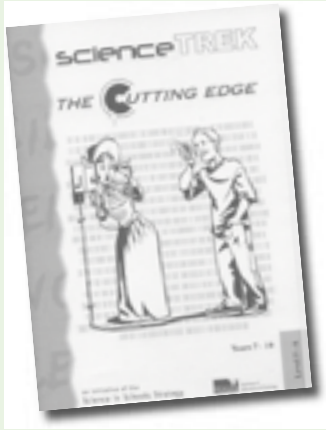


ScienceTrek science resources

Catalogue

ScienceTrek multimedia resources



The ScienceTrek multimedia resources are suited to the Middle Years of schooling. There are three components to the kits:

Video programs/DVD

The video programs are entertaining and informative and aim to engage, motivate and increase students' understanding of science and its relevance to their lives. They provide science in action, experts and footage of locations not normally accessible to students and teachers.

DVDs are available for some titles (indicated below).

Curriculum materials

A comprehensive package that includes sequenced learning activities that integrate ICT, video synopses, background notes, ready-to-use student worksheets, assessment strategies and safety notes where appropriate.

CD-ROMs

The CD-ROMs include a student and teacher section. The teacher section contains an electronic copy of the curriculum materials booklet. The student section provides interactive activities designed to reinforce and/or extend concepts developed in the video programs. Games, spreadsheets, morphing software, virtual experiments, images and information are included.

Level 5 (Years 7 – 8)

Science, slime and you



Item No #S532

\$55.00

The module introduces students to the processes involved in working scientifically. An experiment to develop a 'perfect' batch of slime is used as the vehicle to introduce students to the principles of working scientifically. This experiment could be integrated into a unit based on Chemical Science where students investigate solids, liquids and gases. Teachers wishing to explore 'working scientifically' themes may choose activities from the range of experiments described in these support materials.

Let's Rock!



Item No #S533

\$77.00

DVD \$25

Program 1: Alerts students to the fact we are dependent on the crust for the materials and everyday items we take for granted. It includes the structure of the Earth, the Earth's dynamic nature and rock classification. Program 2: Taking a rock for a date, examines the relative and absolute methods of rock dating. The program takes a closer look at how materials are extracted from the Earth and refined, and ways of caring for the crust highlights site rehabilitation after mining. Program 3: Work rocks!, explores career possibilities in the field of geology. From field geologists to planetary geologists, we meet a range of scientists who describe their work and what they enjoy about it. It includes a visit to the dinosaur dig at Inverloch.

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Trekking through space

Item No #S534

\$77.00



Program 1: Star search defines the Universe and takes a close look at features that lie outside our solar system. It includes how the vast distances between objects in space are measured, how scientists gather information about the features of the universe by interpreting the emissions of electromagnetic radiation and a brief look at the Search for Extra-Terrestrial Intelligence (SETI) project. Program 2: Spinning in space, examines the movement of the stars, the Earth and moon. The program investigates the effect of the tilt, orbit (revolution), and rotation of the Earth on day and night length and on the seasons. The effect of the moon on tides is examined and the use of the stars for navigation is described. Program 3: Careering through space, explores career possibilities in the field of space and aeronautical science. From planetary scientists to astronauts and astronomers we meet a range of people who describe their work and why they chose that career path.

Careering through science

Item No #S535

\$77.00

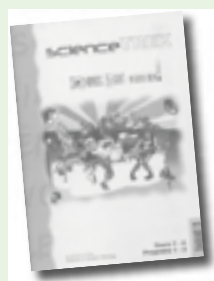


Program 1: Looks at careers in the area of Biological Science. The program begins with a crime scene set at the Victoria Forensic Science Centre, and follows the work of three forensic scientists solving the crime, and other people in a range of biological careers (a zoologist, a zookeeper, a veterinarian, a veterinary nurse, a food technologist and a food sensory scientist). Program 2: From face cream to football, showcases careers that require a background in physics and chemistry. We take a look at the role of the organic chemist in developing acne treatments and controlling insect pests in agriculture. A visit with a polymer chemist demonstrates how important polymer materials are in our everyday life. We also find out what science has to do with sport and how robots are helping to forecast the weather. Program 3: Careering through space, explores career possibilities in the field of space and aeronautical science (planetary scientists, astronauts and astronomers). Program 4: Work rocks! explores career possibilities in Earth Science, from field geologists to planetary geologists. The ScienceTrek reporters' visit to the Dinosaur Dreaming dig at Inverloch and the model tsunami generator at Monash University are special highlights.

Sounds, light - a good idea!

Item No #S536

\$66.00



Program 1: Introduces the concept that light is a form of energy and that it is obtained from the transformation of other forms of energy. Students learn that light travels in straight lines, light can be reflected, transmitted and absorbed by different substances and materials. The classification of materials as transparent, translucent or opaque is explored. The images formed in a variety of mirrors are investigated and the everyday applications of different shaped mirrors are described. Program 2: Sound's good! investigates the nature of sound. Comparisons are made between sound energy and light energy in relation to transmission through various media, the speed of transmission and the type of wave motion as well as reflection and absorption by different materials. It includes the production of sound by musical instruments from orchestral through to the didgeridoo, methods of changing pitch and the ears' response to different pitches, speed of sound and breaking of the 'sound barrier'.

Sizzling Science



Item No #S537

\$66.00

Program 1: All charged up! (Part 1), examines electricity in terms of the atomic model. Static electricity is defined and various examples are examined and explained, including static build up on materials, the Van de Graaff generator, lightning, and the Tesla coil. Students learn the difference between insulators and conductors and are introduced to the concept of voltage and conversion of chemical energy to electrical energy in batteries. Program 2: All charged up! (Part 2) looks at the applications of electricity. Components of electric circuits are described and various circuit types including simple, series, parallel and complex circuits are investigated. The concept of electrical resistance is introduced. Sources of electrical energy are described. The program leaves students contemplating life without electricity. Program 3: Extreme survivor, places the Pongee and Shivreee teams in environments of contrasting temperatures where they must complete various tasks that require understanding of the principles of conduction, convection, radiation, insulation and reflection. The terms thermal energy and heat transfer are defined and temperature is explained in terms of the particle theory of matter.

Awesome Forces & Amazing Machines



Item No #S538

\$66-00

DVD \$22

Program 1: Awesome Forces describes the effects of forces and looks at how they can be classified into two groups, contact and non-contact forces. The development of a scientific understanding of forces is examined in an historical context, with a particular emphasis on the roles played by Aristotle and Newton. It includes the forces of gravity and friction, the effect of balanced and unbalanced forces on the motion of objects, measurement of force and the application of force-measuring techniques in car crash research. Program 2: Amazing Machines challenges students' ideas about exactly what a machine is and what it does. The inclined plane, the lever and the wheel and axle are examined in detail. Sporting and everyday 'around-the-house' contexts are used to demonstrate the usefulness of machines. The development of complex mechanical machines by combining two or more simple machines is discussed.

The cutting edge

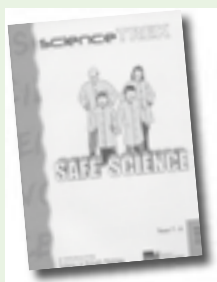


Item No #S539

\$55-00

Cutting edge investigates ways that science has been responsible for many improvements in our way of life. It looks at the development of communication technologies (including photonics), food science, medicine, biotechnology, transport and entertainment. The program ends with the latest scientific tool to be developed in Australia—the synchrotron.

Safe Science



Item No #S540

\$55-00

Students are introduced to laboratory techniques, appropriate behaviours and safety rules through which help them to participate safely in a range of science activities. The program is an exploration of the science classroom's safety features, the procedures that students are required to follow to ensure their own and their fellow students' personal safety, and the laboratory techniques through which any potential hazards are minimised.

