square and cubic measure.
code 5-2017

Words Into Symbols

Explains how expressions or sentences in words can be translated into algebraic expressions or sentences and introduces several problem-solving strategies.
Code 5-2066

Ages 12-18
minutes, order 5-2061-IN

Programming

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30 minutes, order 5-4229-IN

Using Tv & Technology In Math And Science Instruction Series

Highlighting the power and potential of technology in the classroom, this NTTI (National Teacher Training Institute) series provides a comprehensive review of the role instructional technology can play to increase teacher effectiveness and student motivation, comprehension and achievement in the classroom.

The series presents an introduction to the NTTI methodology and includes lessons modeled by master teachers nationwide which demonstrate specific techniques teachers can use to make video an interactive teaching tool. Used effectively, video and other instructional technologies promote analysis, discussion and hands-on exploration in the classroom.

The series consists of seven tapes and *Eyes Open! Hands On!* lesson plans. While each may be purchased individually, the complete package offers the best value and the most complete professional development experience.

The New Three R's (K-6)

Through three exciting video-based lessons, teachers will learn specific techniques to integrate video and technology (such as CD-ROM, HyperCard, and on-line telecommunications) into classroom instruction.
Order 5-4598, 45 minutes

The Electronic Blackboard (Grades 7-12)

Through three dynamic video-based lessons, teachers will learn specific techniques to integrate video and technology into classroom instruction.
Order 5-4599, 45 minutes

Teaching Science With Technology

The program brings together teachers and education and media experts to discuss the NTTI methodology and the role video and other technologies can play within a science curriculum, and offers several vibrant, hands-on model lessons.
Order 5-4600, 65 minutes

Teaching Math with Technology

This program focuses on the similarities between NTTI methodology and parallel components in mathematics education reform. The program includes several model hands-on lessons integrating the NCTM (National Council of Teachers of Mathematics) standards.
Order 5-4601, 65 minutes

Mirroring the Real World: Integrated Math and Science Instruction

A distinguished panel of education experts discusses national reform efforts that centre around the development of interdisciplinary learning environments. The program also provides educators with a step-by-step approach to creating integrated curricula for the classroom.
Order 5-4602, 60 minutes

The NTTI Model: Using Video to Facilitate Integrated Math and Science

Through exciting video clips and insightful discussion, teachers will discover the vast array of instructional television products available. They will learn specific utilization strategies and teaching techniques, review how to create an interdisciplinary video-based lesson, and see the benefits of team teaching.
Order 5-4603, 58 minutes

Facing the Future: Technology for Integrated Math and Science

A panel of educational professionals explores how multimedia and on-line telecommunications can be used to enhance an integrated math and science curriculum. The panel takes an in-depth look at the Internet as a classroom resource, reviews cost and access issues, and talks about the value of exploring World Wide Web sites.
Order 5-4604, 58 minutes

Eyes Open! Hands On!

Your ticket to the world of science within your classroom walls. These lesson plans will encourage students to be active learners. Each lesson plan presents detailed viewing procedures to meet learning objectives and are categorized in three broad scientific fields - Life Science, Physical Science, and Earth Investigation.

Order 5-4605 for Elementary/Middle School Lesson Plans

Order 5-4606 for Middle/Secondary School Lesson Plans

Professional
minutes, order 5-45980-IN

Visualization Tools

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30 minutes, order 5-4230-IN

This listing is correct as of Friday January 5, 2001 but is subject to change without notice. If this listing appears to be out of date, please contact us for up-to-date pricing and availability. This is Subject Nbr 158. For a brief master list of all available subjects, request document number 800. For an ORDER FORM, request document number 801

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