Hot topics

Science teaching resources

Australian curriculum: classroom approaches: science by Debra Talbot and Nicole Mockler. South Yarra, Vic: Palgrave Macmillan, 2013. 373.5 TAL

This book “includes 16 units of work developed from the Australian Curriculum for years 7 to 10. The units address scientific issues vital to the development of scientifically literate citizens and incorporate the content descriptions of all three curriculum strands of Science Understanding, Science as a Human Endeavour and Science Inquiry Skills in an integrated way.” – Back cover. (Years 7-10)


“The Discovering science series is fully aligned to Australian Curriculum science standards and content descriptions, making it an invaluable resource for science instruction in Australia. Each book in the series covers three interrelated science strands – Science Understanding, Science as a Human Endeavour and Science Inquiry Skills – as well as the related sub-strands.” Publisher website. The series consists of 7 volumes: Foundation, and one volume each for years 1-6. (Years F-6)


“The first section of Discussions in science explains the theoretical basis for the approach used … The second section presents a wide range of purpose written stories to read with your class and discuss. In each story, the young protagonists discuss their experiences in science, trying to make sense of the world. They raise scientific conceptual puzzles, methodological concerns and issues relating science beyond the classroom.” – Back cover. (Years 5-9)


“The experiments in this book use a range of everyday materials hopefully any parent or teacher should feel confident tackling any of these tasks. Teacher notes are provided.” – From resource. (Years 5-8)

From ochres to eel traps: Aboriginal science and technology resource guide for teachers edited by Helen Halling. Canberra: Science Educators Association of the ACT, 1999. 305.89 FRO

This book contains short chapters on the history and usage of: art pigments, boomerangs, woomera, natural resins and gums, separation of poisons from edible plants, bush foods, stone tool technology, Aboriginal inventors, bush medicine, specific uses of technology in a community, seasonal calendars, games and toys, and firesticks. Includes classroom activities. (Primary)

Independent science challenges: fascinating science projects to challenge and extend able students by Charlotte Samiec. Heatherton, Vic: Hawker Brownlow Education, 2006. 372.35 SAM

“Independent science challenges are stand-alone, long-term, in-depth, open-ended science research projects designed to challenge and extend students … over 40 interesting and sometimes controversial topics such as: global warming, nuclear power, tsunamis, GM food, cloning, weapons of mass destruction, evolution, and much more. These science challenges are great learning experiences because they can be differentiated to suit your students using multiple intelligences and learning styles.” – Back cover. (Years 5-9)

Life processes and living things by Margaret Abraitis et al. Albert Park, Vic: Teaching Solutions, 2008. 372.35 ABR

“Includes over 60 reproducible activity sheets, plus teachers’ notes giving background information, ideas for extension, answers to student pages, and teaching/safety notes. Topics include life processes, humans and other animals, green plants, variation and classification, and living things in their environment.” – Publisher description. (Years 5-6)

Materials and their properties by Margaret Abraitis et al. Albert Park, Vic: Teaching Solutions, 2008. 372.35 ABR

“A comprehensive resource for teaching science successfully at middle and upper grades. Each book contains over 60 photocopiable worksheets. Worksheets can be used as the basis for an interesting and creative science lesson, as a self-contained science course or as part of a thematic unit of work. Separate notes for teachers, ideas for extension, and answers to student questions.” – Website description. (Years 5-6)

Nelson iscience 7 for NSW by Elizabeth MacKenna et al. Melbourne: Cengage Australia, 2013. 500 NEL

Textbook and activity book available for year 7. The printed activity book for Year 7 “features activities which reinforce specific aspects of the syllabus. They help to develop prescribed skills, values and scientific knowledge and understanding. Group, paired and individual tasks are represented, as are guided and open-ended experimental investigations.” – Publisher. (Year 7)

Physical processes by Margaret Abraitis et al. Albert Park, Vic: Teaching Solutions, 2009. 372.35 ABR

“Includes over 60 reproducible activity sheets, plus teachers’ notes giving background information, ideas for extension, answers to student pages, and teaching/safety notes. Topics include electricity, forces and motion, light and sound, and the earth and beyond.” – Publisher description. (Years 3-6)

“Print, cut and fold your way through meaningful, hands-on science activities. Let your students explore all areas of science with over 60 technology-rich activities using Microsoft PowerPoint to create unique graphic organisers, study aids and desktop publications. Step-by-step lesson plans allow you to integrate technology into the science curriculum with ease and style.” – Back cover. (Years 3-8)

Sensational science: easy experiments with everyday objects by Pat O’Shea. Carlton South, Vic: Curriculum Corporation, 2005. 372.35 OSH

This book “will stimulate curiosity, excitement and interest in science in the middle school. It features over 50 hands-on experiments that develop students’ skills and experience in designing, testing, observing and evaluating.” – Back cover. (Years 3-7)

Teaching early years mathematics, science and ICT: core concepts and practice for the first three years of schooling by Geoff Hilton et al. Sydney: Allen & Unwin, 2014. 372.35 HIL

“A practical guide to teaching the core concepts in mathematics and science to children aged 5 to 8 years, and to integrating information and communication technology into the learning experience.” – Publisher website. (Children aged 5-8 years)


“Introductory chapters explain the principles of constructivism and their implications for learning and teaching. They also discuss core strategies for the development of science understanding and science inquiry processes and skills. An important new chapter assists readers to interpret the Australian Curriculum: Science. Throughout, it links strongly to the key ideas, themes and terminology of the Australian Curriculum: Science.” – Publisher website. (Primary)


“Over 40 reproducible activity sheets to help students understand life processes and living things. The worksheets reinforce the methods of scientific enquiry by requiring students to plan, carry out practical activities, consider evidence, and present ideas and conclusions.” – Publisher description. (Years 3-6)


“Over 40 reproducible activity sheets to help students understand the properties of materials through investigation.” – Publisher description. (Years 3-6)


“Over 40 reproducible activity sheets to help students understand physical processes. The focus is on forces and motion, electricity, light and sound, as well as the sun and moon and their relationship to the earth.” – Publisher description. (Years 3-6)

**DVDs**

**Backyard science: primary teaching resource.** Fitzroy, Vic: Australian Children’s Television Foundation, 2008. DVD BAC

“This innovative multimedia resource promotes the development of scientific literacy for children (Years 4-7) through 40 teaching strategies for classroom experiments, 80 digitised video clips, detailed science content notes, student worksheets, interactive games, Kahootz 3 animations and links to additional web resources.” – Back cover. (Years 4-7)

**Backyard science 2.** Fitzroy, Vic: Australian Children’s Television Foundation, 2012. DVD BAC

“Based on the Backyard science television series. Throughout the series, children experiment with everyday items in a fun and creative way, developing interesting scientific insights. Each segment contains: teaching activities and aligned student activity sheets; video clips with demonstrations of and discussions about the scientific experiments; investigative activities and short quizzes; material and equipment lists, with safety advice; a teacher information sheet explaining the science concepts within the activities; links to the Australian Curriculum.” – Distributor website. (Years 4-8)

**Conceptual physics alive! presented by Paul Hewitt.** Ann Arbor, Mi: Arbor Scientific, 2002. DVD CON

“Observe Hewitt teach in a classroom with real students, using engaging demonstrations and artwork.” – Publisher website.

Available: DVD 1: Linear motion, vectors and projectiles. DVD 2: Newton’s 1st, 2nd and 3rd laws. DVD 3: Momentum, energy, center of gravity, rotation. DVD 4: Gravity 1, gravity 2, satellite motion. DVD 5: Special relativity 1, special relativity 2, atoms. DVD 10: Electrostatics, electric current, magnetism and E&M induction, blooper, more goodies; Paul G. Hewitt, a personal view. Segments typically 30-40 minutes. (Secondary)

**Mangroves: a local ecosystem: a documentary by and for YR11 science students.** 42 min. Illawarra Environmental Education Centre, 2010. DVD MAN

This DVD includes resources from the Illawarra Environmental Education Centre to assist teachers and students of Stage 6 Biology and Senior Science. (Year 11)