Authorized Resources
Annotated List

Elementary Science

May 2011
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The primary intended audience for this document is:

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OVERVIEW

This comprehensive, annotated resource list is designed to assist in selecting science resources for elementary classrooms.

ORGANIZATION BY GRADE

The authorized resources are listed under two main headings: Series and Topic.

- Series

  The science series can comprise both teaching and student learning materials. In this annotated list, the resources that cover all or a majority of topics in a grade level are listed first.

- Individual Resources by Topic

  These resources stand alone as teacher reference or student learning materials. The single component resources often have application across a range of grade levels and are listed alphabetically within the grade level and topic. Resources that are suitable for more than one grade and/or topic appear for each of the applicable grades and topics, thus providing a comprehensive listing of materials for each grade and topic.

GENERAL RESOURCES

Following the lists for individual grades is a list of elementary science resources, which are not topic specific, authorized for Grade 1 to Grade 6. These resources are listed alphabetically with Authorized Teaching resources listed first, followed by Support resources.

ICONS

Print

Videocassette
RESOURCE AUTHORIZATION CATEGORIES

ELEMENTARY SCIENCE RESOURCES

This list contains science resources that have been authorized for use in Alberta schools. Alberta Education selects and authorizes the best possible instructional materials for the implementation of approved programs of study. The resource authorization categories are student basic, student support or authorized teaching, and the status is noted for each resource.

**Student Basic** learning resources are those student learning resources authorized by Alberta Education as the most appropriate for addressing the majority of outcomes of the course(s) or substantial components of the course(s); or the most appropriate for meeting general outcomes across two or more grade levels.

**Student Support** learning resources are those student learning resources authorized by Alberta Education to assist in addressing some of the outcomes of the course(s) or components of the course(s); or to assist in meeting the outcomes across two or more grade levels.

**Authorized Teaching** resources are those teaching resources identified as the best available resources to support the implementation of programs of study and courses; they may be teacher guides to accompany student resources or teacher professional resources. The authorized teaching guides are listed with the student resources.

The list of these resources is organized alphabetically by title.

**Note:** Alberta Education strongly recommends that teachers read all selections in the student resources and all activities in the teacher guides prior to using them with students. Careful consideration should be given to the sensitivities of both the student audience and the community.

AVAILABILITY

Most of the Alberta resources are available for purchase from:

Learning Resources Centre  
12360 – 142 Street, Edmonton, AB T5L 4X9  
Telephone: 780–427–5775  
Fax: 780–422–9750  
Internet: [http://www.lrc.education.gov.ab.ca](http://www.lrc.education.gov.ab.ca)

LRC order numbers and prices (as of the printing of this list) are included for each resource.

The cost of resources is subject to change without notice. Those resources available for purchase directly from the vendors/distributors are so noted. A list of vendors/distributors is located at the end of this document.
This series supports student-centred, activity-based science. It is organized around themes and topics that provide science–technology–society links and can be readily integrated into other curriculum areas. Students develop concepts, skills and attitudes through theme cards, student books and activity centres. Comprehensive teaching strategies, assessment ideas, centre activities, literature links and blackline masters are included for each theme.

TEACHER RESOURCES

Innovations in Science: Level 1: Teacher Resource Package

Copyright / ISBN 1990 / 9780774701884

Note: May 2011 LRC prices are quoted.
GRADE 1 – TOPIC A

Colours
First Discovery

Grade(s) 1
Support
Topic 1A
Copyright / ISBN 1990 / 9781851030880
Publisher Moonlight Publishing Ltd.
Distributor University of Toronto Press
Supplier Out-of-Print
Order No.: 310300
Sources of colours and the application of colours in everyday things are illustrated in this small book. Transparent overlays show the effect of adding one colour to another.

Jr. Paleontologist
Science-In-A-Crate

Grade(s) K, 1
Teaching
Copyright 2005
Publisher Science Alberta Foundation
Distributor Science Alberta Foundation
Supplier Science Alberta (see www.sciencealberta.org for further information)
Order No.: 706575
What is a paleontologist and what do paleontologists do? Using this resource, students learn to find fossils in a container of dusty sediments, make casts of fossils, compare sizes, and find how heavy some dinosaurs were. Students will also "build" sections of a dinosaur using flattened "bones" and make rubbings to show how dinosaur skin may have looked. A large-format picture book is provided to introduce the kit and stimulate student interest. Activities focus mainly on the science of fossil animals, but there are significant opportunities to apply math skills as well.

Note: May 2011 LRC prices are quoted.
This 64-page teacher guide introduces a set of learning activities suitable for developing a unit daily and seasonal change. Designed to be used with a related student edition, the guide outlines 7 lessons, each based on a learning model of activate, explore and apply. Lessons include sections on learning expectations, content background, preparations, questions, blackline masters, vocabulary, students assessment and suggestions for meeting needs of special students. Topics covered include day and night, the sun, weather, seasons, and the results of seasonal change. The guide includes assessment checklists and curriculum correlations based on the Ontario curriculum; these sections are the only parts not directly relevant to Alberta students and teachers.

How Animals Get Ready for Winter: Storage of food and accumulation of body fat are two methods by which animals prepare themselves for winter. Migration patterns, ways of seeking shelter for the winter and body adaptations are also shown.

Why Animals Live Where They Do: The common needs of animals and the different ways they meet those needs are described and illustrated. The dependence of animals on their particular environments is shown.

Plants and Animals Depend on Each Other: Animal dependence on plants for sources of food and shelter, as well as plant dependence on animals for nutrients and assistance in reproduction are illustrated. The exchange of oxygen and carbon dioxide is also described.

How Animals Live Through Winter: Fur, feathers and the accumulation of body fat help animals survive the winter. Different ways of finding food and shelter in the winter are also shown.

Note: Duplication rights for this title have expired, but it may still available for preview from the Regional Resource and Urban Media Centres.
Jr. Paleontologist

Science-In-A-Crate

Grade(s) K, 1

Teaching

Copyright 2005

Publisher Science Alberta Foundation

Distributor Science Alberta Foundation

Supplier Science Alberta (see www.sciencealberta.org for further information)

Order No.: 706575

What is a paleontologist and what do paleontologists do? Using this resource, students learn to find fossils in a container of dusty sediments, make casts of fossils, compare sizes, and find how heavy some dinosaurs were. Students will also "build" sections of a dinosaur using flattened "bones" and make rubbings to show how dinosaur skin may have looked. A large-format picture book is provided to introduce the kit and stimulate student interest. Activities focus mainly on the science of fossil animals, but there are significant opportunities to apply math skills as well.


Knee High Nature

Grade(s) 1

Teaching

Topic 1B

Copyright / ISBN 1994 / 9781551050485

Publisher Lone Pine Publishing

Distributor Lone Pine Publishing

Supplier Out-of-Print

Order No.: 304197

This coilbound teacher resource book provides information on living things found in Alberta environments, as well as suggestions suitable for indoor and outdoor studies. Each of the four seasonal resources focuses on particular groups of mammals, birds, insects and other living things that students are likely to encounter in a field trip taken in that season. The resources include stories and songs, and are extensively illustrated with simple line drawings.
This 60-page teacher guide introduces a set of learning activities suitable for developing a unit on structure and design. Designed to be used with a related student edition, the guide outlines seven lessons, each based on a learning model of activate, explore and apply. Lessons include sections on learning expectations, content background, preparations, questions, blackline masters, vocabulary, student assessment and suggestions for meeting needs of special students. Topics covered include structures (including houses and bridges), patterns, how things work, and how we can invent things. The guide includes assessment checklists and curriculum correlations based on the Ontario curriculum; these sections are the only parts not directly relevant to Alberta students and teachers.

This 16-page booklet introduces students to ideas about structures and design. Each page of the resource consists of full color photos and illustrations and one or more focusing questions given in very large print. The resource introduces the ideas of structures then develops the idea further by examining houses and bridges. Additional two page spreads deal with patterns, how things work, and how we can invent things. A glossary is included in this large-format, softcover booklet. A correlated teacher’s guide is also available.

What is a paleontologist and what do paleontologists do? Using this resource, students learn to find fossils in a container of dusty sediments, make casts of fossils, compare sizes, and find how heavy some dinosaurs were. Students will also "build" sections of a dinosaur using flattened "bones" and make rubbings to show how dinosaur skin may have looked. A large-format picture book is provided to introduce the kit and stimulate student interest. Activities focus mainly on the science of fossil animals, but there are significant opportunities to apply math skills as well.

This resource book provides general suggestions for planning and organizing a primary science program and for developing particular topics, including animals, plants, materials, moving things and sound.
What is a paleontologist and what do paleontologists do? Using this resource, students learn to find fossils in a container of dusty sediments, make casts of fossils, compare sizes, and find how heavy some dinosaurs were. Students will also "build" sections of a dinosaur using flattened "bones" and make rubbings to show how dinosaur skin may have looked. A large-format picture book is provided to introduce the kit and stimulate student interest. Activities focus mainly on the science of fossil animals, but there are significant opportunities to apply math skills as well.

Host Richard Zurawski helps his young co-hosts discover many things about the world in which they live. In this video, the world around us is perceived through the senses of sight, touch, smell, taste and hearing. Without them, we would not know that there is a world out there. We can fool the senses that we have. There are optical illusions and even ways to fool touch and taste. The hosts study the senses and find out how important they are to us.

Note: Duplication rights for this title have expired, but it may still available for preview from the Regional Resource and Urban Media Centres.

Pan-Canadian Science Place

Grade(s) 1

Topic 1D

Teaching

Copyright / ISBN 2000 / 9781552688878
Publisher Scholastic Canada Ltd.
Distributor Scholastic Canada Ltd.
Supplier LRC

Order No.: 470229 Est. Price: $32.75

This 80-page teacher guide supports teaching a unit on senses with lead-ins to a unit on building things. Designed to be used with a related student edition, the guide outlines nine lessons, each based on a learning model of activate, explore and apply. Lessons include sections on learning expectations, content background, preparations, questions, blackline masters, vocabulary, student assessment and suggestions for meeting needs of special students. Topics covered include use of the senses, characteristics of objects and materials, and use of materials to make things. The guide includes assessment checklists and curriculum correlations based on the Ontario curriculum; these sections are the only parts not directly relevant to Alberta students and teachers.

What's It Like? (Student Book)

Pan-Canadian Science Place

Grade(s) 1

Support

Copyright / ISBN 2000 / 9781552688960
Publisher Scholastic Canada Ltd.
Distributor Scholastic Canada Ltd.
Supplier LRC

Order No.: 470237 Est. Price: $7.80

This 16-page booklet develops student awareness of their senses and how they can use them to see what materials are like. Each page consists of full colour photographs and illustrations and one or more focusing questions given in very large print. Questions covered in the resource include How do your senses help you? How can things change? How are materials different? How are objects made and used? A glossary is included in this large-format, softcover booklet. A correlated teacher’s guide is also available.
### GRAGE 1 – TOPIC E

#### Animals in the Classroom: Selection, Care, and Observations

**Grade(s)** 1, 2, 3  
**Topics** 1E, 2E, 3E  
**Copyright / ISBN** 1989 / 9780201206791  
**Publisher** Addison-Wesley Publishers  
**Distributor** Pearson Canada  
**Supplier** LRC  
**Order No.:** 292293  
**Est. Price:** $38.10

This resource book provides basic information on the characteristics and care of a variety of mammals, birds, reptiles, amphibians, fish, insects and other small animals suitable for study in the classroom. An introductory section has general background on things to consider before bringing animals into a school. Each section includes notes on handling, housing, diet and reproduction. A brief list of observations, activities and questions is also included in each section.

#### Babies and Their Parents (2nd Ed.)  
**Animal Behavior**

**Grade(s)** 1, 3  
**Topics** 1E, 3E  
**Copyright** 1991  
**Publisher** Coronet Film & Video  
**Distributor** Magic Lantern Communications Ltd.  
**Supplier** Out-of-Print

Frogs, turtles, crocodiles, birds, jackals and elephants are used to illustrate the ways animals provide for their young. The instructional sequence explains how variations in parental care involve the provision of food, shelter, protection and training for the young.

#### A First Look at Birds

**Grade(s)** 1, 3, 5, 6  
**Topics** 1E, 3E, 5E, 6B  
**Copyright** 1993  
**Publisher** Aims Media  
**Distributor** Canadian Learning Company Inc.  
**Supplier** LRC  
**Order No.:** 325185  
**Est. Price:** $62.50

This video introduces viewers to a wide variety of bird species and describes the anatomic features that suit each bird to its habitat and way of living. Feeding habits, breeding, migration and communication methods are shown.

#### How Animals Get Their Food

**Grade(s)** 1  
**Topics** 1E  
**Copyright** 1988  
**Publisher** National Geographic Society  
**Distributor** National Geographic Society  
**Supplier** Regional Resource and Urban Media Centres (Non-Erasure)  
**Order No.:** 324236

Foods and feeding habits of a variety of animals from temperate and tropical environments are shown. Concepts of herbivore, carnivore and omnivore are developed.

**Note:** Duplication rights for this title have expired, but it may still available for preview from the Regional Resource and Urban Media Centres.

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**Note:** May 2011 LRC prices are quoted.

Pan-Canadian Science Place

Grade(s) 1    Teaching
Topic 1E

Copyright / ISBN 2000 / 9781552688786
Publisher Scholastic Canada Ltd.
Distributor Scholastic Canada Ltd.

Supplier LRC
Order No.: 470146 Est. Price: $32.75

This 76-page teacher guide provides a set of learning activities suitable for a unit on living things. Designed to be with a related student edition, the guide outlines ten lessons, each based on a learning model of activate, explore and apply. Lessons include sections on learning expectations, content background, preparations, questions, blackline masters, vocabulary, student assessment and suggestions for meeting needs of special students. Topics covered include characteristics of people, plants and animals; plant and animal needs; and animal movements. The guide includes assessment checklists and curriculum correlations based on the Ontario curriculum; these sections are the only parts not directly relevant to Alberta students and teachers.

It's Alive! (Student Book)

Pan-Canadian Science Place

Grade(s) 1    Support
Topic 1E

Copyright / ISBN 2000 / 9781552688939
Publisher Scholastic Canada Ltd.
Distributor Scholastic Canada Ltd.

Supplier LRC
Order No.: 470154 Est. Price: $7.80

This 16-page booklet introduces students to the characteristics and needs of living things. Each page of the resource consists of full colour photographs and illustrations, and one or more focusing questions given in very large print. Questions covered in the resource include: What are people like and what do they do? What are animals and plants like? What do they need to stay healthy? How do animals move? A glossary is included in this large-format, softcover booklet. A correlated teacher's guide is also available.

Jr. Paleontologist
Science-In-A-Crate

Grade(s) K, 1    Teaching

Copyright 2005
Publisher Science Alberta Foundation
Distributor Science Alberta Foundation
Supplier Science Alberta (see www.sciencealberta.org for further information)

Order No.: 706575

What is a paleontologist and what do paleontologists do? Using this resource, students learn to find fossils in a container of dusty sediments, make casts of fossils, compare sizes, and find how heavy some dinosaurs were. Students will also "build" sections of a dinosaur using flattened "bones" and make rubbings to show how dinosaur skin may have looked. A large-format picture book is provided to introduce the kit and stimulate student interest. Activities focus mainly on the science of fossil animals, but there are significant opportunities to apply math skills as well.

Nelson Science: Teacher's Classroom Manual: Key Stage 1

Nelson Science

Grade(s) 1, 2, 3    Teaching
Topics 1C, 1D, 1E, 2D, 3A, 3B, 3D

Copyright / ISBN 1990 / 0174231849
Publisher Nelson UK
Distributor Nelson Thomson Learning
Supplier Out-of-Print
Order No.: 293051

This resource book provides general suggestions for planning and organizing a primary science program and for developing particular topics, including animals, plants, materials, moving things and sound.
Primarily Plants: A Plant Study for K–3

Grade(s) 1

Teaching

Topic 1E

Copyright / ISBN 1990 / 9781932093179
Publisher Aims Education Foundation
Distributor Spectrum Educational Supplies Ltd.
Supplier LRC
Order No.: 301482 Est. Price: $50.00
This teacher resource book outlines 26 activities organized under four major headings: Plant Growth; Seeds, Spores and More; Plant Needs; Plant Parts. One-page activity outlines are supplemented with reproduction masters, some of which provide topical information, while others serve as activity outlines and record sheets for students.

Robert Bateman: Get to Know Interactive CD

Grade(s) K, 1, 2, 3, 4, 5, 6, 7, 8, 9

Support

Topic 1E / 2E / 3E / 4E / 5E / 6D / 6E / 7A / 7B / 8B / 8E / 9A

Copyright 2007
Publisher Morningstar Enterprises Inc.
Distributor Return of the Peregrine Falcon Society
Supplier LRC
Order No.: 749236 Est. Price: $43.80
Robert Bateman is a Canadian artist whose appreciation for wildlife and plants, love of nature and learning through observation and sketching are modeled throughout this interactive CD–ROM. The resource includes:
• a video introduction by Bateman and nine lesson plans, each of which focus on a particular group of plants or animals, or on a general technique for observing, recording and sketching
• a PowerPoint presentation on developing a field guide
• a series of “virtual hikes” where students find themselves in a natural area filled with wildlife. After locating a species within the area, the student can choose to listen to the animal’s call, see close-up views and learn about its habits. Each of the 24 hikes is located in parkland in Alberta, British Columbia or Ontario
• a set of quizzes, a glossary and a species list.

Where Animals Live

Grade(s) 1

Support

Topic 1E

Copyright 1988
Publisher National Geographic Society
Distributor National Geographic Society
Supplier Regional Resource and Urban Media Centres (Non-Erasure)
The variety of animals living in deserts, tropical rain forests, arctic environments and tropical mudflats are examined, with specific examples of animals and their habitats given.

Note: Duplication rights for this title have expired, but it may still available for preview from the Regional Resource and Urban Media Centres.
This series supports student-centred, activity-based science. It is organized around themes and topics that provide science–technology–society links and can be readily integrated into other curriculum areas. Students develop concepts, skills and attitudes through theme cards, student books and activity centres. Comprehensive teaching strategies, assessment ideas, centre activities, literature links and blackline masters are included for each theme.

TEACHER RESOURCES

Innovations in Science: Level 2: Teacher Resource Package
Copyright / ISBN 1990 / 9780774701891

Copyright / ISBN 1996 / 0774701897
The Art and Science Connection: Hands-On Activities for Intermediate Students

Grade(s) 2, 4, 5, 6
Topics 2A, 4A, 4D, 5C, 6D

Copyright / ISBN 1994 / 9780201455458
Publisher Addison-Wesley Publishers
Distributor Pearson Canada

Order No.: 292285 Est. Price: $41.95

Linkages between art and science are explored in 30 lessons, including topics on surface tension, roots and shoots, crime solving chemistry, seed adaptations and garbage sculpture. Each lesson outline provides an overview, background information, learning objectives, materials, preparations, and suggestions for guiding, concluding and extending the activity. General suggestions are provided for conducting art/science activities. A glossary and blackline masters are included.

Puddle Questions for Science: Performance Assessment Investigations: Grade 2

Grade(s) 2
Topics 2A, 2B

Copyright / ISBN 1995 / 9781561078424
Publisher Creative Publications
Distributor Pearson Canada

Order No.: 324939 Est. Price: $53.55

Approaches to performance-based assessment are described in this teacher resource and applied to eight different topics. Three of the topics: Penny Boats, Soak it Up and Puddle Observations are directly related to the Alberta Grade 2 science program.

Note: May 2011 LRC prices are quoted.
Boats and Buoyancy (2nd Ed.):
Lessons for Grade 2 (Elementary Science and Technology Teaching Unit)

Grade(s) 2  
Topic 2B  
Copyright 1997  
Publisher Faculty of Education University of Alberta  
Distributor IONCMASTE  
Supplier LRC  
Order No.: 416413  Est. Price: $8.25  
This set of teacher notes outlines a sequence for 10 lessons (15-22 periods) that are directly linked to the Alberta program of studies for science. The preface gives a brief statement of the philosophy and goals of this technology-related unit and provides practical suggestions for safe and effective use of materials. Lesson activities include an overview, a list of concepts and skills, background, materials, preparation, and a three-part teaching plan. Extension activities, sample student pages, and a list of suggested readings are also provided.

Puddle Questions for Science:
Performance Assessment Investigations: Grade 2

Grade(s) 2  
Topics 2A, 2B  
Copyright / ISBN 1995 / 9781561078424  
Publisher Creative Publications  
Distributor Pearson Canada  
Supplier LRC  
Order No.: 324939  Est. Price: $53.55  
Approaches to performance-based assessment are described in this teacher resource and applied to eight different topics. Three of the topics: Penny Boats, Soak it Up and Puddle Observations are directly related to the Alberta Grade 2 science program.
Mostly Magnets

Grade(s) 2  
Topic 2C

Teaching

Copyright / ISBN 1991 / 9781881431299
Publisher Aims Education Foundation
Distributor Spectrum Educational Supplies Ltd.
Supplier LRC
Order No.: 292392 Est. Price: $51.40

This teacher resource includes 27 activity outlines and related reproduction masters. Each activity outline has a key question, background information, instruction, suggestions for materials management, discussion questions and possible extensions.
This resource book provides general suggestions for planning and organizing a primary science program and for developing particular topics, including animals, plants, materials, moving things and sound.
Animals in the Classroom: Selection, Care, and Observations

Grade(s) 1, 2, 3  
Topics 1E, 2E, 3E  
Copyright / ISBN 1989 / 9780201206791  
Publisher Addison-Wesley Publishers  
Distributor Pearson Canada  
Supplier LRC  
Order No.: 292293  Est. Price: $38.10  
This resource book provides basic information on the characteristics and care of a variety of mammals, birds, reptiles, amphibians, fish, insects and other small animals suitable for study in the classroom. An introductory section has general background on things to consider before bringing animals into a school. Each section includes notes on handling, housing, diet and reproduction. A brief list of observations, activities and questions is also included in each section.

The Incredible World of Insects

Grade(s) 2  
Topic 2E  
Copyright 2000  
Publisher Marlin Motion Pictures Ltd.  
Distributor Marlin Motion Pictures Ltd.  
Supplier Regional Resource and Urban Media Centres (Non-Erasure)  
Order No.: 623589  
This 27-minute video introduces viewers to a variety of different kinds of insects, showing a broad range of insect characteristics. A brief introduction compares insects to other forms of arthropods including spiders, millipedes and centipedes. Similarities and differences are highlighted through close-up video sequences and low-key narration. This video is suitable for use in support of Topic E of the Science program for Grade 2.

Down Under: Discover Crawly Critters  
Science-In-A-Crate

Grade(s) 2  
Topic 2E  
Copyright 2006  
Publisher Science Alberta Foundation  
Distributor Science Alberta Foundation  
Supplier Science Alberta (see www.sciencealberta.org for further information)  
Order No.: 706567  Est. Price: $0.00  
Ernie Earthworm invites students to explore life in a simulated garden. Using this kit, teachers will have all the materials needed to set up eight activity stations, suitable for direct study by students. The kit includes posters of three garden environments and a host of plastic creatures to inhabit them. It provides magnetic picture cards for students to explore insect life cycles, plus another set to learn about “Who Eats Who?” It includes preserved specimens for examining under a magnifying glass, and slide viewers for insect parts that simulate use of a microscope. And for those brave enough to try it, the kit includes two worm colonies suitable for setting up in the classroom—in this case the critters need to be supplied by students or the teacher! A 20-minute video on insects, four picture books, and a variety of laminated cards provide added support to stimulate interest and support concept growth.

Note: Duplication rights for this title have expired, but it may still available for preview from the Regional Resource and Urban Media Centres.
Robert Bateman is a Canadian artist whose appreciation for wildlife and plants, love of nature and learning through observation and sketching are modeled throughout this interactive CD–ROM. The resource includes:

• a video introduction by Bateman and nine lesson plans, each of which focus on a particular group of plants or animals, or on a general technique for observing, recording and sketching
• a PowerPoint presentation on developing a field guide
• a series of “virtual hikes” where students find themselves in a natural area filled with wildlife. After locating a species within the area, the student can choose to listen to the animal’s call, see close-up views and learn about its habits. Each of the 24 hikes is located in parkland in Alberta, British Columbia or Ontario
• a set of quizzes, a glossary and a species list.
GRADE 3 SERIES

*Explorations in Science*

Publisher/Distributor: Addison-Wesley Publishers  
Author(s): Campbell, S. et al.

This series is an activity-based program that encourages students to get involved in science by exploring and experimenting with materials while working in a variety of groupings and settings. The program is organized in topics of study around five themes that provide a framework for science concepts and principles. The teacher's resource book has blackline masters; literature links; and extensive strategies for planning, implementing and exploring.

**STUDENT RESOURCES**

*Explore! A Book of Science: Level Four Student Resource Book*  
Copyright / ISBN 1992 / 9780201568066

**Innovations in Science**

Publisher/Distributor: Holt, Rinehart & Winston/Harcourt Brace & Co.  
Author(s): Peturson, R.; McAllister, N.

This series supports student-centred, activity-based science. It is organized around themes and topics that provide science–technology–society links and can be readily integrated into other curriculum areas. Students develop concepts, skills and attitudes through theme cards, student books and activity centres. Comprehensive teaching strategies, assessment ideas, centre activities, literature links and blackline masters are included for each theme.

**TEACHER RESOURCES**

Copyright / ISBN 1996 / 9780774701846

Note: May 2011 LRC prices are quoted.
Earth Really Rocks (Module + Parent Guide)
Learning Resource Series

Grade(s) 3  Teaching
Topic 3A
Copyright 2004
Publisher Canadian Centre for Energy Information
Distributor Canadian Centre For Energy Information
Supplier Vendor Direct (Canadian Centre For Energy Information)

This resource develops the concept of rock classification and the formation of petroleum. Through inquiry students develop their own classification system of rock samples and look at some features used by geologists in classifying rocks such as lustre, texture, porosity, and hardness. They visit an Internet site to explore what materials make up the earth's crust, to classify them and look at some uses of rocks. This resource supports three of the seven knowledge outcomes in grade 3 Science, Topic A: Rocks and Minerals. Two activities support science skill development.

Nelson Science: Teacher's Classroom Manual: Key Stage 1
Nelson Science

Grade(s) 1, 2, 3  Teaching
Topics 1C, 1D, 1E, 2D, 3A, 3B, 3D
Copyright / ISBN 1990 / 0174231849
Publisher Nelson UK
Distributor Nelson Thomson Learning
Supplier Out-of-Print
Order No.: 293051

This resource book provides general suggestions for planning and organizing a primary science program and for developing particular topics, including animals, plants, materials, moving things and sound.

Rocks and Minerals: Student Activity Book
Science and Technology for Children

Grade(s) 3  Support
Topic 3A
Copyright / ISBN 1997 / 9780892787470
Publisher National Science Resources Center
Distributor Carolina Biological Supply
Supplier Vendor Direct (Carolina Biological Supply Co.)
Order No.: 300054

In this topic, students observe rocks and minerals, noting similarities and differences, then develop a classification system based on the observed characteristics. Using sample materials, students test rocks for such properties as colour, luster, hardness, streak and weight. Reading selections relate the rocks to processes by which the rocks were formed. In this new edition, minor changes to the activity descriptions increase their clarity.
Challenging Artstraws: 14 Challenges for Integrating Science, Mathematics & Technology

Grade(s) 3
Topics 3B, 3C

Copyright / ISBN 1994 / 9781884461071
Publisher NES Arnold Educational
Distributor Technology Teaching Systems
Supplier Out-of-Print
Order No.: 304121

This teacher resource outlines a set of activities for building structures, using straws as the basic framework. Devices to be constructed include bridges, towers, supports, lifts, shelters, marble tracks and barriers. A general description and an illustration are provided for each activity.

Design & Make Activities: Grade 3: Building Structures

Grade(s) 3
Topics 3B, 3C

Copyright / ISBN 1994 / 1884461077
Publisher Technology Teaching Systems
Distributor Technology Teaching Systems
Supplier Out-of-Print
Order No.: 304155

This teacher guide provides background information and learning activities on building structures. The tools and techniques of building structures are described in the two introductory sections. The later sections outline specific activities in a clear outline format illustrated with line drawings.

Nelson Science: Teacher’s Classroom Manual: Key Stage 1

Grade(s) 1, 2, 3
Topics 1C, 1D, 1E, 2D, 3A, 3B, 3D

Copyright / ISBN 1990 / 0174231849
Publisher Nelson UK
Distributor Nelson Thomson Learning
Supplier Out-of-Print
Order No.: 293051

This resource book provides general suggestions for planning and organizing a primary science program and for developing particular topics, including animals, plants, materials, moving things and sound.

Stability

Addison-Wesley Science & Technology 3

Grade(s) 3
Topic 3B / 3C

Copyright / ISBN 2000 / 9780201649789
Publisher Addison-Wesley Longman Ltd.
Distributor Pearson Canada
Supplier LRC
Order No.: 427999 Est. Price: $15.85

This module provides text, illustrations and related activities that support most of the learning outcomes for the Grade 3 unit of the Alberta Elementary Science program.
Teaching Techniques for Elementary Technology
Design & Make

Grade(s) 2, 3, 4, 5, 6

Teaching

Topics 2B, 3B, 4C, 5B, 6B

Copyright / ISBN 1994 / 9781884461057
Publisher NES Arnold Educational
Distributor Technology Teaching Systems
Supplier LRC
Order No.: 304139 Est. Price: $16.35

This teacher resource book outlines construction techniques and student projects, using wood, cardboard, elastic bands and a variety of recycled materials. Activities include various fixed and moving structures, such as boats, airplanes, vehicles and devices that use electric motors. Construction suggestions and simple line drawings are provided for each activity.

Technology IDEAS (Integrating Design Education Activities for Students): A Teaching Resource Book

Grade(s) 3, 4, 5, 6

Teaching

Topics 3B, 4C, 5B, 6B

Copyright / ISBN 1993 / 9780029541548
Publisher Maxwell MacMillan Canada
Distributor Pearson Canada
Supplier LRC
Order No.: 291881 Est. Price: $35.35

This resource book provides teaching suggestions and blackline masters for 29 challenge activities covering a wide range of technologies. Challenges involve building structures and devices that will perform specific tasks. General suggestions for planning, organizing and using tools are also provided.

Pan-Canadian Science Place

Grade(s) 3

Teaching

Topic 3C

Copyright / ISBN 2000 / 9780779100194

Publisher Scholastic Canada Ltd.

Distributor Scholastic Canada Ltd.

Supplier LRC

Order No.: 470047 Est. Price: $32.75

This teacher’s guide introduces a set of learning activities for developing a unit on structures and how they are built. Designed to be used with a related student edition, the guide outlines 14 lessons, each based on a learning model of activate, explore and apply. Lessons include sections on learning expectations, content background, preparations, questions, blackline masters, vocabulary, student assessment and suggestions for meeting the needs of special students. Topics covered include uses of structures, structural shapes, construction materials, how materials and designs are tested, joining materials, construction tools and building a model “skyscraper.” The guide includes assessment checklists and curriculum correlations based on the Ontario curriculum; these sections are the only parts not directly relevant to Alberta students and teachers.

Build It Up (Student Book)

Pan-Canadian Science Place

Grade(s) 3

Support

Topic 3C

Copyright / ISBN 2000 / 9780779100286

Publisher Scholastic Canada Ltd.

Distributor Scholastic Canada Ltd.

Supplier LRC

Order No.: 470055 Est. Price: $9.00

This book supports student learning about structures and how they are built. Topics covered include uses of structures, structural shapes, construction materials, testing materials and designs, how materials and designs are tested, construction tools and building a model “skyscraper.” Brief readings in large print format are supported by learning activities and full colour photographs. A glossary is included. A correlated teacher’s guide is also available.

Building and Testing with a Variety of Materials (2nd Ed.): Lessons for Grade 3 (Elementary Science and Technology Teaching Unit)

Grade(s) 3

Teaching

Topic 3C

Copyright 1997

Publisher Faculty of Education University of Alberta

Distributor IONCMASTE

Supplier LRC

Order No.: 416439 Est. Price: $8.25

This set of teacher notes outlines a sequence for 8 lessons (11-17 periods) that are directly linked to the Alberta program of studies for science. The preface gives a brief statement of the philosophy and goals of this technology-related unit and provides practical suggestions for safe and effective use of materials. Lesson activities include an overview, a list of concepts and skills, background, materials, preparation, and a three part teaching plan. Extension activities, sample student pages, and a list of suggested readings are also provided.

Challenging Artstraws: 14 Challenges for Integrating Science, Mathematics & Technology

Design & Make

Grade(s) 3

Teaching

Topics 3B, 3C

Copyright / ISBN 1994 / 9781884461071

Publisher NES Arnold Educational

Distributor Technology Teaching Systems

Supplier Out-of-Print

Order No.: 304121

This teacher resource outlines a set of activities for building structures, using straws as the basic framework. Devices to be constructed include bridges, towers, supports, lifts, shelters, marble tracks and barriers. A general description and an illustration are provided for each activity.

Note: May 2011 LRC prices are quoted.
Design & Make Activities: Grade 3: Building Structures

Grade(s) 3
Topics 3B, 3C
Copyright / ISBN 1994 / 1884461077
Publisher Technology Teaching Systems
Distributor Technology Teaching Systems
Supplier Out-of-Print
Order No.: 304155
This teacher guide provides background information and learning activities on building structures. The tools and techniques of building structures are described in the two introductory sections. The later sections outline specific activities in a clear outline format illustrated with line drawings.

Stability
Addison-Wesley Science & Technology 3

Grade(s) 3
Support
Topic 3B / 3C
Copyright / ISBN 2000 / 9780201649789
Publisher Addison-Wesley Longman Ltd.
Distributor Pearson Canada
Supplier LRC
Order No.: 427999 Est. Price: $15.85
This module provides text, illustrations and related activities that support most of the learning outcomes for the Grade 3 unit of the Alberta Elementary Science program.

Note: May 2011 LRC prices are quoted.
Both light and sound engage our senses when we watch beautiful patterns of fireworks filling a night sky or when we listen to our favorite music. But what do we really know about these forms of energy? Part 1 of this resource explores some basic properties of light through a number of simple activities. Students learn to distinguish between opaque, translucent, and transparent, experience mixing colours, contrast reflection and refraction, and make a water lens. Part 2 allows students to discover some basic properties of sound. Simple experiments demonstrate that sound is vibration that travels through solids, liquids as well as gases. A distinction is made between pitch and loudness and students have opportunity to test different materials for making drumheads and strings of a stringed instrument. They also look at nature's wind music and make a wind instrument with a musical scale. The designated Teacher's Guide includes student learning objectives, background information to each topic and related activities, review questions for students, and additional blackline masters for checking student understanding and learning as well as assessment rubrics.
What is sound, what sounds do we hear, and how is it made and controlled? In this kit, students follow the adventures of Crash the Robot as he investigates sound through a series of seven activities. Materials provided for these activities include sound-producing devices, several discs and disc players, a sound meter, a game board and a variety of materials that can carry or muffle sounds. Following the seven activities students are given the challenge of producing sound effects to go with a series of "movie scene cards" based on Crash's experiences in studying sound.

This resource book provides general suggestions for planning and organizing a primary science program and for developing particular topics, including animals, plants, materials, moving things and sound.

This teacher guide outlines 10 activities for investigating sound, and includes learning expectations, materials, preparations and teaching suggestions. Activities examine sound sources, sound travel, characteristics of sound and methods for controlling sound characteristics. A glossary and suggestions for evaluation are provided.
Animals in the Classroom: Selection, Care, and Observations

Grade(s) 1, 2, 3  
Topics 1E, 2E, 3E  
Copyright / ISBN 1989 / 9780201206791  
Publisher Addison-Wesley Publishers  
Distributor Pearson Canada  
Supplier LRC  
Order No.: 292293  Est. Price: $38.10

This resource book provides basic information on the characteristics and care of a variety of mammals, birds, reptiles, amphibians, fish, insects and other small animals suitable for study in the classroom. An introductory section has general background on things to consider before bringing animals into a school. Each section includes notes on handling, housing, diet and reproduction. A brief list of observations, activities and questions is also included in each section.


Grade(s) 3  
Topic 3E  
Copyright / ISBN 2000 / 9781552689134  
Publisher Scholastic Canada Ltd.  
Distributor Scholastic Canada Ltd.  
Supplier LRC  
Order No.: 470097  Est. Price: $9.00

This 95-page teacher guide introduces a set of learning activities suitable for developing a unit on animal life cycles. Designed to be used with a related student edition, the guide outlines 14 lessons, each based on a learning model of activate, explore and apply. Lessons include sections on learning expectations, content background, preparations, questions, blackline masters, vocabulary, students assessment and suggestions for meeting needs of special students. Topics covered include comparing animals, life cycles of animals, stages in growth of example animals, and human life cycles (overview only). A glossary is included in this large-format, softcover book. A correlated teacher's guide is also available.

Animals Grow (Student Book)

Grade(s) 3  
Topic 3E  
Copyright / ISBN 2000 / 9781552689134  
Publisher Scholastic Canada Ltd.  
Distributor Scholastic Canada Ltd.

Supplier LRC  
Order No.: 470097  Est. Price: $9.00

This 32-page book introduces students to the study of animal life cycles. Topics covered include comparing animals, life cycles of animals, stages in growth of example animals, and human life cycles (overview only). Brief readings in large print format are supported by full-colour photographs. A glossary is included in this large-format, softcover book. A correlated teacher's guide is also available.

Babies and Their Parents (2nd Ed.)

Grade(s) 1, 3  
Topics 1E, 3E  
Copyright 1991  
Publisher Coronet Film & Video  
Distributor Magic Lantern Communications Ltd.  
Supplier Out-of-Print

Frogs, turtles, crocodiles, birds, jackals and elephants are used to illustrate the ways animals provide for their young. The instructional sequence explains how variations in parental care involve the provision of food, shelter, protection and training for the young.
The Bee
*Life Cycles*

**Grade(s)** 3

**Support**

**Topic 3E**

**Copyright / ISBN** 1997 / 9780817262259

**Publisher** Steck-Vaughn Co.

**Distributor** Nelson Thomson Learning

**Supplier** LRC

**Order No.:** 418089  **Est. Price:** $16.80

The life cycles of one plant and seven animal species are described and illustrated in this colourful set of easy-to-read books. A teacher guide provides background information and suggestions for developing and extending student learning. This new edition has expanded print and illustrations to increase the scope of knowledge conveyed by the resource.

The Butterfly
*Life Cycles*

**Grade(s)** 3

**Support**

**Topic 3E**

**Copyright / ISBN** 1997 / 9780817262273

**Publisher** Steck-Vaughn Co.

**Distributor** Nelson Thomson Learning

**Supplier** Out-of-Print

**Order No.:** 418039

The life cycles of one plant and seven animal species are described and illustrated in this colourful set of easy-to-read books. A teacher guide provides background information and suggestions for developing and extending student learning. This new edition has expanded print and illustrations to increase the scope of knowledge conveyed by the resource.

The Egg
*First Discovery*

**Grade(s)** 3

**Support**

**Topic 3E**

**Copyright / ISBN** 1990 / 1851030824

**Publisher** Moonlight Publishing Ltd.

**Distributor** University of Toronto Press

**Supplier** Out-of-Print

The structure and life cycle of birds are illustrated in this resource. Development of a chicken's egg is shown in detail, using transparent overlays to provide external and internal views.

The Elephant
*Life Cycles*

**Grade(s)** 3

**Support**

**Topic 3E**

**Copyright / ISBN** 1991 / 0811481778

**Publisher** Steck-Vaughn Co.

**Distributor** Nelson Thomson Learning

**Supplier** Out-of-Print

**Order No.:** 323022

The life cycles of one plant and seven animal species are described and illustrated in this colourful set of easy-to-read books. A teacher guide provides background information and suggestions for developing and extending student learning.
**GRADE 3 – TOPIC E**

### A First Look at Birds

**Grade(s)** 1, 3, 5, 6  
**Support**  
**Topics** 1E, 3E, 5E, 6B  
**Copyright** 1993  
**Publisher** Aims Media  
**Distributor** Canadian Learning Company Inc.  
**Supplier** LRC  
**Order No.:** 325185  
**Est. Price:** $62.50  
This video introduces viewers to a wide variety of bird species and describes the anatomic features that suit each bird to its habitat and way of living. Feeding habits, breeding, migration and communication methods are shown.

### Insect Metamorphosis

**Grade(s)** 3  
**Support**  
**Topic** 3E  
**Copyright** 2000  
**Publisher** Marlin Motion Pictures Ltd.  
**Distributor** Marlin Motion Pictures Ltd.  
**Supplier** Regional Resource and Urban Media Centres (Non-Erasure)  
**Order No.:** 623597  
This 22-minute video introduces viewers to two major types of insect metamorphosis: incomplete and complete. Detailed examples of the life cycle of the preying mantis and the monarch butterfly are used to show-step-by-step development. These in-depth sequences are then supported by numerous other insect examples. Narration is low-key and informative. Visuals provide clear close up views of all stages. This video is suitable for use in support of Topic E of the Science program for Grade 3. A 21-page teacher guide is provided.

### The Frog

**Life Cycles**

**Grade(s)** 3  
**Support**  
**Topic** 3E  
**Copyright / ISBN** 1991 / 0811481751  
**Publisher** Steck-Vaughn Co.  
**Distributor** Nelson Thomson Learning  
**Supplier** Out-of-Print  
The life cycles of one plant and seven animal species are described and illustrated in this colourful set of easy-to-read books. A teacher guide provides background information and suggestions for developing and extending student learning.

### The Kangaroo

**Life Cycles**

**Grade(s)** 3  
**Support**  
**Topic** 3E  
**Copyright / ISBN** 1997 / 9780817262334  
**Publisher** Steck-Vaughn Co.  
**Distributor** Nelson Thomson Learning  
**Supplier** LRC  
**Order No.:** 418055  
**Est. Price:** $17.85  
The life cycles of one plant and seven animal species are described and illustrated in this colourful set of easy-to-read books. A teacher guide provides background information and suggestions for developing and extending student learning. This new edition has expanded print and illustrations to increase the scope of knowledge conveyed by the resource.
Robert Bateman: Get to Know Interactive CD

Grade(s) K, 1, 2, 3, 4, 5, 6, 7, 8, 9

Support

Topic 1E / 2E / 3E / 4E / 5E / 6D / 6E / 7A / 7B / 8B / 8E / 9A

Copyright 2007

Publisher Morningstar Enterprises Inc.

Distributor Return of the Peregrine Falcon Society

Supplier LRC

Order No.: 749236 Est. Price: $43.80

Robert Bateman is a Canadian artist whose appreciation for wildlife and plants, love of nature and learning through observation and sketching are modeled throughout this interactive CD–ROM. The resource includes:

• a video introduction by Bateman and nine lesson plans, each of which focus on a particular group of plants or animals, or on a general technique for observing, recording and sketching
• a PowerPoint presentation on developing a field guide
• a series of “virtual hikes” where students find themselves in a natural area filled with wildlife. After locating a species within the area, the student can choose to listen to the animal’s call, see close-up views and learn about its habits. Each of the 24 hikes is located in parkland in Alberta, British Columbia or Ontario
• a set of quizzes, a glossary and a species list.

The Whale Life Cycles

Grade(s) 3

Support

Topic 3E

Copyright / ISBN 1997 / 9780817262266

Publisher Steck-Vaughn Co.

Distributor Nelson Thomson Learning

Supplier LRC

Order No.: 418071 Est. Price: $16.80

The life cycles of one plant and seven animal species are described and illustrated in this colourful set of easy-to-read books. A teacher guide provides background information and suggestions for developing and extending student learning. This new edition has expanded print and illustrations to increase the scope of knowledge conveyed by the resource.

The Salmon Life Cycles

Grade(s) 3

Support

Topic 3E

Copyright / ISBN 1997 / 9780817262341

Publisher Steck-Vaughn Co.

Distributor Nelson Thomson Learning

Supplier LRC

Order No.: 418063 Est. Price: $17.85

The life cycles of one plant and seven animal species are described and illustrated in this colourful set of easy-to-read books. A teacher guide provides background information and suggestions for developing and extending student learning. This new edition has expanded print and illustrations to increase the scope of knowledge conveyed by the resource.

Note: May 2011 LRC prices are quoted.
Explorations in Science

Publisher/Distributor: Addison-Wesley Publishers
Author(s): Campbell, S. et al.

This series is an activity-based program that encourages students to get involved in science by exploring and experimenting with materials while working in a variety of groupings and settings. The program is organized in topics of study around five themes that provide a framework for science concepts and principles. The teacher's resource book has blackline masters; literature links; and extensive strategies for planning, implementing and exploring.

Innovations in Science

Publisher/Distributor: Holt, Rinehart & Winston/Harcourt Brace & Co.
Author(s): Peturson, R.; McAllister, N.

This series supports student-centred, activity-based science. It is organized around themes and topics that provide science–technology–society links and can be readily integrated into other curriculum areas. Students develop concepts, skills and attitudes through theme cards, student books and activity centres. Comprehensive teaching strategies, assessment ideas, centre activities, literature links and blackline masters are included for each theme.
GRADE 4 – TOPIC A

The Art and Science Connection: Hands-On Activities for Intermediate Students

Grade(s) 2, 4, 5, 6
Topics 2A, 4A, 4D, 5C, 6D
Copyright / ISBN 1994 / 9780201455458
Publisher Addison-Wesley Publishers
Distributor Pearson Canada
Supplier LRC
Order No.: 292285 Est. Price: $41.95

Linkages between art and science are explored in 30 lessons, including topics on surface tension, roots and shoots, crime solving chemistry, seed adaptations and garbage sculpture. Each lesson outline provides an overview, background information, learning objectives, materials, preparations, and suggestions for guiding, concluding and extending the activity. General suggestions are provided for conducting art/science activities. A glossary and blackline masters are included.

Let's Recycle

Grade(s) 4
Topic 4A

Publisher Alberta Environmental Protection
Distributor Alberta Environment - Education & Outreach
Supplier Vendor Direct (Available Free of Charge)

A teacher's guide, colourful posters and activity masters cover the four R's: reduce, reuse, recycle and recover.

A Matter of Waste: A Waste Education Program for Grade 4 to 6

Grade(s) 4
Topic 4A
Copyright 1994
Publisher Alberta Environmental Protection
Distributor Alberta Environment - Education & Outreach
Supplier Vendor Direct (Available Free of Charge)
Order No.: 293275

A teacher's guide, colour posters, blackline masters, reproducible student booklet and information sheets are included in this resource on waste. Activities proceed from developing awareness of the different forms and amounts of waste generated, to learning about the effects of waste and means of its disposal. The student booklet relates the story of Michael and Meaghan, two young students who are researching the topic of waste.

My Life as a Plastic Bottle (DVD with Student’s Edition and Teacher’s Edition)

Grade(s) 4
Topic 4A
Copyright 2003
Publisher Regional Environmental Action
Distributor CinéFête
Supplier LRC
Order No.: 752407 Est. Price: $92.60

This 25-minute DVD provides the complete story of the “life” of a plastic bottle, from its origins as organic sediments, to its extraction as natural gas, through refining and manufacturing, until it reaches its high point as a clear plastic water bottle. From there we see dramatic reversals of fortune as it is cast into the garbage, then by chance escapes, only to enter a recycling stream and happily take life again as a recycled product. The story is narrated by the plastic bottle itself, with both animations and engaging portrayals of people who play a role in its life. Set mainly in northern Alberta, the video provides a credible look at life as it is lived there, both for the bottle and for the people shown. The 16-page teaching notes that accompany the resource provide source materials for six activities.
Grade(s) 4

Topic 4A

Teaching

What kinds of wastes are produced in nature and by human activity, and what happens to these wastes when they are released into the environment? Using this resource, students learn about the origin and form of waste substances, and how they may safely be disposed. Particular emphasis is given to potential impacts on water resources, and wastewater treatment. The kit includes hands-on-materials for seven activity stations, each suitable for 15 to 20 minutes of group activity. One of the activities, a water management game, could also be used to sustain activity of 30 minutes to an hour. Teacher guidance will be needed in ensuring student success in completing several of the activities.
GRADE 4 – TOPIC B

Building and Testing Vehicles that Move (2nd Ed.): Lessons for Grade 4 (Elementary Science and Technology Teaching Unit)

Grade(s) 4  Topic 4B / 4C
Copyright 1997
Publisher Faculty of Education University of Alberta
Distributor IONCMASTE
Supplier LRC
Order No.: 416447 Est. Price: $8.25
This set of teacher notes outlines a sequence for five lessons (8-12 periods) that are directly linked to the Alberta program of studies for science. The preface gives a brief statement of the philosophy and goals of this technology-related unit and provides practical suggestions for safe and effective use of materials. Lesson activities include an overview, a list of concepts and skills, background, materials, preparation, and a three-part teaching plan. Extension activities, sample student pages, and a list of suggested readings are also provided.

Design & Make Activities: Grade 4: Devices that Move

Pulleys
Simple Machines for Beginners

Grade(s) 4
Topic 4B
Copyright 1993
Publisher Coronet
Distributor Pearson Canada
Supplier Regional Resource and Urban Media Centres (Non-Erasure)
Straightforward diagrams of the individual components of a pulley are combined with humorous practical applications of fixed and movable pulleys. Imperial units are used in explanations of force advantage.
Note: Duplication rights for this title have expired, but it may still available for preview from the Regional Resource and Urban Media Centres.

Pulleys and Gears
Addison-Wesley Science & Technology 4

Grade(s) 4
Topic 4B / 4C
Copyright / ISBN 1999 / 9780201649833
Publisher Addison-Wesley Longman Ltd.
Distributor Pearson Canada
Supplier LRC
Order No.: 428062 Est. Price: $16.10
This module provides text, illustrations and related activities that support most of the learning outcomes for the Grade 4 unit of the Alberta Elementary Science program.

Note: May 2011 LRC prices are quoted.
Donny and Melissa learn how simple machines can be used to move things that they would otherwise not be able to lift. A lever, an inclined plane and a pulley system are used to lift a heavy object in an artist's studio. Donny and Melissa apply what they have learned to make a Rube Goldberg type contraption that combines all three simple machines.
Building and Testing Vehicles that Move (2nd Ed.): Lessons for Grade 4 (Elementary Science and Technology Teaching Unit)

Grade(s) 4
Topic 4B / 4C
Copyright 1997
Publisher Faculty of Education University of Alberta
Distributor IONCMASTE
Supplier LRC
Order No.: 416447 Est. Price: $8.25
This set of teacher notes outlines a sequence for five lessons (8-12 periods) that are directly linked to the Alberta program of studies for science. The preface gives a brief statement of the philosophy and goals of this technology-related unit and provides practical suggestions for safe and effective use of materials. Lesson activities include an overview, a list of concepts and skills, background, materials, preparation, and a three-part teaching plan. Extension activities, sample student pages, and a list of suggested readings are also provided.

Energy Machines (Module + Parent Guide)
Learning Resource Series

Grade(s) 4
Topic 4C
Copyright 2004
Publisher Canadian Centre for Energy Information
Distributor Canadian Centre For Energy Information
Supplier Vendor Direct (Canadian Centre For Energy Information)
This resource provides step-by-step instructions in building two mechanical structures. Building these structures provides opportunity for students to discover practical applications of both levers and pulley systems. Teacher guidance will be needed to focus student attention on the design and operation of these machines. This resource supports the grade 4 Science Program, Topic C: Building Devices and Vehicles that Move.

Design & Make Activities: Grade 4: Devices that Move

Grade(s) 4
Topics 4B, 4C
Copyright 1994
Publisher Technology Teaching Systems
Distributor Technology Teaching Systems
Supplier Out-of-Print
Order No.: 304163
This teacher guide provides background information and learning activities to support an instructional unit on vehicles and devices that move. An introductory section on the safe use of tools precedes four sections that outline specific activities on levers and linkages, simple machines, and building a variety of moving devices. All activities and techniques are illustrated with line drawings.

Motion and Design: Student Activity Book

Grade(s) 4
Topic 4C
Copyright / ISBN 1997 / 0892786779
Publisher Carolina Biological Supply Company
Distributor Carolina Biological Supply Company
Supplier Vendor Direct (Carolina Biological Supply Co.)
The student activity book provides activity outlines and diagrams that supplement the teacher guide and will assist students in working independently.

Note: May 2011 LRC prices are quoted.
101 Science Tricks: Fun Experiments with Science and Maths

Grade(s) 4, 6
Topics 4C, 4D, 6A
Copyright / ISBN 1990 / 0750005564
Publisher Simon & Schuster Young Books
Distributor Pearson Canada
Supplier Out-of-Print
Order No.: 298100

Over 70 mini-projects are outlined in this colourful resource book for students and teachers. Projects are organized in three main areas: optical devices, including periscopes, kaleidoscopes and flick books; devices that move, such as airplanes, helicopters and dragsters; and a variety of constructions made from paper. Activities are outlined in point form and supported by numerous illustrations that are integrated with the text.

Pulleys and Gears
Addison-Wesley Science & Technology 4

Grade(s) 4
Topic 4B / 4C
Copyright / ISBN 1999 / 9780201649833
Publisher Addison-Wesley Longman Ltd.
Distributor Pearson Canada
Supplier LRC
Order No.: 428062 Est. Price: $16.10

This module provides text, illustrations and related activities that support most of the learning outcomes for the Grade 4 unit of the Alberta Elementary Science program.

Teaching Techniques for Elementary Technology
Design & Make

Grade(s) 2, 3, 4, 5, 6
Topics 2B, 3B, 4C, 5B, 6B
Copyright / ISBN 1994 / 9781884461057
Publisher NES Arnold Educational
Distributor Technology Teaching Systems
Supplier LRC
Order No.: 304139 Est. Price: $16.35

This teacher resource book outlines construction techniques and student projects, using wood, cardboard, elastic bands and a variety of recycled materials. Activities include various fixed and moving structures, such as boats, airplanes, vehicles and devices that use electric motors. Construction suggestions and simple line drawings are provided for each activity.

Technology IDEAS (Integrating Design Education Activities for Students): A Teaching Resource Book

Grade(s) 3, 4, 5, 6
Topic 3B, 4C, 5B, 6B
Copyright / ISBN 1993 / 9780029541548
Publisher Maxwell MacMillan Canada
Distributor Pearson Canada
Supplier LRC
Order No.: 291881 Est. Price: $35.35

This resource book provides teaching suggestions and blackline masters for 29 challenge activities covering a wide range of technologies. Challenges involve building structures and devices that will perform specific tasks. General suggestions for planning, organizing and using tools are also provided.

Note: May 2011 LRC prices are quoted.

Elementary Science: Authorized Resources Annotated List
©Alberta Education, Alberta, Canada

GRADE 4 / 37
May 2011
Donny and Melissa learn how simple machines can be used to move things that they would otherwise not be able to lift. A lever, an inclined plane and a pulley system are used to lift a heavy object in an artist's studio. Donny and Melissa apply what they have learned to make a Rube Goldberg type contraption that combines all three simple machines.
The Art and Science Connection: Hands-On Activities for Intermediate Students

Grade(s) 2, 4, 5, 6
Topics 2A, 4A, 4D, 5C, 6D
Copyright / ISBN 1994 / 9780201455458
Publisher Addison-Wesley Publishers
Distributor Pearson Canada
Supplier LRC
Order No.: 292285 Est. Price: $41.95

Linkages between art and science are explored in 30 lessons, including topics on surface tension, roots and shoots, crime solving chemistry, seed adaptations and garbage sculpture. Each lesson outline provides an overview, background information, learning objectives, materials, preparations, and suggestions for guiding, concluding and extending the activity. General suggestions are provided for conducting art/science activities. A glossary and blackline masters are included.

Light and Sound (Student Book) Science & Technology Activities Resource Series

Grade(s) 3, 4
Topic 3D / 4D
Copyright / ISBN 2000 / 9781894318327
Publisher GTK Press
Distributor GTK Press (A Division of The Gateway to Knowledge Inc.)
Supplier LRC
Order No.: 673691 Est. Price: $9.50

Both light and sound engage our senses when we watch beautiful patterns of fireworks filling a night sky or when we listen to our favorite music. But what do we really know about these forms of energy? Part 1 of this resource explores some basic properties of light through a number of simple activities. Students learn to distinguish between opaque, translucent, and transparent, experience mixing colours, contrast reflection and refraction, and make a water lens. Part 2 allows students to discover some basic properties of sound. Simple experiments demonstrate that sound is vibration that travels through solids, liquids as well as gases. A distinction is made between pitch and loudness and students have opportunity to test different materials for making drumheads and strings of a stringed instrument. They also look at nature’s wind music and make a wind instrument with a musical scale. The designated Teacher's Guide includes student learning objectives, background information to each topic and related activities, review questions for students, and additional blackline masters for checking student understanding and learning as well as assessment rubrics.

Light
Addison-Wesley Science & Technology 4

Grade(s) 4
Support
Topic 4D
Copyright / ISBN 1999 / 9780201649826
Publisher Addison-Wesley Longman Ltd.
Distributor Pearson Canada
Supplier LRC
Order No.: 428020 Est. Price: $16.10

This module provides text, illustrations and related activities that support most of the learning outcomes for the Grade 4 unit of the Alberta Elementary Science program.

Note: May 2011 LRC prices are quoted.
Both light and sound engage our senses when we watch beautiful patterns of fireworks filling a night sky or when we listen to our favorite music. But what do we really know about these forms of energy? Part 1 of this resource explores some basic properties of light through a number of simple activities. Students learn to distinguish between opaque, translucent, and transparent, experience mixing colours, contrast reflection and refraction, and make a water lens. Part 2 allows students to discover some basic properties of sound. Simple experiments demonstrate that sound is vibration that travels through solids, liquids as well as gases. A distinction is made between pitch and loudness and students have opportunity to test different materials for making drumheads and strings of a stringed instrument. They also look at nature's wind music and make a wind instrument with a musical scale. The designated Teacher's Guide includes student learning objectives, background information to each topic and related activities, review questions for students, and additional blackline masters for checking student understanding and learning as well as assessment rubrics.
Plant Growth
Addison-Wesley Science & Technology 3

Grade(s) 4 Support
Topic 4E
Copyright / ISBN 2000 / 9780201649765
Publisher Addison-Wesley Longman Ltd.
Distributor Pearson Canada
Supplier LRC
Order No.: 428054 Est. Price: $16.10
This module provides text, illustrations and related activities that support most of the learning outcomes for the Grade 3 unit of the Alberta Elementary Science program.

Plant Growth and Changes (2nd. Ed.): A Sequence of Lessons for Grade 4 Students (Elementary Science and Technology Teaching Unit)

Grade(s) 4 Teaching
Topic 4E
Copyright 1997
Publisher Faculty of Education University of Alberta
Distributor IONCMASTE
Supplier LRC
Order No.: 416463 Est. Price: $12.55
This set of teacher notes outlines a sequence of 24 lesson activities that are directly linked to the Alberta program of studies for science. The preface gives a brief statement of the philosophy and goals of this technology-related unit and provides practical suggestions for safe and effective use of materials. Lesson activities include an overview, a list of concepts and skills, background, materials, preparations, and a three-part teaching plan. Extension activities, sample blackline masters, and a list of suggested readings are also provided.

Plant Growth and Development: Student Activity Book
Science and Technology for Children

Grade(s) 4 Support
Topic 4E
Copyright / ISBN 1991 / 0892786345
Publisher National Science Resources Center
Distributor Carolina Biological Supply Co.
Supplier Vendor Direct (Carolina Biological Supply Co.)
Order No.: 300062
Students observe the growth and development of a mustard seed plant from a seed until it produces seeds of its own, 41 days later. Working in groups, students germinate the seeds, thin and transplant seedlings, pollinate flowers, and harvest mature seeds. During the process, they observe, measure, record, draw, graph and construct models.

Plant Growth and Development: Teacher’s Guide
Science and Technology for Children

Grade(s) 4 Teaching
Topic 4E
Copyright / ISBN 1991 / 0892786337
Publisher National Science Resources Center
Distributor Carolina Biological Supply Co.
Supplier Vendor Direct (Carolina Biological Supply Co.)
Order No.: 293176
Students observe the growth and development of a mustard seed plant from a seed until it produces seeds of its own, 41 days later. Working in groups, students germinate the seeds, thin and transplant seedlings, pollinate flowers and harvest mature seeds. During the process, they observe, measure, record, draw, graph and construct models. This teacher's guide may be used in conjunction with the accompanying student activity book but provides sufficient information to be used on its own.
Robert Bateman: Get to Know Interactive CD

Grade(s) K, 1, 2, 3, 4, 5, 6, 7, 8, 9
Topic 1E / 2E / 3E / 4E / 5E / 6D / 6E / 7A / 7B / 8B / 8E / 9A
Copyright 2007
Publisher Morningstar Enterprises Inc.
Distributor Return of the Peregrine Falcon Society
Supplier LRC
Order No.: 749236 Est. Price: $43.80

Robert Bateman is a Canadian artist whose appreciation for wildlife and plants, love of nature and learning through observation and sketching are modeled throughout this interactive CD–ROM. The resource includes:
- a video introduction by Bateman and nine lesson plans, each of which focus on a particular group of plants or animals, or on a general technique for observing, recording and sketching
- a PowerPoint presentation on developing a field guide
- a series of "virtual hikes" where students find themselves in a natural area filled with wildlife. After locating a species within the area, the student can choose to listen to the animal’s call, see close-up views and learn about its habits. Each of the 24 hikes is located in parkland in Alberta, British Columbia or Ontario
- a set of quizzes, a glossary and a species list.


Grade(s) 4
Topic 4E
Copyright / ISBN 2000 / 9781552689189
Publisher Scholastic Canada Ltd.
Distributor Scholastic Canada Ltd.
Supplier LRC
Order No.: 470063 Est. Price: $32.75

This teacher’s guide introduces a set of learning activities suitable for developing a unit on plants. Designed to be used with a related student edition, the guide outlines 14 lessons, each based on a learning model of activate, explore and apply. Lessons include sections on learning expectations, content background, preparations, questions, blackline masters, vocabulary, student assessment and suggestions for meeting the needs of special students. Topics covered include characteristics of plants, how plants make food, plant uses, plant needs, care of plants and seed production, travel and growth. The guide includes assessment checklists and curriculum correlations based on the Ontario curriculum; these sections are the only parts not directly relevant to Alberta students and teachers.

Watch It Grow! (Student Book)

Grade(s) 4
Topic 4E
Copyright / ISBN 2000 / 9780779100255
Publisher Scholastic Canada Ltd.
Distributor Scholastic Canada Ltd.
Supplier LRC
Order No.: 470071 Est. Price: $9.00

This book introduces students to the study of plants. Topics covered include characteristics of plants, how plants make food, plant uses, plant needs, care of plants and seed production, travel and growth. Brief readings in large print format are supported by learning activities and full colour photographs. A glossary is included. A correlated teacher’s guide is also available.
This series supports student-centred, activity-based science. It is organized around themes and topics that provide science–technology–society links and can be readily integrated into other curriculum areas. Students develop concepts, skills and attitudes through theme cards, student books and activity centres. Comprehensive teaching strategies, assessment ideas, centre activities, literature links and blackline masters are included for each theme.

**STUDENT RESOURCES**

- **Innovations in Science: Level 5 (Student Book) (Alberta Edition)**
  
  Copyright / ISBN 1996 / 9780774701785

**TEACHER RESOURCES**

  
  Copyright / ISBN 1995 / 9780774701792

Note: May 2011 LRC prices are quoted.
**Design & Make Activities: Grade 5: Electricity**

**Grade(s)** 5  
**Topics** 5A, 5B  
**Copyright** 1994  
**Publisher** Technology Teaching Systems  
**Distributor** Technology Teaching Systems  
**Supplier** Out-of-Print  
**Order No.:** 304147

This teacher guide provides information on construction techniques and learning activities to support an instructional unit on electricity. All activities are clearly outlined and illustrated with line drawings.

**Electric Circuits: Student Activity Book**  
*Science and Technology for Children*

**Grade(s)** 5  
**Topics** 5A, 5B  
**Copyright / ISBN** 1991 / 9780892785896  
**Publisher** National Science Resources Center  
**Distributor** Carolina Biological Supply Co.  
**Supplier** Out-of-Print  
**Order No.:** 293217

This student activity book provides activity outlines and diagrams that supplement the teacher's guide and assist students in working independently.

**Electric Circuits: Teacher's Guide**  
*Science and Technology for Children*

**Grade(s)** 5  
**Topics** 5A, 5B  
**Copyright** 1991  
**Publisher** National Science Resources Center  
**Distributor** Carolina Biological Supply Co.  
**Supplier** Out-of-Print  
**Order No.:** 293209

This teacher guide outlines 16 activities for the study of electric circuits, based on student investigations with batteries, bulbs and wires. Initial work in finding ways to make a bulb light is extended through a series of investigations in which students try different materials and ways of assembling materials, leading from simple circuits to various series and parallel circuits. All activities are clearly laid out in a format that includes objectives, background information, materials, preparations, instructional procedures, and suggestions for extension and evaluation. Appendices provide sample assessment tests, a student record chart, tips on the use of materials and troubleshooting problems, and a bibliography.

**Electrical Connections**

**Grade(s)** 5  
**Topics** 5A, 5B  
**Copyright / ISBN** 1991 / 9781881431282  
**Publisher** Aims Education Foundation  
**Distributor** Spectrum Educational Supplies Ltd.  
**Supplier** LRC  
**Order No.:** 292417  
**Est. Price:** $42.50

Twenty-two classroom activities for studying electric circuits and electrical applications are outlined in this teacher resource. Each activity outline includes an introductory statement, key questions, background information, management suggestions, procedures and extensions. Up to five blackline masters are provided with each lesson.

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Note: May 2011 LRC prices are quoted.

Elementary Science: Authorized Resources Annotated List  
©Alberta Education, Alberta, Canada
GRADE 5 – TOPIC A

**Electrical Energy (Student Book)**

*Science Turns Minds On*

**Grade(s)** 5  
**Support**

**Topics** 5A, 5B  
**Copyright / ISBN** 1993 / 9780022742683  
**Publisher** Glencoe MacMillan McGraw Hill  
**Distributor** McGraw-Hill Ryerson Ltd.  
**Supplier** Out-of-Print  
**Order No.:** 304501

An 80-page, softcover, brightly illustrated student book provides information and activities for the study of electricity. Topics include static electricity, electric circuits, electromagnets and sources of electrical power.

**Electrically Charged: The Complete Guide to Teaching Elementary Electricity (Teacher Resource Book)**

*Active Learning*

**Grade(s)** 5  
**Teaching**

**Topic** 5A  
**Copyright** 1994  
**Publisher** Exclusive Educational Products  
**Distributor** Exclusive Educational Products  
**Supplier** LRC  
**Order No.:** 310285  
**Est. Price:** $36.00

Techniques for constructing simple circuits and applying student knowledge to a variety of projects are supported through this resource binder. Background information for teachers and suggested materials are outlined in a general section that introduces an extensive set of one-page activity outlines. Activities are open-ended and provide opportunity for individual and cooperative work.

**Electricity with Bulbs, Batteries, Foil, Clothespins and Simple Things**

*Science with Simple Things*

**Grade(s)** 5  
**Support**

**Topic** 5A / 5B  
**Copyright / ISBN** 2000 / 9780941008532  
**Publisher** TOPS Learning Systems  
**Distributor** Science Is...  
**Supplier** LRC  
**Order No.:** 414433  
**Est. Price:** $32.55

This teacher resource book provides background information, lesson outlines and blackline masters for 20 learning activities on electricity suitable for use at grade 5. Topics developed in this resource include circuits, conductors, insulators, resistance and switches. Activities are based on simple materials such as batteries, bulbs, aluminum foil, tape and paper clips. Blackline masters provide clear illustrations of activities. Key steps are illustrated in a light-hearted way through use of cartoon characters. This new (©2000) edition includes a minor reformatting of the graphics.

**Everyone Loves a Parade: An Integrated Unit for: Electricity and Magnetism: Mechanisms Using Electricity: Grade 5 (Elementary Science and Technology Teaching)**

**Grade(s)** 5  
**Teaching**

**Topic** 5A / 5B  
**Publisher** Faculty of Education University of Alberta  
**Distributor** IONCMASTE  
**Supplier** LRC  
**Order No.:** 416471  
**Est. Price:** $12.55

This set of teacher notes outlines a sequence for 18 lesson activities that are directly linked to the Alberta program of studies for science. The preface gives a brief statement of the philosophy and goals of this technology-related unit and provides practical suggestions for safe and effective use of materials. Lesson activities include an overview, a list of concepts and skills, background, materials, preparation, and a three-part teaching plan. Extension activities, sample student pages, and a list of suggested readings are also provided.

Note: May 2011 LRC prices are quoted.
Magnets and Motors: Student Activity Book
Science and Technology for Children

Grade(s) 5 Support
Topics 5A, 5B

Copyright 1991
Publisher National Science Resources Center
Distributor Carolina Biological Supply Co.
Supplier Vendor Direct (Carolina Biological Supply Co.)
Order No.: 293225

This student activity book provides activity outlines and diagrams that supplement the teacher's guide and assist students in working independently.
Design & Make Activities: Grade 5: Electricity

Grade(s) 5
Topics 5A, 5B
Copyright 1994
Publisher Technology Teaching Systems
Distributor Technology Teaching Systems
Supplier Out-of-Print
Order No.: 304147
This teacher guide provides information on construction techniques and learning activities to support an instructional unit on electricity. All activities are clearly outlined and illustrated with line drawings.

Electric Circuits: Student Activity Book
Science and Technology for Children

Grade(s) 5
Topics 5A, 5B
Copyright / ISBN 1991 / 9780892785896
Publisher National Science Resources Center
Distributor Carolina Biological Supply Co.
Supplier Out-of-Print
Order No.: 293217
This student activity book provides activity outlines and diagrams that supplement the teacher's guide and assist students in working independently.

Electric Circuits: Teacher's Guide
Science and Technology for Children

Grade(s) 5
Topics 5A, 5B
Copyright 1991
Publisher National Science Resources Center
Distributor Carolina Biological Supply Co.
Supplier Out-of-Print
Order No.: 293209
This teacher guide outlines 16 activities for the study of electric circuits, based on student investigations with batteries, bulbs and wires. Initial work in finding ways to make a bulb light is extended through a series of investigations in which students try different materials and ways of assembling materials, leading from simple circuits to various series and parallel circuits. All activities are clearly laid out in a format that includes objectives, background information, materials, preparations, instructional procedures, and suggestions for extension and evaluation. Appendices provide sample assessment tests, a student record chart, tips on the use of materials and troubleshooting problems, and a bibliography.

Electrical Connections

Grade(s) 5
Topics 5A, 5B
Copyright / ISBN 1991 / 9781881431282
Publisher Aims Education Foundation
Distributor Spectrum Educational Supplies Ltd.
Supplier LRC
Order No.: 292417 Est. Price: $42.50
Twenty-two classroom activities for studying electric circuits and electrical applications are outlined in this teacher resource. Each activity outline includes an introductory statement, key questions, background information, management suggestions, procedures and extensions. Up to five blackline masters are provided with each lesson.
GRADE 5 – TOPIC B

**Electrical Energy (Student Book)**
*Science Turns Minds On*

Grade(s) 5  
Topics 5A, 5B  
Support

Copyright / ISBN 1993 / 9780022742683  
Publisher Glencoe MacMillan McGraw Hill  
Distributor McGraw-Hill Ryerson Ltd.  
Supplier Out-of-Print  
Order No.: 304501
An 80-page, softcover, brightly illustrated student book provides information and activities for the study of electricity. Topics include static electricity, electric circuits, electromagnets and sources of electrical power.

**Electricity**  
*Addison-Wesley Science & Technology 6*

Grade(s) 5  
Topic 5B  
Support

Copyright / ISBN 1999 / 9780201614046  
Publisher Addison-Wesley Longman Ltd.  
Distributor Pearson Canada  
Supplier LRC  
Order No.: 428070  Est. Price: $16.10
This module provides text, illustrations and related activities that support most of the learning outcomes for the Grade 6 unit of the Alberta Elementary Science program.

**Electricity with Bulbs, Batteries, Foil, Clothespins and Simple Things**  
*Science with Simple Things*

Grade(s) 5  
Topic 5A / 5B  
Support

Copyright / ISBN 2000 / 9780941008532  
Publisher TOPS Learning Systems  
Distributor Science Is...  
Supplier LRC  
Order No.: 414433  Est. Price: $32.55
This teacher resource book provides background information, lesson outlines and blackline masters for 20 learning activities on electricity suitable for use at grade 5. Topics developed in this resource include circuits, conductors, insulators, resistance and switches. Activities are based on simple materials such as batteries, bulbs, aluminum foil, tape and paper clips. Blackline masters provide clear illustrations of activities. Key steps are illustrated in a light-hearted way through use of cartoon characters. This new (©2000) edition includes a minor reformattting of the graphics.

**Everyone Loves a Parade: An Integrated Unit for: Electricity and Magnetism: Mechanisms Using Electricity: Grade 5 (Elementary Science and Technology Teaching)**

Grade(s) 5  
Topic 5A / 5B  
Teaching

Publisher Faculty of Education University of Alberta  
Distributor IONCMASTE  
Supplier LRC  
Order No.: 416471  Est. Price: $12.55
This set of teacher notes outlines a sequence for 18 lesson activities that are directly linked to the Alberta program of studies for science. The preface gives a brief statement of the philosophy and goals of this technology-related unit and provides practical suggestions for safe and effective use of materials. Lesson activities include an overview, a list of concepts and skills, background, materials, preparation, and a three-part teaching plan. Extension activities, sample student pages, and a list of suggested readings are also provided.

Note: May 2011 LRC prices are quoted.
GRADE 5 – TOPIC B

Magnets and Motors: Student Activity Book

Science and Technology for Children

Grade(s) 5
Topics 5A, 5B
Copyright 1991
Publisher National Science Resources Center
Distributor Carolina Biological Supply Co.
Supplier Vendor Direct (Carolina Biological Supply Co.)
Order No.: 293225
This student activity book provides activity outlines and diagrams that supplement the teacher's guide and assist students in working independently.

Teaching Techniques for Elementary Technology

Design & Make

Grade(s) 2, 3, 4, 5, 6
Topics 2B, 3B, 4C, 5B, 6B
Copyright / ISBN 1994 / 9781884461057
Publisher NES Arnold Educational
Distributor Technology Teaching Systems
Supplier LRC
Order No.: 304139 Est. Price: $16.35
This teacher resource book outlines construction techniques and student projects, using wood, cardboard, elastic bands and a variety of recycled materials. Activities include various fixed and moving structures, such as boats, airplanes, vehicles and devices that use electric motors. Construction suggestions and simple line drawings are provided for each activity.

Technology IDEAS (Integrating Design Education Activities for Students): A Teaching Resource Book

Grade(s) 3, 4, 5, 6
Topics 3B, 4C, 5B, 6B
Copyright / ISBN 1993 / 9780029541548
Publisher Maxwell MacMillan Canada
Distributor Pearson Canada
Supplier LRC
Order No.: 291881 Est. Price: $35.35
This resource book provides teaching suggestions and blackline masters for 29 challenge activities covering a wide range of technologies. Challenges involve building structures and devices that will perform specific tasks. General suggestions for planning, organizing and using tools are also provided.
The Art and Science Connection:
Hands-On Activities for
Intermediate Students

Grade(s) 2, 4, 5, 6
Topics 2A, 4A, 4D, 5C, 6D
Copyright / ISBN 1994 / 9780201455458
Publisher Addison-Wesley Publishers
Distributor Pearson Canada
Supplier LRC
Order No.: 292285 Est. Price: $41.95

Linkages between art and science are explored in 30 lessons, including topics on surface tension, roots and shoots, crime solving chemistry, seed adaptations and garbage sculpture. Each lesson outline provides an overview, background information, learning objectives, materials, preparations, and suggestions for guiding, concluding and extending the activity. General suggestions are provided for conducting art/science activities. A glossary and blackline masters are included.

Science and Technology for Children

Grade(s) 5
Topic 5C
Copyright / ISBN 2002 / 9780892789689
Publisher National Science Resources Center
Distributor Carolina Biological Supply Co.
Supplier Vendor Direct (Carolina Biological Supply Co.)
Order No.: 749252

This student activity book provides activity outlines and diagrams that supplement the teacher’s guide and assist students in working independently.

Chemical Tests: Teacher’s Guide
Science and Technology for Children

Grade(s) 5
Topic 5C
Copyright / ISBN 2004 / 9780892785605
Publisher National Science Resources Center
Distributor Carolina Biological Supply Co.
Supplier Out-of-Print
Order No.: 301432

This teacher guide outlines 16 activities for the study of chemical properties and interactions. Five common kitchen powders serve as the focus of these activities, starting from initial explorations and proceeding through a variety of tests involving reactions with other materials, examinations of crystals, observations of the effects of heat, and tests with indicator solutions. All activities include objectives, background information, materials, preparation, instructional procedures, and suggestions for extension and evaluation. Appendices provide sample assessment tests, student record sheets, a bibliography, instructions for preparing test solutions, and blackline masters that will be useful for organizing materials.
GRADE 5 – TOPIC D

Be Your Own Weather Expert
*Science Activity Books*

Grade(s) 5

**Support**

**Grade(s) 5**

**Topic 5D**

Copyright / ISBN 1991 / 0750008474

Publisher Simon & Schuster

Distributor Nelson Education Ltd.

Supplier Out-of-Print

Properties of air, weather phenomena, and simple means to investigate them are described in this colourful book. Organized in topical sections with two-page spreads and sidebars, each topic gives background information, explanations of what students may observe, and practical activities and devices that students can use in their own investigations. Topics include air pressure, winds, clouds, rain, snow and ice, weather forecasting, and changing climates. An index and glossary are provided.

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Ecosystem of a Pond

Grade(s) 5

**Support**

**Grade(s) 5**

**Topic 5D**

Copyright 1992

Publisher Aims Media

Distributor Canadian Learning Company Inc.

Supplier LRC

Order No.: 312190 Est. Price: $62.50

The techniques for studying pond life and the variety of creatures found living in a pond are shown. Close-up and microscopic views illustrate details of the structure of ponds and pond creatures.

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Weather
*Addison-Wesley Science & Technology 5*

Grade(s) 5

**Support**

**Grade(s) 5**

**Topic 5D**

Copyright / ISBN 1999 / 9780201649840

Publisher Addison-Wesley Longman Ltd.

Distributor Pearson Canada

Supplier LRC

Order No.: 428088 Est. Price: $16.10

This module provides text, illustrations and related activities that support most of the learning outcomes for the Grade 5 unit of the Alberta Elementary Science program.

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Weatherwise (Student Book)
*Pan-Canadian Science Place*

Grade(s) 5

**Support**

**Grade(s) 5**

**Topic 5D**

Copyright / ISBN 2000 / 9780779100699

Publisher Scholastic Canada Ltd.

Distributor Scholastic Canada Ltd.

Supplier LRC

Order No.: 470203 Est. Price: $11.40

This 48-page book introduces students to the study of weather. Topics covered include the atmosphere, air pressure, effects of sun, clouds, rain, wind, weather systems, climate, weather prediction and the greenhouse effect. Readings on each topic are supported by exploration activities and full colour photographs, many of which show students engaged in the activities. Most activities require only simple easily-obtained materials. A glossary is included in this large-format, softcover book. A correlated teacher's guide is also available.

Note: May 2011 LRC prices are quoted.
Grade(s) 5  

Teaching

Topic 5D

Copyright / ISBN 2000 / 9780779100620

Publisher  Scholastic Canada Ltd.

Distributor  Scholastic Canada Ltd.

Supplier  LRC

Order No.: 470211  Est. Price: $35.55

This 88-page teacher guide introduces a set of learning activities suitable for developing a unit on weather. Designed to be used with a related student edition, the guide outlines eleven lessons, each based on a learning model of activate, explore and apply. Lessons include sections on learning expectations, content background, preparations, questions, blackline masters, vocabulary, assessment and suggestions for meeting needs of special students. Topics covered include the atmosphere, air pressure, effects of sun, clouds, rain, wind, weather systems, climate, weather prediction and greenhouse effect. The guide includes assessment checklists and curriculum correlations based on the Ontario curriculum; most of the material is also directly related to the Alberta curriculum.
GRADE 5 – TOPIC E

A First Look at Birds

Grade(s) 1, 3, 5, 6
Topics 1E, 3E, 5E, 6B
Copyright 1993
Publisher Aims Media
Distributor Canadian Learning Company Inc.
Supplier LRC
Order No.: 325185 Est. Price: $62.50
This video introduces viewers to a wide variety of bird species and describes the anatomic features that suit each bird to its habitat and way of living. Feeding habits, breeding, migration and communication methods are shown.

If You Build It (Videocassette)

Grade(s) 5
Topic 5E
Copyright 1997
Publisher Ducks Unlimited Canada
Distributor Ducks Unlimited Canada
Supplier LRC
Order No.: 255689 Est. Price: $17.25
This program was developed to support the study of wetland ecosystems by Alberta students. It provides a serious look at how wetland habitats can be preserved, enhanced and restored, with just a twist of fantasy thrown in.

More Than Ducks (Videocassette)

Grade(s) 5
Topic 5E
Copyright 1997
Publisher Ducks Unlimited Canada
Distributor Ducks Unlimited Canada
Supplier Vendor Direct (Available Free of Charge)
This program was developed to support the study of wetland ecosystems by Alberta students. It provides a look at the diversity of organisms found in wetland habitats and considers the effect of human action on habitat preservation or elimination.

Robert Bateman: Get to Know Interactive CD

Grade(s) K, 1, 2, 3, 4, 5, 6, 7, 8, 9
Topic 1E / 2E / 3E / 4E / 5E / 6D / 6E / 7A / 7B / 8B / 8E / 9A
Copyright 2007
Publisher Morningstar Enterprises Inc.
Distributor Return of the Peregrine Falcon Society
Supplier LRC
Order No.: 749236 Est. Price: $43.80
Robert Bateman is a Canadian artist whose appreciation for wildlife and plants, love of nature and learning through observation and sketching are modeled throughout this interactive CD–ROM. The resource includes:
- a video introduction by Bateman and nine lesson plans, each of which focus on a particular group of plants or animals, or on a general technique for observing, recording and sketching
- a PowerPoint presentation on developing a field guide
- a series of “virtual hikes” where students find themselves in a natural area filled with wildlife. After locating a species within the area, the student can choose to listen to the animal’s call, see close-up views and learn about its habits. Each of the 24 hikes is located in parkland in Alberta, British Columbia or Ontario
- a set of quizzes, a glossary and a species list.

Note: May 2011 LRC prices are quoted.
Elementary Science: Authorized Resources Annotated List
©Alberta Education, Alberta, Canada
GRADE 5 / 53
May 2011
Wetlands Ecosystems I: Habitats, Communities and the Diversity of Life: Educator’s Guide: Elementary Level Science Grades 4 to 6

Grade(s) 5

Copyright 1999
Publisher Ducks Unlimited Canada
Distributor Ducks Unlimited Canada
Supplier LRC
Order No.: 406133 Est. Price: $7.15

This teacher manual was developed to support the study of wetland ecosystems by Alberta students in Grade 5 science. Each of the nine activities outlined in this manual are correlated to the Alberta program of studies for science and include a list of materials, a description of the activity and suggested follow-up activities. The manual also contains blackline masters that provide extensive illustrations of wetland organisms. Changes to this new edition include: editing the resource to improve its clarity and conciseness; rephrasing the learner outcomes to align with the Pan Canadian Science Framework; addition of two lessons.

Grade(s) 5, 7, 8

Support

Copyright 1998
Publisher Disney Educational Productions
Distributor Magic Lantern Communications Ltd.
Supplier LRC / Regional Resource and Urban Media Centres (Non-Erasure)
Order No.: 562042 Est. Price: $17.25

A variety of wetland ecosystems are examined, as Bill Nye the Science Guy takes viewers on a wetland journey and explains the importance of wetlands to humans and global ecosystems. Using models, Bill shows how wetlands—including marshes, streams, shorelines, and estuaries—help store water and filter water, thus helping to prevent floods and improve water quality. The importance of wetland conservation is stressed. Most examples are generic and some are recognizably based on the USA. This program supports Science topic 5E Wetland Ecosystems, Unit 7A: Interactions and Ecosystems, and Unit 8E Freshwater and Saltwater Ecosystems.

Note: Duplication rights for this title have expired, but it may still available for preview from the Regional Resource and Urban Media Centres.
Subject: Wetlands Ecosystems I: Habitats, Communities and the Diversity of Life: Student Journal: Elementary Level Science Grades 4 to 6

Grade(s) 5
Topic 5E
Support
Copyright 1999
Publisher Ducks Unlimited Canada
Distributor Ducks Unlimited Canada
Supplier LRC
Order No.: 406141 Est. Price: $7.15
This student manual was developed to support the study of wetland ecosystems by Alberta students in Grade 5 science. Linked to the accompanying teacher manual, the student manual provides background information, illustrations and space for students to enter specific observations, information and analysis. Some guidance will be needed, as the reading level is high. Changes to this new edition include: editing the resource to improve its clarity and conciseness; rephrasing the learner outcomes to align with the Pan Canadian Science Framework; addition of two lessons; reformatting student book to standard letter size.

Subject: Wetlands Ecosystems: Teacher Manual: Grade 5

Grade(s) 5
Topic 5E
Teaching
Copyright 1997
Publisher Ducks Unlimited Canada
Distributor Ducks Unlimited Canada
Supplier Vendor Direct (Available Free of Charge)
This teacher manual was developed to support the study of wetland ecosystems by Alberta students in Grade 5 science. Each of the nine activities outlined in this manual are correlated to the Alberta program of studies for science and include a list of materials, a description of the activity and suggested follow-up activities. The manual also contains blackline masters that provide extensive illustrations of wetland organisms.

Subject: Wetlands Ecosystems: Student Manual: Grade 5

Grade(s) 5
Topic 5E
Support
Copyright 1997
Publisher Ducks Unlimited Canada
Distributor Ducks Unlimited Canada
Supplier Vendor Direct (Available Free of Charge)
This student manual was developed to support the study of wetland ecosystems by Alberta students in Grade 5 science. Linked to the accompanying teacher manual, the student manual provides background information, illustrations and space for students to enter specific observations, information and analysis. Some guidance will be needed, as the reading level is high.

Subject: The Wonders of Wetlands: Teacher’s Guide, Student Cards

Grade(s) 5
Topic 5E
Teaching
Copyright / ISBN 1995 / 9781896469003
Publisher Educational Vivarium of Alberta
Distributor Educational Vivarium of Alberta
Supplier LRC
Order No.: 304858 Est. Price: $56.25
A series of 12 lessons, with accompanying information and activity cards, for the studying of life in and around wetlands is outlined in this teacher guide. Topics include identification of organisms, interactions within a wetland ecosystem, food chains and webs, and changes in wetland environments. Accompanying identification cards show blackline drawings and descriptions. A set of pond cards and human action cards is also provided.

Note: May 2011 LRC prices are quoted.
GRADE 6 SERIES

Innovations in Science

Publisher/Distributor: Holt, Rinehart & Winston/Harcourt Brace & Co.
Author(s): Peturson, R.; McAllister, N.

This series supports student-centred, activity-based science. It is organized around themes and topics that provide science–technology–society links and can be readily integrated into other curriculum areas. Students develop concepts, skills and attitudes through theme cards, student books and activity centres. Comprehensive teaching strategies, assessment ideas, centre activities, literature links and blackline masters are included for each theme.

TEACHER RESOURCES


Copyright / ISBN 1995 / 9780774701822

Note: May 2011 LRC prices are quoted.
We live in an ocean of air that we often take for granted, but there is also much we know about it that is valuable to our daily lives. This resource looks at air beginning with its component gases and proceeds to explore its properties by investigating air pressure, air mass and weight and how this changes with temperature, compressibility of air, air resistance, and the application of Bernoulli's principle to flight. Through simple investigations and activities this resource demonstrates these properties, some simple means by which they can be measured, and their practical application. As well, the mechanics of flight are explored through the construction of parachutes, paper airplanes and other models using the propeller for thrust. It culminates with a look at jet propulsion and its application to rockets. The Teacher's Guide includes student learning objectives, background information to each topic and related activities, review questions for students, and additional blackline masters for checking student understanding and learning as well as assessment rubrics.
101 Science Tricks: Fun Experiments with Science and Maths

Grade(s) 4, 6
Support
Topics 4C, 4D, 6A
Copyright / ISBN 1990 / 0750005564
Publisher Simon & Schuster Young Books
Distributor Pearson Canada
Supplier Out-of-Print
Order No.: 298100

Over 70 mini-projects are outlined in this colourful resource book for students and teachers. Projects are organized in three main areas: optical devices, including periscopes, kaleidoscopes and flick books; devices that move, such as airplanes, helicopters and dragsters; and a variety of constructions made from paper. Activities are outlined in point form and supported by numerous illustrations that are integrated with the text.

The Sky’s the Limit! With Math and Science: Grades 5–9:
Aerodynamics

Grade(s) 6
Teaching
Topics 6A, 6B
Copyright / ISBN 1987 / 9781881431442
Publisher Aims Education Foundation
Distributor Spectrum Educational Supplies Ltd.
Supplier LRC
Order No.: 301474 Est. Price: $43.75

This teacher resource outlines 24 activities for the study of airplanes, kites, rockets, parachutes and other flying devices. Activity outlines include key questions, materials lists, procedures, management suggestions and ideas for discussion. Over 50 blackline masters are provided.

The Sky’s the Limit: Properties of Air and Characteristics of Flight:
Teacher’s Guide (Ontario Edition)
Pan-Canadian Science Place

Grade(s) 6
Teaching
Topic 6A / 6B
Copyright / ISBN 2000 / 9780779100736
Publisher Scholastic Canada Ltd.
Distributor Scholastic Canada Ltd.
Supplier LRC
Order No.: 470188 Est. Price: $35.55

This 112-page teacher guide introduces a set of learning activities suitable for developing a unit on air, aerodynamics and flight. Designed to be used with a related student edition, the guide outlines 12 lessons, each based on a learning model of activate, explore and apply. Lesson outlines include sections on learning expectations, content background, preparations, questions, blackline masters, vocabulary, assessment and suggestions for meeting needs of special students. Topics covered include characteristics of air, movement of objects through fluids, developing lift, developing thrust, controlling flight, animal flight, and construction of model aircraft. The guide also includes assessment checklists and curriculum correlations based on the Ontario curriculum; these sections are the only parts not directly relevant to Alberta students and teachers.

The Sky’s the Limit (Student Book)
Pan-Canadian Science Place

Grade(s) 6
Support
Topic 6A / 6B
Copyright / ISBN 2000 / 9780779100866
Publisher Scholastic Canada Ltd.
Distributor Scholastic Canada Ltd.
Supplier LRC
Order No.: 470196 Est. Price: $11.40

This 48-page book introduces students to the study of air, aerodynamics and flight. Topics covered include characteristics of air, movement of objects through fluids, developing lift, developing thrust, controlling flight, animal flight, and construction of model aircraft. Readings on each topic are supported by exploration activities and full colour photographs, many of which show students engaged in the activities. Activities require simple easily-obtained materials. A glossary is included in this large-format, softcover book. A correlated teacher’s guide is also available.

Note: May 2011 LRC prices are quoted.
Elementary Science: Authorized Resources Annotated List
©Alberta Education, Alberta, Canada
Air and Flight
Addison-Wesley Science & Technology 6

Grade(s) 6 Support
Copyright / ISBN 1999 / 9780201649895
Publisher Addison-Wesley Longman Ltd.
Distributor Pearson Canada
Supplier LRC
Order No.: 428103 Est. Price: $15.85
This module provides text, illustrations and related activities that support most of the learning outcomes for the Grade 6 unit of the Alberta Elementary Science program.

Air and Flight (Student Book)
Science & Technology Activities Resource Series

Grade(s) 6 Teaching
Copyright / ISBN 2000 / 9781894318365
Publisher GTK Press
Distributor GTK Press (A Division of The Gateway to Knowledge Inc.)
Supplier LRC
Order No.: 673344 Est. Price: $9.50
We live in an ocean of air that we often take for granted, but there is also much we know about it that is valuable to our daily lives. This resource looks at air beginning with its component gases and proceeds to explore its properties by investigating air pressure, air mass and weight and how this changes with temperature, compressibility of air, air resistance, and the application of Bernoulli's principle to flight. Through simple investigations and activities this resource demonstrates these properties, some simple means by which they can be measured, and their practical application. As well, the mechanics of flight are explored through the construction of parachutes, paper airplanes and other models using the propeller for trust. It culminates with a look at jet propulsion and its application to rockets. The Teacher's Guide includes student learning objectives, background information to each topic and related activities, review questions for students, and additional blackline masters for checking student understanding and learning as well as assessment rubrics.

A First Look at Birds

Grade(s) 1, 3, 5, 6 Support
Topics 1E, 3E, 5E, 6B
Copyright 1993
Publisher Aims Media
Distributor Canadian Learning Company Inc.
Supplier LRC
Order No.: 325185 Est. Price: $62.50
This video introduces viewers to a wide variety of bird species and describes the anatomic features that suit each bird to its habitat and way of living. Feeding habits, breeding, migration and communication methods are shown.
Flight
Wonder Why

Grade(s) 6
Support
Topic 6B
Copyright 1991
Publisher CTV
Distributor Magic Lantern Communications Ltd.
Supplier Out-of-Print
Order No.: 311655
Air and aeronautics are investigated by examining a variety of applications, including hot air balloons, paper airplanes and aircrafts.

The Sky’s the Limit! With Math and Science: Grades 5–9: Aerodynamics

Grade(s) 6
Teaching
Topics 6A, 6B
Copyright / ISBN 1987 / 9781881431442
Publisher Aims Education Foundation
Distributor Spectrum Educational Supplies Ltd.
Supplier LRC
Order No.: 301474 Est. Price: $43.75
This teacher resource outlines 24 activities for the study of airplanes, kites, rockets, parachutes and other flying devices. Activity outlines include key questions, materials lists, procedures, management suggestions and ideas for discussion. Over 50 blackline masters are provided.

Pan-Canadian Science Place

Grade(s) 6
Teaching
Topic 6A / 6B
Copyright / ISBN 2000 / 9780779100736
Publisher Scholastic Canada Ltd.
Distributor Scholastic Canada Ltd.
Supplier LRC
Order No.: 470188 Est. Price: $35.55
This 112-page teacher guide introduces a set of learning activities suitable for developing a unit on air, aerodynamics and flight. Designed to be used with a related student edition, the guide outlines 12 lessons, each based on a learning model of activate, explore and apply. Lesson outlines include sections on learning expectations, content background, preparations, questions, blackline masters, vocabulary, assessment and suggestions for meeting needs of special students. Topics covered include characteristics of air, movement of objects through fluids, developing lift, developing thrust, controlling flight, animal flight, and construction of model aircraft. The guide also includes assessment checklists and curriculum correlations based on the Ontario curriculum; these sections are the only parts not directly relevant to Alberta students and teachers.

The Sky’s the Limit (Student Book)
Pan-Canadian Science Place

Grade(s) 6
Support
Topic 6A / 6B
Copyright / ISBN 2000 / 9780779100866
Publisher Scholastic Canada Ltd.
Distributor Scholastic Canada Ltd.
Supplier LRC
Order No.: 470196 Est. Price: $11.40
This 48-page book introduces students to the study of air, aerodynamics and flight. Topics covered include characteristics of air, movement of objects through fluids, developing lift, developing thrust, controlling flight, animal flight, and construction of model aircraft. Readings on each topic are supported by exploration activities and full colour photographs, many of which show students engaged in the activities. Activities require simple easily-obtained materials. A glossary is included in this large-format, softcover book. A correlated teacher’s guide is also available.

Note: May 2011 LRC prices are quoted.
Teaching Techniques for Elementary Technology
Design & Make

Grade(s) 2, 3, 4, 5, 6

Topics 2B, 3B, 4C, 5B, 6B

Copyright / ISBN 1994 / 9781884461057
Publisher NES Arnold Educational
Distributor Technology Teaching Systems
Supplier LRC
Order No.: 304139 Est. Price: $16.35

This teacher resource book outlines construction techniques and student projects, using wood, cardboard, elastic bands and a variety of recycled materials. Activities include various fixed and moving structures, such as boats, airplanes, vehicles and devices that use electric motors. Construction suggestions and simple line drawings are provided for each activity.

Technology IDEAS (Integrating Design Education Activities for Students): A Teaching Resource Book

Grade(s) 3, 4, 5, 6

Topics 3B, 4C, 5B, 6B

Copyright / ISBN 1993 / 9780029541548
Publisher Maxwell MacMillan Canada
Distributor Pearson Canada
Supplier LRC
Order No.: 291881 Est. Price: $35.35

This resource book provides teaching suggestions and blackline masters for 29 challenge activities covering a wide range of technologies. Challenges involve building structures and devices that will perform specific tasks. General suggestions for planning, organizing and using tools are also provided.

Up Up and Away: An Integrated Unit for: Flight, Air and Aerodynamics: Grade 6
(Elementary Science and Technology Teaching Unit)

Grade(s) 6

Teaching Topic 6B

Publisher Faculty of Education University of Alberta
Distributor IONCMASTE
Supplier LRC
Order No.: 416504 Est. Price: $12.55

This set of teacher notes outlines a sequence for 16 lessons (30-39 periods) that are directly linked to the Alberta program of studies for science. The preface gives a brief statement of the philosophy and goals of this technology-related unit and provides practical suggestions for safe and effective use of materials. Lesson activities include and overview, a list of concepts and skills, background, materials, preparation, and a three-part teaching plan. Extension activities, sample student pages, and a list of suggested readings are also provided.
Discovering Space: Educator's Planner (Chart)  
**Thoughtsteps**

**Grade(s)** 6  
**Teaching** 
**Topic 6C**

**Copyright / ISBN** 1997 / 9781896876160  
**Publisher** Art Image Publications Inc.  
**Distributor** Art Image Publications Inc.  
**Supplier** Out-of-Print  
**Order No.** 370106

Learning resources in the Thoughtsteps series are organized around themes that support an integrated approach to language arts and other areas of intermediate school programs. The theme Discovering Space is supported by five components: an educator’s planner (chart); a student planner (chart); a set of three learning centre maps; an activity book for students and teachers; and a student anthology of readings and activity outlines to support the themes in the centre. The materials support a variety of learning experiences related to the study of space, with a particular focus on the solar system, space technologies, space exploration and life in space. The resource promotes learner-centred, experiential learning and authentic self-assessment and peer assessment.

Discovering Space: Educator’s Planner (Chart)  
This foldout chart outlines the learning outcomes of the Discovering Space centre, provides a graphic organizer of the centre, and indicates cross-curricular links.

Discovering Space: Maps (Set of Three)  
**Thoughtsteps**

**Grade(s)** 6  
**Support** 
**Topic 6C**

**Copyright / ISBN** 1997 / 9781896876146  
**Publisher** Art Image Publications Inc.  
**Distributor** Art Image Publications Inc.  
**Supplier** Out-of-Print  
**Order No.** 370122

Learning resources in the Thoughtsteps series are organized around themes that support an integrated approach to language arts and other areas of intermediate school programs. The theme Discovering Space is supported by five components: an educator’s planner (chart); a student planner (chart); a set of three learning centre maps; an activity book for students and teachers; and a student anthology of readings and activity outlines to support the themes in the centre. The materials support a variety of learning experiences related to the study of space, with a particular focus on the solar system, space technologies, space exploration and life in space. The resource promotes learner-centred, experiential learning and authentic self-assessment and peer assessment.

Discovering Space: Maps (Set of Three)  
The three activity maps (or posters) The Solar System, and Technology (2 charts with this title) summarize the centre’s 14 learning paths through the basic themes. Each path contains a variety of activities, including an integrated cooperative project.
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**Discovering Space: Planner (Chart)**

**Grade(s)** 6  
**Topic 6C**  
**Copyright / ISBN** 1997 / 9781896876153  
**Publisher** Art Image Publications Inc.  
**Distributor** Art Image Publications Inc.  
**Supplier** Out-of-Print  
**Order No.** 370114

Learning resources in the Thoughtsteps series are organized around themes that support an integrated approach to language arts and other areas of intermediate school programs. The theme Discovering Space is supported by five components: an educator’s planner (chart), a student planner (chart); a set of three learning centre maps; an activity book for students and teachers; and a student anthology of readings and activity outlines to support the themes in the centre. The materials support a variety of learning experiences related to the study of space, with a particular focus on the solar system, space technologies, space exploration and life in space. The resource promotes learner-centred, experiential learning and authentic self-assessment and peer assessment.

Discovering Space: Planner (Chart)  
This foldout planner is a graphic organizer that provides an overview of the learning outcomes and activities for each unit of the Discovering Space centre. This resource is suitable for use by teachers and—with guidance—may also be used directly by motivated groups of students.

**Earth, Moon and Stars: Teacher’s Guide**

**Grade(s)** 6  
**Topic 6C**  
**Copyright / ISBN** 1989 / 9780924886058  
**Publisher** Lawrence Hall of Science  
**Distributor** Pearson Canada  
**Supplier** LRC  
**Order No.** 292342  
**Est. Price:** $28.15

This teacher resource outlines six activities for studying the relative positions and motions of Earth, the moon, the sun and the stars. Extensive suggestions are provided to help students proceed from an early understanding of up, down, sky and Earth to a more complex frame of reference in which Earth is seen as a sphere, and the apparent motion of stars is the result of Earth’s rotation. Example questioning strategies and some blackline masters are included.
In many ways, the sun and moon are our most significant celestial neighbours. It is their influence, as well as the earth’s tilt on its axis and its spin, that contribute to some familiar and predictable changes that occur daily and over the course of a year. Using animation and graphics, this video explains what causes night and day and why they vary in length from summer to winter. It correlates seasons with the change in angle of the sun’s rays and explains the significance of the earth’s tilt on these shifts. It defines summer and winter solstice and accounts for the phases of the moon. Also demonstrated and explained is the earth’s magnetic field and how it contributes to the formation of the Aurora Borealis. The video culminates with a review quiz. A Teacher’s Guide comes with the video which includes video previewing suggestions, student learning objectives, a preliminary test, video review, and a post-test, as well as student assessment and activities.

One weakness of this video is the poor graphics and animation connected with the explanation of seasons. Teacher’s may have to review this section to ensure students understand why the angle of the sun’s rays changes from season to season.
GRADE 6 – TOPIC C

Out of this World (Student Book)

Pan-Canadian Science Place

Grade(s) 6

Support

Topic 6C

Copyright / ISBN 2000 / 9780779100897
Publisher Scholastic Canada Ltd.
Distributor Scholastic Canada Ltd.
Supplier LRC
Order No.: 470170  Est. Price: $11.40
This 56-page book introduces students to the study of space and space exploration. Topics covered include the solar system, gravity, orbits, moon characteristics and motions, stars, constellations, telescopes, spacecraft and planning a “space mission.” Readings on each topic are supported by exploration activities and full colour photographs, many of which show students engaged in the activities. Activities require simple easily-obtained materials. A glossary is included in this large-format, softcover book. A correlated teacher’s guide is also available. Teachers may want to supplement this resource with other resources that show female astronauts (e.g. Roberta Bondar). Astronauts shown are predominantly male.

Sky Science and Beyond: Teacher Guide

Grade(s) 6

Teaching

Topic 6C

Copyright 1999
Publisher Western Space Education Network Inc.
Distributor Western Space Education Network Inc.
Supplier Out-of-Print
Order No.: 418138
This teacher guide, in loose-leaf format, provides background information and activities that support learning outcomes in the Alberta elementary science program. Teacher information is extensive, including sections that might be shared with the more capable student. Support is provided for teacher-directed content presentations and a variety of make-and-do activities. Suggested student pages are provided, some of which are illustrated.

Space

Addison-Wesley Science & Technology 6

Grade(s) 6

Support

Topic 6C

Copyright / ISBN 1999 / 9780201649901
Publisher Addison-Wesley Longman Ltd.
Distributor Pearson Canada
Supplier LRC
Order No.: 428096  Est. Price: $16.10
This module provides text, illustrations and related activities that support most of the learning outcomes for the Grade 6 unit of the Alberta Elementary Science program.
Steps to Discovering Space: 
Activity Book for Students and Teachers

*Thoughtsteps*

**Grade(s) 6**

**Teaching**

**Copyright / ISBN** 1997 / 9781896876122

**Publisher** Art Image Publications Inc.

**Distributor** Art Image Publications Inc.

**Supplier** Out-of-Print

**Order No.:** 370130

Learning resources in the Thoughtsteps series are organized around themes that support an integrated approach to language arts and other areas of intermediate school programs. The theme Discovering Space is supported by five components: an educator's planner (chart), a student planner (chart); a set of three learning centre maps; an activity book for students and teachers; and a student anthology of readings and activity outlines to support the themes in the centre. The materials support a variety of learning experiences related to the study of space, with a particular focus on the solar system, space technologies, space exploration and life in space. The resource promotes learner-centred, experiential learning and authentic self-assessment and peer assessment.

**Discovering Space: Activity Book for Student and Teachers**

This resource outlines learning outcomes, cross curricular links, and directions for each of the student activities in the Discovering Space centre. The book suggests supplementary leaning experiences that complement the learning path activities featured on the maps. Each activity is divided into four stages: preparation, activity, extension and reflection. This resource is intended for use by teachers and—with guidance—may also be used directly by motivated groups of students.
GRADE 6 – TOPIC D

The Art and Science Connection: Hands-On Activities for Intermediate Students

Grade(s) 2, 4, 5, 6

Teaching

Topics 2A, 4A, 4D, 5C, 6D

Copyright / ISBN 1994 / 9780201455458

Publisher Addison-Wesley Publishers

Distributor Pearson Canada

Order No.: 292285 Est. Price: $41.95

Linkages between art and science are explored in 30 lessons, including topics on surface tension, roots and shoots, crime solving chemistry, seed adaptations and garbage sculpture. Each lesson outline provides an overview, background information, learning objectives, materials, preparations, and suggestions for guiding, concluding and extending the activity. General suggestions are provided for conducting art/science activities. A glossary and blackline masters are included.

Crime Lab Chemistry: Solving Mysteries with Chromatography: Teacher’s Guide for Grades 4-8

Great Explorations in Math and Science (GEMS)

Grade(s) 6

Teaching

Topic 6D

Copyright / ISBN 2004 / 9780924886904

Publisher Lawrence Hall of Science

Distributor Lawrence Hall of Science

Order No.: 710831 Est. Price: $26.05

This revised and expanded version of a teacher resource by the same title includes three activities. The first activity is a two-day investigation involving the use of paper chromatography. A second activity moves into the science that underlies paper chromatography and prepares students for a third activity in which they will design their own tests. This resource lists materials required, describes classroom preparations and provides extensive and clear advice for initiating investigation and developing concepts.

Crime Lab Chemistry: Teacher’s Guide: Grades 4–8

Great Explorations in Math and Science (GEMS)

Grade(s) 6

Teaching

Topic 6D

Copyright / ISBN 1993 / 9780924886348

Publisher Lawrence Hall of Science

Distributor Pearson Canada

Supplier Out-of-Print

Order No.: 298209

Basic techniques of paper chromatography are described and applied through a mystery activity. This teacher resource describes the materials required, classroom preparation and suggested approach to investigation.

Fingerprinting: Teacher’s Guide

Great Explorations in Math and Science (GEMS)

Grade(s) 6

Teaching

Topic 6D

Copyright / ISBN 1987 / 9781931542067

Publisher Lawrence Hall of Science

Distributor Pearson Canada

Supplier LRC

Order No.: 292326 Est. Price: $23.45

This teacher resource outlines a set of three learning sessions in which students develop observation and inference skills based on studying fingerprints. Each activity includes a list of materials, an overview, suggestions for introducing the activity, notes on specific techniques and blackline masters. Background information, literature connections and suggestions for extending activities are provided.

Note: May 2011 LRC prices are quoted.
Plants of Alberta: Trees, Shrubs, Wildflowers, Ferns, Aquatic Plants & Grasses

Grade(s) 6, 7, 9

Teaching

Topic 6D / 7A / 9A

Copyright / ISBN 2007 / 9781551052830

Publisher Lone Pine Publishing

Distributor Lone Pine Publishing

Supplier LRC

Order No.: 712572 Est. Price: $22.50

This field guide provides full color photos and identification notes for over 1500 native plants that call Alberta home. Descriptive outlines for each plant include scientific and common names, habitat, general descriptions, and specific notes on flowers, leaves, stems and fruits. Each major section of the guide also includes a series of thumbnail-sized plant images to further assist the reader in species identification. An illustrated glossary of key terms is also provided.

Robert Bateman: Get to Know Interactive CD

Grade(s) K, 1, 2, 3, 4, 5, 6, 7, 8, 9

Support

Topic 1E / 2E / 3E / 4E / 5E / 6D / 6E / 7A / 7B / 8B / 8E / 9A

Copyright 2007

Publisher Morningstar Enterprises Inc.

Distributor Return of the Peregrine Falcon Society

Supplier LRC

Order No.: 749236 Est. Price: $43.80

Robert Bateman is a Canadian artist whose appreciation for wildlife and plants, love of nature and learning through observation and sketching are modeled throughout this interactive CD–ROM. The resource includes:
• a video introduction by Bateman and nine lesson plans, each of which focus on a particular group of plants or animals, or on a general technique for observing, recording and sketching
• a PowerPoint presentation on developing a field guide
• a series of “virtual hikes” where students find themselves in a natural area filled with wildlife. After locating a species within the area, the student can choose to listen to the animal’s call, see close-up views and learn about its habits. Each of the 24 hikes is located in parkland in Alberta, British Columbia or Ontario
• a set of quizzes, a glossary and a species list.
Robert Bateman is a Canadian artist whose appreciation for wildlife and plants, love of nature and learning through observation and sketching are modeled throughout this interactive CD–ROM. The resource includes:

• a video introduction by Bateman and nine lesson plans, each of which focus on a particular group of plants or animals, or on a general technique for observing, recording and sketching
• a PowerPoint presentation on developing a field guide
• a series of “virtual hikes” where students find themselves in a natural area filled with wildlife. After locating a species within the area, the student can choose to listen to the animal’s call, see close-up views and learn about its habits. Each of the 24 hikes is located in parkland in Alberta, British Columbia or Ontario
• a set of quizzes, a glossary and a species list.
Assessing Hands-On Science: A Teacher's Guide to Performance Assessment

Grade(s) 1, 2, 3, 4, 5, 6

Teaching

Topics 1A, 1B, 1C, 1D, 1E, 2A, 2B, 2C, 2D, 2E, 3A, 3B, 3C, 3D, 3E, 4A, 4B, 4C, 4D, 4E, 5A, 5B, 5C, 5D, 5E, 6A, 6B, 6C, 6D, 6E

Copyright / ISBN 1996 / 9780803964433
Publisher Corwin Press, Inc.
Distributor Sage Publications Inc.
Supplier LRC
Order No.: 514639 Est. Price: $44.75

This resource presents performance assessment as an effective way to assess student knowledge and procedural skills that are consistent with the hands-on curriculum in elementary science. Using examples, it explains how performance assessment allows the teacher to evaluate student ability to solve scientific problems. It explores what constitutes good performance assessment - one you can trust to provide reliable, valid, and useful information about what your students know and can do in science. Included are examples of holistic scoring rubrics that make this assessment more consistent and reliable.

Be Safe! A Health and Safety Reference for Science and Technology Curriculum: Grades 1 – 8 (2nd ed.)

Grade(s) 1, 2, 3, 4, 5, 6

Teaching

Topic A / B / C / D / E

Copyright / ISBN 2007 / 1894592387
Publisher Science Teachers’ Association of Ontario
Distributor Science Teachers’ Association of Ontario
Supplier Out-of-Print
Order No.: 708472

This Canadian edition has been thoroughly revised in light of the The Common Framework of Science Learning Outcomes (Council of Ministers of Education Canada, 1997). This safety resource contains advice on such diverse topics as “Making Things,” “Testing Things,” “Food and Hygiene,” “Heating and Burning,” “Chemicals,” “Electricity,” “Animals,” “Plants,” “Microorganisms,” “Optical Instruments” and “Studies Out of School.”

Exploring Safely: A Guide for Elementary Teachers

Grade(s) K, 1, 2, 3, 4, 5, 6

Teaching

Topic General

Copyright / ISBN 2002 / 9780873552004
Publisher NSTA Press
Distributor National Science Teachers Association (NSTA)
Supplier LRC
Order No.: 675366 Est. Price: $17.90

The use of discrepant events and the integration of hands-on experience into science classes creates student interest and curiosity, but brings with it a level of potential hazards. This resource provides discussion of safety concepts in the context of commonplace situations in elementary science classrooms and offers positive options even as it raises awareness of potential hazards. Its basic premise is that a safe environment of teaching and learning science is a group endeavor, led by the teacher and joined by the entire school community. Creating such a safe environment requires attention be given to a number of aspects including the school facility itself, planning of activities and nature of the students. Specific aspects of safety covered relate to classroom cleanliness and order, physical design of the science facility, safety equipment, safety contracts, student storage areas (lockers), use and storage of chemicals, live organisms, field trips, equipment management, and awareness of local, state and federal laws.
Jr. Paleontologist
*Science-In-A-Crate*

**Grade(s)** K, 1  
**Teaching**

**Copyright** 2005
**Publisher** Science Alberta Foundation
**Distributor** Science Alberta Foundation
**Supplier** Science Alberta (see www.sciencealberta.org for further information)
**Order No.:** 706575

What is a paleontologist and what do paleontologists do? Using this resource, students learn to find fossils in a container of dusty sediments, make casts of fossils, compare sizes, and find how heavy some dinosaurs were. Students will also “build” sections of a dinosaur using flattened “bones” and make rubbings to show how dinosaur skin may have looked. A large-format picture book is provided to introduce the kit and stimulate student interest. Activities focus mainly on the science of fossil animals, but there are significant opportunities to apply math skills as well.

**Science on a Shoestring (2nd Ed.)**

**Grade(s)** 1, 2, 3, 4, 5, 6  
**Teaching**

**Topic General**

Copyright / ISBN 1991 / 9780201257601
**Publisher** Addison-Wesley Publishers
**Distributor** Pearson Canada
**Supplier** Out-of-Print
**Order No.:** 292277

This teacher resource book provides outlines for 62 explorations and problem-solving activities covering a wide range of life science and physical science topics, including observing and growing crystals, studying mealworms, building a parachute, making a straw change its pitch, learning about conductors and insulators, and measuring the strength of a magnet. Each activity has a list of concepts to be studied, safety guidelines, teaching suggestions, home activities and suggestions for evaluation.

**Safety in the Science Classroom**

**Grade(s)** K, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12  
**Teaching**

**Topic General**

Copyright / ISBN 2005 / 9780778542995
**Publisher** Alberta Education
**Distributor** Alberta Education
**Supplier** LRC
**Order No.:** 618704  
**Est. Price:** $5.60

This document takes a comprehensive look at safety in science classrooms and laboratories of Alberta schools. Current legislation and regulations that impact on teachers and schools have been identified, with implications for teacher training, facility design and safety equipment. The overarching theme of the publication is risk management, with specific attention given to staff roles in promoting safety and ways to reduce or avoid hazards connected with the teaching of science programs. As well, information on hazards and strategies for risk minimization are discussed, in particular, as they apply to the use and management of chemicals in Alberta schools.

**WHMIS: Right to Know (Windows Version 1.1)**

**Grade(s)** K, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12  
**Teaching**

**Topic General**

Copyright 1998
**Publisher** Industrial Multimedia Development
**Distributor** Omega Films Limited
**Supplier** Vendor Direct (Omega Films Limited)

This resource provides information on the workplace hazardous material information system (WHMIS). The program explains the rationale for the system, the legal obligations of manufacturers and users of chemicals and hazardous materials, the information provided by the system, and how to use it in case of emergency. The CD contains six modules: Introduction, Classification, Labels, MSDS, Controlling Hazards, and Emergency Situations. There are 36 minutes of video and two hours of audio. The resource can be used as a source of information on the system or for WHMIS training. Included is a test for the assessment of student understanding and WHMIS knowledge.

Note: May 2011 LRC prices are quoted.
Learning Resources Centre (LRC)
12360 – 142 Street
EDMONTON, AB, CANADA T5L 4X9
Telephone: 780–427–5775
Fax: 780–422–9750
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