



Kindergarten to Grade 4 Science Learning Resources: Annotated Bibliography

**A Reference for Selecting
Learning Resources:
Addendum
(November 2000)**

**Manitoba
Education
and Training**

**Éducation
et Formation
professionnelle
Manitoba**



***KINDERGARTEN TO GRADE 4
SCIENCE LEARNING RESOURCES:
ANNOTATED BIBLIOGRAPHY***

*A Reference for Selecting
Learning Resources: Addendum
(November 2000)*

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cases are identified where this has not been done, please notify Manitoba Education and Training.
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PREFACE

Kindergarten to Grade 4 Science Learning Resources: Annotated Bibliography: A Reference for Selecting Learning Resources: Addendum (November 2000) is a reference tool provided by Manitoba Education and Training to help educators select student and teacher learning resources that support Kindergarten to Grade 4 science instruction. It is designed to be used in conjunction with the previously released *Kindergarten to Grade 4 Science Learning Resources: Annotated Bibliography: A Reference for Selecting Learning Resources (January 2000)*. The annotated bibliography describes strengths and weaknesses (if applicable) of each resource listed. It is intended to be used as a reference for selecting learning resources along with *The Manitoba Text Book Bureau Catalogue of Learning Resources*, which includes a listing of science learning resources, as well as ordering information and prices. These resources can also be purchased by visiting the online version of *The Manitoba Text Book Bureau Catalogue*:
<http://www.mtbb.mb.ca>

The learning resources listed in the *Kindergarten to Grade 4 Science Learning Resources: Annotated Bibliography: A Reference for Selecting Learning Resources: Addendum (November 2000)* were reviewed in June 2000 for the purpose of identifying materials that support Manitoba's science curricula. Seven educators from across Manitoba participated in the review. All participants were selected by Manitoba Education and Training from superintendent nominations.

INTRODUCTION

Foreword

Kindergarten to Grade 4 Science Learning Resources: Annotated Bibliography: A Reference for Selecting Learning Resources: Addendum (November 2000) identifies the science learning resources that are philosophically congruent with Manitoba's science curricula.

Kindergarten to Grade 4 Science: Manitoba Curriculum Framework of Outcomes identifies prescribed student learning outcomes for Kindergarten to Grade 4 science in Manitoba. Student learning outcomes in science are divided into thematic clusters at each grade. In addition, a "0" (zero) cluster identifies overall skills and attitudes required for each grade.

A call for science resources was issued to publishers, producers, and distributors of science materials. A team of teacher-evaluators from Manitoba schools examined the submissions and made recommendations regarding the suitability of the resources using a collaborative review process.

The selection of learning resources in this annotated bibliography was based on the fidelity with the rationale, philosophy, processes, and outcomes of *Kindergarten to Grade 4 Science: Manitoba Curriculum Framework of Outcomes*. All the resources included in this annotated bibliography have been designated as Kindergarten to Grade 4 science learning resources. Resources that match intended audiences and that aid in the implementation and achievement of prescribed learning outcomes have been identified.

Special Thanks

In June 2000, seven educators were selected by Manitoba Education and Training. These educators reviewed 69 items that were received in response to the call to publishers for resource submissions. Manitoba Education and Training is grateful to the individuals involved in the review and selection processes for identifying the best student and teacher resources for Kindergarten to Grade 4 science curricula.

Appreciation is also extended to all school divisions within Manitoba that supported the teachers' participation in the review and selection processes.

Finally, appreciation is extended to the publishers, producers, and distributors who submitted resources designed for Manitoba's science frameworks.

Resource Selection Criteria

The learning resources in this annotated bibliography were selected according to the following criteria:

- **Curriculum Fit/Content/Philosophy:** Evaluators determined the suitability of each resource by considering the degree to which the content and processes of the resource align with the curricula, thus providing support for teacher implementation. Evaluators also determined the degree to which the resource provides for multiple approaches to learning, has a wide range of use, is current, and includes a variety of media formats.
- **Instructional Design:** Evaluators determined the appropriateness of the resource in terms of instructional design, determining the degree to which the resource stated instructional goals and learner outcomes, and addressed a variety of learning and teaching styles.
- **Social Considerations:** Evaluators determined the appropriateness of the resource in terms of social concerns. They considered the degree to which the resource is free of bias and stereotyping, includes Canadian content, utilizes culturally diverse examples, and accurately portrays First Nations, Inuit, and Métis peoples.
- **Technical Design:** Evaluators determined the appropriateness of the resource in terms of technical design, considering the degree to which the resource was visually interesting, appealing, and had a logical and consistent form.

When using this annotated bibliography to select learning and teaching resources, teachers should consider how the resources meet the learning requirements of students and the perspectives of their own student population.

Information on a specific learning resource may be obtained from the descriptive information in this annotated bibliography, as well as from the supplier, published reviews, colleagues, and an examination of the resource.

Terms and Definitions

The following terms and definitions are used in annotated bibliographies to describe the learning resources:

-
- **Breadth:** identifies student learning resources that address a wide range of topics (with the highest possible level of fidelity with the curriculum framework) for a particular course/grade.
 - **Depth:** identifies student learning resources (with the highest possible level of fidelity with the curriculum framework) that provide especially effective learning experiences for students for a particular grouping of student learning outcomes.
 - **Breadth and Depth:** identifies comprehensive learning resources that provide both breadth and depth dimensions for a particular grouping of student learning resources.
 - **Teacher Reference:** identifies resources that assist teachers in implementing Manitoba's science curricula.
 - **Teacher Content Reference:** identifies resources that include teaching suggestions and learning activities for the science classroom.
 - **Teacher Guide:** identifies a separate guide for teachers or a teacher's edition of a student text.

Organization

The learning resources described in this annotated bibliography include references to the science clusters that comprise the Kindergarten to Grade 4 science curricula.

Cluster Titles Chart: Kindergarten to Grade 4 Science

	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4
Cluster 0	Overall Skills and Attitudes (to be integrated into Clusters 1 to 4)				
Cluster 1	Trees	Characteristics and Needs of Living Things	Growth and Changes in Animals	Growth and Changes in Plants	Habitats and Communities
Cluster 2	Colours	The Senses	Properties of Solids, Liquids, and Gases	Materials and Structures	Light
Cluster 3	Paper	Characteristics of Objects and Materials	Position and Motion	Forces that Attract or Repel	Sound
Cluster 4	N/A	Daily and Seasonal Changes	Air and Water in the Environment	Soils in the Environment	Rocks, Minerals, and Erosion

Kindergarten to Grade 4 Science Cluster Descriptions

Kindergarten, Cluster 1: Trees

In Kindergarten, an investigation of trees capitalizes on students' curiosity about the world around them. Students' observations of trees, including their seasonal changes, are complemented by a study of basic parts and uses of trees.

Kindergarten, Cluster 2: Colours

Colour is an important part of the world around us. Through observations and the use of specific vocabulary, students develop their ability to describe their world in terms of colour. They also explore how to create colours by mixing them and where colours are found in the environment.

Kindergarten, Cluster 3: Paper

By identifying, describing, and manipulating different kinds of paper and paper products found in the classroom, students are introduced to the concept of characteristics of materials. Hands-on investigations allow students to determine how well different kinds of paper can be cut, torn, and folded, and how these characteristics help to determine their uses. This study of paper culminates in students developing their design-process skills by constructing a paper product for a particular use.

Grade 1, Cluster 1: Characteristics and Needs of Living Things

Students in Grade 1 are interested in a wide variety of living things found in their local environments as well as in those from afar. In this cluster, a study of living things provides opportunities for students to discover the many different forms life takes. Students observe similarities and differences among living things and develop an understanding of their general characteristics. As a result, students become aware that all living things, including themselves, have needs. They discover that living things can often have similar needs, but that particular needs may be unique to individual living things. While the emphasis is on shared characteristics and needs among living things, diversity is also recognized, including the variations that make each human unique.

Grade 1, Cluster 2: The Senses

Our awareness of the environment and the many materials that are found within it is based on our sensory experiences. Through our senses, we can detect items that may be good to eat, pose danger, or be useful. Our senses are immediate and automatic. But the ability to use our senses safely and effectively involves focus, discernment, awareness, and judgement. In this cluster, students learn more about what the senses are, how they operate, and how they must be protected. Students also refine their observation skills. These skills are critical to science (see *Grade 1, Cluster 3: Characteristics of Objects and Materials*) and can be applied to other subject areas.

Grade 1, Cluster 3: Characteristics of Objects and Materials

In Grade 1, students are introduced to the concept of materials by exploring various objects in their immediate surroundings. Through these observations, students distinguish between objects and materials, learning that objects are made from materials with specific characteristics. They are also able to describe these characteristics clearly and precisely. By making objects from various materials, they begin to understand the connection between a material's characteristics and the specific purpose(s) for which the material is used.

Grade 1, Cluster 4: Daily and Seasonal Changes

By observing their environment, students become aware of changes that can occur within it, such as changes in temperature, wind, and light, and in plant and animal life. Through observations and investigations, students learn that changes often occur in cycles, including the relatively short cycle of day and night and the longer cycle of the seasons. Recognizing these cyclical patterns prepares students to deal with daily and seasonal changes. Particular attention is given to studying ways in which humans are able to live comfortably throughout the seasons.

Grade 2, Cluster 1: Growth and Changes in Animals

In Grade 2, students focus on animals to build upon their knowledge of living things (see *Grade 1, Cluster 1: Characteristics and Needs of Living Things*). All animals grow and change from birth until adulthood. Because children are interested in the changes that take place over the lifetime of different animals, observing these changes becomes a powerful learning experience for them. In their explorations of growth, students compare their own growth with the growth patterns of various animals, and they learn about the conditions needed to support healthy development. Particular attention is given to the nutritional requirements of humans.

Grade 2, Cluster 2: Properties of Solids, Liquids, and Gases

When students examine materials in the world around them, they become aware of the similarities and differences in their characteristics, such as the ways materials look, feel, sound, or change. In Grade 2, students begin to develop an understanding of matter by investigating properties of solids and liquids. Gases are also introduced through an examination of the properties of air. Students investigate ways in which solids and liquids interact, and identify how the properties of solids and liquids determine their uses. Students observe how water can be made to change from one state to another and back again. Students also encounter changes of state in the study of the water cycle in *Grade 2, Cluster 4, Air and Water in the Environment*. Teachers are encouraged to help students make connections between these learning experiences.

Grade 2, Cluster 3: Position and Motion

The study of position and motion helps children develop a sense of space as well as an understanding of the relationship between stationary and moving objects, including themselves. Through observations and the use of specific vocabulary, students develop their ability to describe the position and motion of objects and recognize the effects of pushes and pulls on the motion of an object. In exploring motion, students investigate inclined planes, and wheels and axles as types of simple machines. They determine how these simple machines make it easier to move things and how friction affects the motion of objects.

Grade 2, Cluster 4: Air and Water in the Environment

Air and water are major parts of our physical environment and are essential for life. Yet, our awareness of them is often limited largely because we identify them only in their most obvious and observable forms. Through investigations, students learn about the characteristics of air, and the various forms of water in the environment. Students continue to build their understanding of the nature of science by describing evidence of the water cycle (see *Grade 2, Cluster 2: Properties of Solids, Liquids, and Gases*) and of moving air in indoor and outdoor environments. In the process, students discover the many ways in which air and water contribute to the health and survival of living things, including themselves.

Grade 3, Cluster 1: Growth and Changes in Plants

In Grade 3, the study of living things focuses on the characteristics and needs of plants and their growth patterns. Students observe and investigate local plants, but a deeper understanding and appreciation is developed through planting, nurturing, and observing individual plants over time. Connections are made to students' prior knowledge of animal needs (see *Grade 2, Cluster 1: Growth and Changes in Animals*) by identifying needs that are similar between plants and animals and how those needs are met. This cluster addresses the importance of plants to the environment as well as the significance of food, shelter, medicine, and other plant products to humans. Emphasizing the connection between this cluster and *Grade 3, Cluster 4: Soils in the Environment* develops the relationship between plants and the soils in which they are grown.

Grade 3, Cluster 2: Materials and Structures

Students learn about the nature of materials not just by observing them but, more importantly, by using them. In this cluster, students experience the design process as they manipulate and test materials, build structures, and select and use materials suitable to the task at hand. Students find that the strength and stability of structures in their community, as well as those they build themselves, are linked to the properties of the materials used and to the particular way the materials are configured and joined. This cluster further develops the concept of materials introduced in *Kindergarten, Cluster 3: Paper* and built upon in *Grade 1, Cluster 3: Characteristics of Objects and Materials*.

Grade 3, Cluster 3: Forces That Attract or Repel

In Grade 3, students build on their initial awareness of forces as pushes or pulls (see *Grade 2, Cluster 3: Position and Motion*). In this cluster, the focus is on forces that act without direct contact: gravity, magnetism, and static electricity. Students describe evidence that shows that objects and living things on or near Earth are affected by a force called gravity, enhancing their understanding of the nature of science. Through their investigations, they determine that magnets have two poles and are surrounded by a magnetic field. They describe interactions of like and unlike poles, and compare Earth to a giant magnet. In addition, they identify ways of producing electrostatic charges using everyday materials. Students show how the strength of magnetic and electrostatic forces varies under different conditions. New understandings of gravity, magnetism, and static electricity are further refined as students identify and construct devices that use these forces.

Grade 3, Cluster 4: Soils in the Environment

Soil provides a base for gardens, forests, fields, and farms, supporting plant and animal life, and human activities. By examining soils, students discover that soil composition and characteristics vary. Students also experiment to determine the impact of different soils on plant growth, thus improving their understanding of scientific inquiry processes. Students also learn the importance of animals and nutrient recycling to soil quality. Teachers are encouraged to help students develop the strong connection between soils and plants (see *Grade 3, Cluster 1: Growth and Changes in Plants*).

Grade 4, Cluster 1: Habitats and Communities

As students in Grade 4 are familiar with the basic needs of plants and animals (see *Grade 2, Cluster 1: Growth and Changes in Animals*, and *Grade 3, Cluster 1, Growth and Changes in Plants*), they can begin to explore and compare ways in which plant and animal communities satisfy their needs in particular habitats. They begin to recognize the complex interactions that take place between plant and animal populations within a community. Through investigations, students study influences, both naturally occurring and human-caused, that can alter habitats and affect plant and animal populations. The cluster also addresses the role traditional knowledge and technology play in learning more about and caring for plant and animal populations.

Grade 4, Cluster 2: Light

In previous grades, students had an informal introduction to energy. In this cluster, students begin to examine in more depth one form of energy they encounter on a daily basis — light. In *Grade 4, Cluster 3: Sound*, students study another aspect of energy — sound. Whether these clusters are addressed separately or as part of a combined unit, the emphasis is on building an understanding of energy. Students become familiar with the properties of light by investigating and observing how light interacts with various objects in the environment. From these observations, students come to recognize that light travels in a straight line, knowledge which they will apply, along with their design-process skills, to the construction of simple optical devices.

Grade 4, Cluster 3: Sound

In this cluster, students expand their concept of energy by examining sound. This cluster complements the study of another common form of energy – light, which is addressed in *Grade 4, Cluster 2: Light*. Sound is a phenomenon that can be observed, measured, and controlled in various ways. Understanding that sound is caused by vibrations helps students when they explore how sound travels, how the human ear is designed to detect sound, and how certain factors can modify the sound produced. The varying abilities of humans and other animals to detect sound is also examined, which, in turn, leads to discussions about the necessity of protecting one's sense of hearing. By investigating materials to ascertain whether they transmit, absorb, or reflect sound, students learn how these characteristics influence a material's function. Students also explore the role of technology in extending one's ability to produce, transmit, and detect sound.

Grade 4, Cluster 4: Rocks, Minerals, and Erosion

The study of rocks and minerals introduces students to geology. By examining various rocks and minerals found in the Earth's crust, students learn about their characteristics and properties. These characteristics and properties determine how these rocks and minerals are used by humans. Students discover the role rocks play in forming soil (see *Grade 3, Cluster 4: Soils in the Environment*) and in providing us with information about Earth's history. Students advance their understanding of the changing landscape by becoming aware of how wind, water, and ice continue to reshape it through erosion. This leads students to explore ways in which humans can adapt to and prevent or make changes in the landscape.

Resource Description: Sample Page

LEARNING AND TEACHING RESOURCES

Series/ Title	Pan-Canadian Science Place 4	Grade Level(s) <input type="checkbox"/> K <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 4 <input type="checkbox"/> 6 <input type="checkbox"/> 8 <input type="checkbox"/> 10 <input type="checkbox"/> 12 <input type="checkbox"/> 1 <input type="checkbox"/> 3 <input type="checkbox"/> 5 <input type="checkbox"/> 7 <input type="checkbox"/> 9 <input type="checkbox"/> 11 <input type="checkbox"/> 13		
	Author(s) Cizham, Wendy, ed.	Intended User(s) Student, Teacher		
Resource Designation/ Type of Resource	<table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> Resource Designation • Student-Depth • Teacher Reference </td> <td style="width: 50%; vertical-align: top;"> Type of Resource • Series • Student Textbook • Teacher Guide </td> </tr> </table>		Resource Designation • Student-Depth • Teacher Reference	Type of Resource • Series • Student Textbook • Teacher Guide
Resource Designation • Student-Depth • Teacher Reference	Type of Resource • Series • Student Textbook • Teacher Guide			
Range of Classroom Use	Range of Classroom Use <ul style="list-style-type: none"> • General • Struggling Learner- suggestions for inclusive teaching strategies • ESL- suggestions for inclusive learning strategies 			
Overall Annotation (if series)	Annotation <i>Pan-Canadian Science Place 4</i> resources recommended for use with Grade 4 students in Manitoba include three student texts (<i>Healthy Habits, Rockhounds, and Seeds Good</i>) and the accompanying teacher's guides, which are cross-referenced to the Manitoba science curriculum. The student texts guide students through explorations and provide strategies for interpreting and communicating results. Scientific inquiry skills are outlined in the first lesson and prompt science as a way of thinking about the world. Boxes in the texts identify materials required, safety tips, and when students should write in their science journals. These resources support the development of scientific literacy at the early years level. The series promotes multicultural diversity and contains significant Canadian content. Words in bold type are explained in the glossary. There is no index.			
Resource Annotation and Comments	Healthy Habits (Student Text)  <i>Healthy Habits</i> contains 12 lessons. It addresses specific learning outcomes for Cluster 1: Habits and Connections. The text includes photographs, diagrams, and a glossary. Scientific inquiry and design process skills and attitudes are addressed. Comments Concepts relating to technology and traditional knowledge are not addressed and will need to be supplemented through use of the teacher's guide.			
Physical Characteristics	Physical Characteristics Grade <input type="checkbox"/> K <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input checked="" type="checkbox"/> 4 Cluster <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 • 48 pages, softcover			
Order Details	Copyright, ISBN/Order # Title 2000 0-7791-0045-X <i>Healthy Habits</i>			

Note: Definitions of resource descriptions appear on the following page.

Resource Description: Definitions

The following information is provided for each learning resource (as applicable):

- **Series and Title:** integrated resources, series, and book collection names are indicated in *italics*
- **Resource Designation:** indicates student breadth, depth, breadth and depth, or teacher resource
- **Annotation:** provides an overview of the learning resource. For integrated resources, an overall annotation describes each integrated resource as a whole, followed by descriptions of individual components where these have been recommended. In some cases, only one item of an integrated resource has been recommended. Stand-alone print materials are annotated individually.
- **Comments:** provide additional information about the learning resource
- **Cautions:** alert teachers to potentially sensitive issues, community concerns, or comments about curriculum fit
- **Audience:**
 - **General:** the majority of students
 - **Struggling Learners:** students who have difficulty processing and understanding spoken, written, or visual information
 - **Gifted Learners:** students who demonstrate high performance capabilities in areas such as intellect, creativity, and/or specific academic disciplines
 - **ESL:** students who are learning English as a second language
- **Physical Characteristics:** identifies size, number of pages, soft cover or hard cover details for print materials and type of software

OBTAINING LEARNING RESOURCES

Purchase of Learning Resources

The learning resources described in this annotated bibliography will be listed with ordering information and prices in *The Manitoba Text Book Bureau Catalogue*. For information or assistance regarding the purchase of learning resources listed in this catalogue, please contact:

The Manitoba Text Book Bureau (MTBB)

Box 910

Souris, MB R0K 2C0

Toll free: 800-305-5515 (in Manitoba)

Telephone: 204-483-4040 (outside Manitoba)

Fax: 204-483-3441

E-mail: schoolorde@gov.mb.ca

Online catalogue:

<http://www./mtbb.mb.ca>

Loans and Bookings for Learning Resources

The learning resources listed in this annotated bibliography are available to Manitoba educators from:

Instructional Resources Unit (IRU)

Manitoba Education and Training

1181 Portage Avenue

Winnipeg, MB R3G 0T3

Online catalogue: <http://libcat.merlin.mb.ca>

Educators who are registered with IRU may request learning resources from the library in person, by telephone, by mail, by facsimile transmission, or by electronic mail.

To register with the library, contact:

Circulation Desk, IRU (see address above)

Telephone: 204-945-5371 (in Winnipeg)

Toll free: 800-282-8069, ext. 5371 (outside Winnipeg)

Fax: 204-945-8756

E-mail: irucirc@edu.gov.mb.ca

To borrow the learning resources described in this annotated bibliography,
contact:

Reference Desk, IRU (see address above)

Telephone: 204-945-7830/7851 (in Winnipeg)

Toll free: 800-282-8069, ext. 7830/7851 (outside Winnipeg)

Fax: 204-945-8756

E-mail: iruref@edu.gov.mb.ca

***ALPHABETICAL TITLE LISTING AND
ALPHABETICAL TITLE LISTING BY GRADE***

ALPHABETICAL TITLE LISTING

TITLE OF INTEGRATED RESOURCE/COLLECTION/SERIES	GRADE(S)	PAGE(S)
Series		
Addison Wesley Science & Technology 3	3	9-10
Addison Wesley Science & Technology 4	4	11-12
Pan-Canadian Science Place 2	2	13-15
Pan-Canadian Science Place 3	3	16-18
Pan-Canadian Science Place 4	4	19-21

ALPHABETICAL TITLE LISTING BY GRADE

Grade 2

TITLE OF RESOURCE	GRADE(S)	PAGE(S)
Series		
Pan-Canadian Science Place 2	2	13-15

ALPHABETICAL TITLE LISTING BY GRADE

Grade 3

TITLE OF RESOURCE	GRADE(S)	PAGE(S)
Series		
Addison Wesley Science & Technology 3	3	9-10
Pan-Canadian Science Place 3	3	16-18

ALPHABETICAL TITLE LISTING BY GRADE

Grade 4

TITLE OF RESOURCE	GRADE(S)	PAGE(S)
Series		
Addison Wesley Science & Technology 4	4	11-12
Pan-Canadian Science Place 4	4	19-21

ANNOTATIONS

LEARNING AND TEACHING RESOURCES

Addison Wesley Science & Technology 3

Grade Level(s)
 K 2 4 6 8 S2 S4
 1 3 5 7 S1 S3

Author(s) Armstrong, Jenny, ed.

Intended User(s) Student, Teacher

Resource Designation	Type of Resource
<ul style="list-style-type: none"> • Student-Depth • Teacher Reference 	<ul style="list-style-type: none"> • Series • Student Textbook • Teacher Guide

Publisher/Producer
Pearson Education Canada
Distributor/Supplier
Pearson Education Canada 26 Prince Andrew Place Don Mills, ON M3C 2T8
Telephone (416) 447-5101, ext. 3373
Toll Free
Fax (416) 447-2551
Internet

Range of Classroom Use

<ul style="list-style-type: none"> • General

Annotation

Addison Wesley Science and Technology 3 resources recommended for use in Manitoba comprise a program overview, two student textbooks (*Plant Growth and Soil*), and the accompanying teacher's guides. These resources correspond with Grade 3 Cluster 1: *Growth and Changes in Plants* and Cluster 4: *Soils in the Environment*. Each lesson in the student text contains a "get started," "work on it," and "communicate" section, as well as opportunities for students to build on what they know. The texts also contain a design project, review, and glossary. The teacher's guides include blackline masters, assessment and evaluation strategies (including unit tests), background information, and extensions for enrichment. The guides also contain cross-curricular links, suggested literature connections, and suggested web sites for each unit. The program philosophy is discussed in the program overview.

Cautions

Web sites require previewing before use with students.

Addison Wesley Science & Technology Program Overview: Grades 3-6


The program overview explains the scope and sequence of the program. It provides suggestions for using the student texts and teacher's guides, fostering scientific knowledge, developing students' skills, and creating science and technology connections with the outside world. It also addresses attitudes in science, the management of science and technology programs, assessment and evaluation strategies, and strategies for incorporating language and literacy into the program. Specific information relating to sustainable development, Aboriginal perspectives, and perspectives of other cultures and religions is included. This resource provides important support for teaching science at these grade levels.

Physical Characteristics Grade K 1 2 3 4 Cluster 0 1 2 3 4
 • 47 pages, softcover

Copyright ISBN/Order # Title

2000 0-201-70644-X Addison Wesley Science & Technology Program Overview: Grades 3-6

Plant Growth (Student Text)


Plant Growth addresses specific learning outcomes for Cluster 1: *Growth and Changes in Plants* and Cluster 0: *Overall Skills and Attitudes*. The text is clear, organized by topic, and well laid out with illustrations, photographs, and diagrams. The hands-on learning experiences accommodate a variety of learning styles. Scientific inquiry and design process skills and attitudes are addressed.

Comments

Concepts related to sustainable development and the sun as an energy source will need to be supplemented. The recommended design project addresses Cluster 0 outcomes but does not match the design process outcome for Cluster 1.

Physical Characteristics Grade K 1 2 3 4 Cluster 0 1 2 3 4
 • 43 pages, softcover

Copyright ISBN/Order # Title

2000 0-201-64976-4 Plant Growth (Student Text)

LEARNING AND TEACHING RESOURCES

Addison Wesley Science & Technology 4

Grade Level(s)
 K 2 4 6 8 S2 S4
 1 3 5 7 S1 S3

Author(s) Armstrong, Jenny, ed.

Intended User(s) Teacher

Resource Designation	Type of Resource
• Teacher Reference	• Teacher Guide

Publisher/Producer
Pearson Education Canada
Distributor/Supplier
Pearson Education Canada 26 Prince Andrew Place Don Mills, ON M3C 2T8
Telephone (416) 447-5101, ext. 3373
Toll Free
Fax (416) 447-2551
Internet

Range of Classroom Use

<ul style="list-style-type: none"> • General • ESL- suggestions for inclusive learning strategies

Annotation

Addison Wesley Science and Technology 4 resources recommended for use in Manitoba comprise a program overview and four teacher's guides: *Habitats, Light, Rocks and Minerals*, and *Sound*. The resources correspond with Grade 4 Cluster 1: *Habitats and Communities*, Cluster 2: *Light*, Cluster 3: *Sound*, and Cluster 4: *Rocks, Minerals, and Erosion*, and accompany the previously approved student texts.

Addison Wesley Science & Technology Program Overview: Grades 3-6


The program overview explains the scope and sequence of the program. It provides suggestions for using the student texts and teacher's guides, fostering scientific knowledge, developing students' skills, and creating science and technology connections with the outside world. It also addresses attitudes in science, the management of science and technology programs, assessment and evaluation strategies, and strategies for incorporating language and literacy into the program. Specific information relating to sustainable development, Aboriginal perspectives, and perspectives of other cultures and religions is included. This resource provides important support for teaching science at these grade levels.

Physical Characteristics Grade K 1 2 3 4 Cluster 0 1 2 3 4
 • 47 pages, softcover

Copyright	ISBN/Order #	Title
2000	0-201-70644-X	Addison Wesley Science & Technology Program Overview: Grades 3-6

Habitats (Teacher's Guide)


This teacher's guide addresses specific learning outcomes for Cluster 1: *Habitats and Communities* and Cluster 0: *Overall Skills and Attitudes*. It contains 13 lesson plans, a project, and a unit review. There are cross-curricular links to mathematics, English language arts, and social studies, as well as suggested activities for ESL students. The guide contains "planning the unit" overview charts and activity plans that outline the time, material, and skill focus of each activity. There is a wide range of blackline masters including learning centre activity sheets, project planners, and unit tests. Suggested learning activities, web sites, safety notes, references, enrichment experiences, self-assessment activities, and rubrics for the design project are included. Ongoing and end-of-unit assessments are provided.

Comments

Specific learning outcomes related to science and technology, as well as traditional knowledge are not addressed and will need to be supplemented. Support for traditional knowledge can be obtained through the program overview.

Cautions

Web sites require previewing before use with students.

Physical Characteristics Grade K 1 2 3 4 Cluster 0 1 2 3 4
 • 80 pages, softcover

Copyright	ISBN/Order #	Title
2000	0-201-65440-7	Habitats (Teacher's Guide)

Addison Wesley Science & Technology 4

Grade Level(s)

K 2 4 6 8 S2 S4
 1 3 5 7 S1 S3

Author(s) Armstrong, Jenny, ed.

Intended User(s) Teacher

Light (Teacher's Guide)



This teacher's guide addresses specific learning outcomes for Cluster 2: *Light*. It contains 12 lesson plans, a project, and a unit review. There are cross-curricular links to mathematics, English language arts, and social studies, as well as suggested activities for ESL students. The guide contains "planning the unit" overview charts and activity plans that outline the time, material, and skill focus of each activity. There is a wide range of blackline masters including learning centre activity sheets, project planners, and unit tests. Suggested learning activities, web sites, safety notes, references, enrichment experiences, self-assessment activities, and rubrics for the design project are included. Ongoing and end-of-unit assessments are provided.

Comments

This resource makes limited reference to forms of energy other than light energy.

Cautions

Web sites require previewing before use with students.

Physical Characteristics

Grade K 1 2 3 4 Cluster 0 1 2 3 4

• 80 pages, softcover

Copyright	ISBN/Order #	Title
2000	0-201-65430-X	Light (Teacher's Guide)

Rocks and Minerals (Teacher's Guide)



This teacher's guide addresses specific learning outcomes for Cluster 4: *Rocks, Minerals, and Erosion*. It contains 12 lesson plans, a project, and a unit review. There are cross-curricular links to mathematics, English language arts, and social studies, as well as suggested activities for ESL students. The guide contains "planning the unit" overview charts and activity plans that outline the time, material, and skill focus of each activity. There is a wide range of blackline masters including learning centre activity sheets, project planners, and unit tests. Suggested learning activities, safety notes, references, enrichment experiences, self-assessment activities, and rubrics for the design project are included. Ongoing and end-of-unit assessments are provided.

Cautions

Web sites require previewing before use with students.

Physical Characteristics

Grade K 1 2 3 4 Cluster 0 1 2 3 4

• 80 pages, softcover

Copyright	ISBN/Order #	Title
2000	0-201-65441-5	Rocks and Minerals (Teacher's Guide)

Sound (Teacher's Guide)



This teacher's guide addresses specific learning outcomes for Cluster 3: *Sound*. It contains 12 lesson plans, a project, and a unit review. There are cross-curricular links to mathematics, English language arts, and social studies, as well as suggested activities for ESL students. The guide contains "planning the unit" overview charts and activity plans that outline the time, material, and skill focus of each activity. There is a wide range of blackline masters including learning centre activity sheets, project planners, and unit tests. Suggested learning activities, web sites, safety notes, references, enrichment experiences, self-assessment activities, and rubrics for the design project are included. Ongoing and end-of-unit assessments are provided.

Cautions

Web sites require previewing before use with students.

Physical Characteristics

Grade K 1 2 3 4 Cluster 0 1 2 3 4

• 80 pages, softcover

Copyright	ISBN/Order #	Title
2000	0-201-65429-6	Sound (Teacher's Guide)

LEARNING AND TEACHING RESOURCES

Pan-Canadian Science Place 2

Grade Level(s)

K 2 4 6 8 S2 S4
 1 3 5 7 S1 S3

Author(s) Graham, Wendy, ed.

Intended User(s) Student, Teacher

Resource Designation	Type of Resource
<ul style="list-style-type: none"> • Student-Depth • Teacher Reference 	<ul style="list-style-type: none"> • Series • Student Textbook • Teacher Guide

<p>Publisher/Producer Scholastic Canada Ltd.</p> <p>Distributor/Supplier Scholastic Canada Ltd. 175 Hillmount Road Markham, ON L6C 1Z7</p> <p>Telephone (905) 887-7323 ext. 279 Toll Free Fax (905) 887-3642 Internet</p>
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Range of Classroom Use

<ul style="list-style-type: none"> • General • Struggling Learner- suggestions for inclusive teaching strategies • ESL- suggestions for inclusive learning strategies
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Annotation

Pan Canadian Science Place 2 resources recommended for use with Grade 2 students in Manitoba include four students texts (*Air and Water, Animals Grow, Matter, Matter Everywhere, and Move It!*) and the accompanying teacher's guides, which are cross-referenced to the Manitoba science curriculum. The student texts guide students through explorations and provide strategies for interpreting and communicating results. Scientific inquiry skills are outlined in the first lesson and prompt science as a way of thinking about the world. Icons in the texts identify materials required, safety tips, and when students should write in their science journals. These resources support the development of scientific literacy at the early years level. The series promotes multicultural diversity and contains significant Canadian content. Words in bold type are explained in the glossary. There is no index.

Air and Water (Student Text)



Air and Water includes 14 activity based learning experiences. It addresses specific learning outcomes for Cluster 4: *Air and Water in the Environment*. The text includes photographs, diagrams, and a glossary which includes a visual support for each term. Scientific inquiry skills and attitudes are addressed.

Comments

While the concepts are being investigated, teachers must introduce to students the precise vocabulary "water cycle" and "air currents."

Physical Characteristics

• 33 pages, softcover

Grade K 1 2 3 4 Cluster 0 1 2 3 4

Copyright	ISBN/Order #	Title
2000	1-55268-917-4	Air and Water (Student Text)

Air and Water (Teacher's Guide - Manitoba Edition)



The teacher's guide is organized into lessons that correspond with the student text and include activating, investigating, and applying strategies. Background information related to science concepts and opportunities to connect science to the world are provided. Links to other subject areas are made as well as suggestions to extend student learning and address students with diverse learning needs. There are blackline masters that include suggestions for instruction and assessment, design process performance rubrics, graphic organizers, and differentiated learning strategies. Common student misconceptions are identified. An overall correlation chart summarizing which Manitoba specific learning outcomes are addressed by lesson is included. Some Cluster 0: *Overall Skills and Attitudes* outcomes are addressed.

Physical Characteristics

• 96 pages, hole-punched

Grade K 1 2 3 4 Cluster 0 1 2 3 4

Copyright	ISBN/Order #	Title
2000	1-55268-912-3	Air and Water (Teacher's Guide - Manitoba Edition)

Pan-Canadian Science Place 2

Grade Level(s)

K 2 4 6 8 S2 S4
 1 3 5 7 S1 S3

Author(s) Graham, Wendy, ed.

Intended User(s) Student, Teacher

Animals Grow (Student Text)



Animals Grow includes 14 activity based learning experiences. It addresses specific learning outcomes for Cluster 1: *Growth and Change in Animals*. The text includes photographs, diagrams, and a glossary which includes a visual support for each term. Scientific inquiry skills and attitudes are addressed.

Physical Characteristics Grade K 1 2 3 4 Cluster 0 1 2 3 4
 • 32 pages, softcover

Copyright ISBN/Order # Title

2000 1-55268-913-1 *Animals Grow* (Student Text)

Animals Grow (Teacher's Guide - Manitoba Edition)



The teacher's guide is organized into lessons that correspond with the student text and include activating, investigating, and applying strategies. Background information related to science concepts and opportunities to connect science to the world are provided. Links to other subject areas are made as well as suggestions to extend student learning and address students with diverse learning needs. There are blackline masters that include suggestions for instruction and assessment, design process performance rubrics, graphic organizers, and differentiated learning strategies. Web site suggestions and common student misconceptions are identified. An overall correlation chart summarizing which Manitoba specific learning outcomes are addressed by lesson is included. Some Cluster 0: *Overall Skills and Attitudes* outcomes are addressed.

Cautions

Web sites require previewing before use with students.

Physical Characteristics Grade K 1 2 3 4 Cluster 0 1 2 3 4
 • 32 pages, hole-punched

Copyright ISBN/Order # Title

2000 1-55268-900-X *Animals Grow* (Teacher's Guide - Manitoba Edition)

Matter, Matter Everywhere (Student Text)



Matter, Matter Everywhere includes 14 activity based learning experiences. It addresses specific learning outcomes for Cluster 2: *Properties of Solids, Liquids, and Gases*. The text includes photographs and a glossary which includes a visual support for each term. Scientific inquiry and design process skills and attitudes are addressed.

Physical Characteristics Grade K 1 2 3 4 Cluster 0 1 2 3 4
 • 33 pages, softcover

Copyright ISBN/Order # Title

2000 1-55268-914-X *Matter, Matter Everywhere* (Student Text)

Matter, Matter Everywhere (Teacher's Guide - Manitoba Edition)



The teacher's guide is organized into lessons that correspond with the student text and include activating, investigating, and applying strategies. Background information related to science concepts and opportunities to connect science to the world are provided. Links to other subject areas are made as well as suggestions to extend student learning and address students with diverse learning needs. There are blackline masters that include suggestions for instruction and assessment, design process performance rubrics, graphic organizers, and differentiated learning strategies. Web site suggestions and common student misconceptions are identified. An overall correlation chart summarizing which Manitoba specific learning outcomes are addressed by lesson is included. Some Cluster 0: *Overall Skills and Attitudes* outcomes are addressed.

Cautions

Web sites require previewing before use with students.

Physical Characteristics Grade K 1 2 3 4 Cluster 0 1 2 3 4
 • 92 pages, hole-punched

Copyright ISBN/Order # Title

2000 1-55268-903-4 *Matter, Matter Everywhere* (Teacher's Guide - Manitoba Edition)

Pan-Canadian Science Place 2

Grade Level(s)

K 2 4 6 8 S2 S4
 1 3 5 7 S1 S3

Author(s) Graham, Wendy, ed.

Intended User(s) Student, Teacher

Move It! (Student Text)



Move It! includes 14 activity based learning experiences. It addresses specific learning outcomes for Cluster 3: *Position and Motion*. The text includes photographs and a glossary which includes a visual support for each term. Scientific inquiry and design process skills and attitudes are addressed.

Comments

The text does not address outcomes related to looking at an object from a different perspective from one's own. Vocabulary development activities may need to be supplemented. Additional information on levers and pulleys, that is not part of the Manitoba science curriculum, is included.

Physical Characteristics

• 33 pages, softcover

Grade K 1 2 3 4 Cluster 0 1 2 3 4

Copyright ISBN/Order # Title

2000 1-55268-916-6 Move It! (Student Text)

Move It! (Teacher's Guide - Manitoba Edition)



The teacher's guide is organized into lessons that correspond with the student text and include activating, investigating, and applying strategies. Background information related to science concepts and opportunities to connect science to the world are provided. Links to other subject areas are made as well as suggestions to extend student learning and address students with diverse learning needs. There are blackline masters that include suggestions for instruction and assessment, design process performance rubrics, graphic organizers, and differentiated learning strategies. Common student misconceptions are identified. An overall correlation chart summarizing which Manitoba specific learning outcomes are addressed by lesson is included. Some Cluster 0: *Overall Skills and Attitudes* outcomes are addressed.

Physical Characteristics

• 96 pages, hole-punched

Grade K 1 2 3 4 Cluster 0 1 2 3 4

Copyright ISBN/Order # Title

2000 1-55268-909-3 Move It! (Teacher's Guide - Manitoba Edition)

LEARNING AND TEACHING RESOURCES

Pan-Canadian Science Place 3

Grade Level(s)

K 2 4 6 8 S2 S4
 1 3 5 7 S1 S3

Author(s) Graham, Wendy, ed.

Intended User(s) Student, Teacher

Resource Designation	Type of Resource
<ul style="list-style-type: none"> • Student-Breadth & Depth • Teacher Reference 	<ul style="list-style-type: none"> • Series • Student Textbook • Teacher Guide

<p>Publisher/Producer Scholastic Canada Ltd.</p> <p>Distributor/Supplier Scholastic Canada Ltd. 175 Hillmount Road Markham, ON L6C 1Z7</p> <p>Telephone (905) 887-7323 ext. 279 Toll Free Fax (905) 887-3642 Internet</p>
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Range of Classroom Use

<ul style="list-style-type: none"> • General • Struggling Learner- suggestions for inclusive teaching strategies • ESL- suggestions for inclusive learning strategies
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Annotation

Pan Canadian Science Place 3 resources recommended for use with Grade 3 students in Manitoba include four students texts (*Build It Up!*, *Down Under*, *Invisible Power*, and *Watch It Grow!*) and the accompanying teacher's guides, which are cross-referenced to the Manitoba science curriculum. The student texts guide students through explorations and provide strategies for interpreting and communicating results. Scientific inquiry skills are outlined in the first lesson and prompt science as a way of thinking about the world. Icons in the texts identify materials required, safety tips, and when students should write in their science journals. These resources support the development of scientific literacy at the early years level. The series promotes multicultural diversity and contains significant Canadian content. Words in bold type are explained in the glossary. There is no index.

Build It Up! (Student Text)



Build It Up! includes 14 activity based learning experiences. It addresses specific learning outcomes for Cluster 2: *Materials and Structures*. The text includes photographs, diagrams, and a glossary with photos. Scientific inquiry and design process skills and attitudes are addressed but require supplementation.

Comments

This text includes a lesson on levers that is not part of Manitoba's Grade 3 science curriculum.

Physical Characteristics

Grade K 1 2 3 4 Cluster 0 1 2 3 4

• 32 pages, softcover

Copyright	ISBN/Order #	Title
2000	0-7791-0028-X	Build It Up! (Student Text)

Build It Up! (Teacher's Guide - Manitoba Edition)



The teacher's guide is organized into lessons that correspond with the student text and include activating, investigating, and applying strategies. Background information related to science concepts and opportunities to connect science to the world are provided. Links to other subject areas are made as well as suggestions to extend student learning and address students with diverse learning needs. There are blackline masters that include suggestions for instruction and assessment, design process performance rubrics, graphic organizers, and differentiated learning strategies. Common student misconceptions are identified. An overall correlation chart summarizing which Manitoba specific learning outcomes are addressed by lesson is included. Some Cluster 0: *Overall Skills and Attitudes* outcomes are addressed.

Physical Characteristics

Grade K 1 2 3 4 Cluster 0 1 2 3 4

• 84 pages, hole-punched

Copyright	ISBN/Order #	Title
2000	0-7791-0021-2	Build It Up! (Teacher's Guide - Manitoba Edition)

Pan-Canadian Science Place 3

Grade Level(s)

K 2 4 6 8 S2 S4
 1 3 5 7 S1 S3

Author(s) Graham, Wendy, ed.

Intended User(s) Student, Teacher

Down Under (Student Text)



Down Under includes 14 activity based learning experiences. It addresses specific learning outcomes for Cluster 4: *Soils in the Environment*. The text includes photographs, diagrams, and a glossary with photos. Scientific inquiry and design process skills and attitudes are addressed but require supplementation.

Physical Characteristics

• 32 pages, softcover

Grade K 1 2 3 4 Cluster 0 1 2 3 4

Copyright ISBN/Order # Title

2000 0-7791-0029-8 Down Under (Student Text)

Down Under (Teacher's Guide - Manitoba Edition)



The teacher's guide is organized into lessons that correspond with the student text and include activating, investigating, and applying strategies. Background information related to science concepts and opportunities to connect science to the world are provided. Links to other subject areas are made as well as suggestions to extend student learning and address students with diverse learning needs. There are blackline masters that include suggestions for instruction and assessment, design process performance rubrics, graphic organizers, and differentiated learning strategies. Web site suggestions and common student misconceptions are identified. An overall correlation chart summarizing which Manitoba specific learning outcomes are addressed by lesson is included. Some Cluster 0: *Overall Skills and Attitudes* outcomes are addressed.

Comments

Web sites require previewing before use with students.

Physical Characteristics

• 80 pages, hole-punched

Grade K 1 2 3 4 Cluster 0 1 2 3 4

Copyright ISBN/Order # Title

2000 0-7791-0024-7 Down Under (Teacher's Guide - Manitoba Edition)

Invisible Power (Student Text)



Invisible Power includes 14 activity based learning experiences. It addresses specific learning outcomes for Cluster 3: *Forces That Attract or Repel*. The text includes photographs, diagrams, and a glossary with photos. Scientific inquiry and design process skills and attitudes are addressed but require supplementation.

Physical Characteristics

• 32 pages, softcover

Grade K 1 2 3 4 Cluster 0 1 2 3 4

Copyright ISBN/Order # Title

2000 0-7791-0026-3 Invisible Power (Student Text)

Invisible Power (Teacher's Guide - Manitoba Edition)



The teacher's guide is organized into lessons that correspond with the student text and include activating, investigating, and applying strategies. Background information related to science concepts and opportunities to connect science to the world are provided. Links to other subject areas are made as well as suggestions to extend student learning and address students with diverse learning needs. There are blackline masters that include suggestions for instruction and assessment, design process performance rubrics, graphic organizers, and differentiated learning strategies. Web site suggestions and common student misconceptions are identified. An overall correlation chart summarizing which Manitoba specific learning outcomes are addressed by lesson is included. Some Cluster 0: *Overall Skills and Attitudes* outcomes are addressed.

Comments

Web sites require previewing before use with students.

Physical Characteristics

• 92 pages, hole-punched

Grade K 1 2 3 4 Cluster 0 1 2 3 4

Copyright ISBN/Order # Title

2000 0-7791-0015-8 Invisible Power (Teacher's Guide - Manitoba Edition)

Pan-Canadian Science Place 3

Grade Level(s)

K 2 4 6 8 S2 S4
 1 3 5 7 S1 S3

Author(s) Graham, Wendy, ed.

Intended User(s) Student, Teacher

Watch It Grow! (Student Text)



Watch It Grow! includes 14 activity based learning experiences. It addresses specific learning outcomes for Cluster 1: *Growth and Changes in Plants*. The text includes photographs, diagrams, and a glossary with photos. Scientific inquiry and design process skills and attitudes are addressed but require supplementation.

Comments

The text includes a lesson on photosynthesis that is not part of Manitoba's Grade 3 science curriculum.

Physical Characteristics

• 32 pages, softcover

Grade K 1 2 3 4 Cluster 0 1 2 3 4

Copyright ISBN/Order # Title

2000 0-7791-0025-5 *Watch It Grow!* (Student Text)

Watch It Grow! (Teacher's Guide - Manitoba Edition)



The teacher's guide is organized into lessons that correspond with the student text and include activating, investigating, and applying strategies. Background information related to science concepts and opportunities to connect science to the world are provided. Links to other subject areas are made as well as suggestions to extend student learning and address students with diverse learning needs. There are blackline masters that include suggestions for instruction and assessment, design process performance rubrics, graphic organizers, and differentiated learning strategies. Web site suggestions and common student misconceptions are identified. An overall correlation chart summarizing which Manitoba specific learning outcomes are addressed by lesson is included. Some Cluster 0: *Overall Skills and Attitudes* outcomes are addressed.

Comments

Web sites require previewing before use with students.

Physical Characteristics

• 92 pages, hole-punched

Grade K 1 2 3 4 Cluster 0 1 2 3 4

Copyright ISBN/Order # Title

2000 0-7791-0012-3 *Watch It Grow!* (Teacher's Guide - Manitoba Edition)

LEARNING AND TEACHING RESOURCES

Pan-Canadian Science Place 4

Grade Level(s)

- K 2 4 6 8 S2 S4
 1 3 5 7 S1 S3

Author(s) Graham, Wendy, ed.

Intended User(s) Student, Teacher

Resource Designation	Type of Resource
<ul style="list-style-type: none"> • Student-Depth • Teacher Reference 	<ul style="list-style-type: none"> • Series • Student Textbook • Teacher Guide

<p>Publisher/Producer Scholastic Canada Ltd.</p> <p>Distributor/Supplier Scholastic Canada Ltd. 175 Hillmount Road Markham, ON L6C 1Z7</p> <p>Telephone (905) 887-7323 ext. 279 Toll Free Fax (905) 887-3642 Internet</p>
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Range of Classroom Use

- General
- Struggling Learner- suggestions for inclusive teaching strategies
- ESL- suggestions for inclusive learning strategies

Annotation

Pan Canadian Science Place 4 resources recommended for use with Grade 4 students in Manitoba include three student texts (*Healthy Habitats*, *Rockhound*, and *Sounds Good*) and the accompanying teacher's guides, which are cross-referenced to the Manitoba science curriculum. The student texts guide students through explorations and provide strategies for interpreting and communicating results. Scientific inquiry skills are outlined in the first lesson and prompt science as a way of thinking about the world. Icons in the texts identify materials required, safety tips, and when students should write in their science journals. These resources support the development of scientific literacy at the early years level. The series promotes multicultural diversity and contains significant Canadian content. Words in bold type are explained in the glossary. There is no index.

Healthy Habitats (Student Text)



Healthy Habitats contains 12 lessons. It addresses specific learning outcomes for Cluster 1: *Habitats and Communities*. The text includes photographs, diagrams, and a glossary. Scientific inquiry and design process skills and attitudes are addressed.

Comments

Concepts relating to technology and traditional knowledge are not addressed and will need to be supplemented through use of the teacher's guide.

Physical Characteristics

- 48 pages, softcover

Grade K 1 2 3 4 Cluster 0 1 2 3 4

Copyright ISBN/Order # Title

2000 0-7791-0045-X Healthy Habitats (Student Text)

Pan-Canadian Science Place 4

Grade Level(s)

K 2 4 6 8 S2 S4
 1 3 5 7 S1 S3

Author(s) Graham, Wendy, ed.

Intended User(s) Student, Teacher

Healthy Habitats (Teacher's Guide - Manitoba Edition)



The teacher's guide is organized into lessons that correspond with the student text and include activating, investigating, and applying strategies. The guide is student-centered and contains a variety of activities that connect science with other areas of the curriculum. Background information related to science concepts is provided. Links to other subjects areas are made as well as suggestions to extend student learning and address students with diverse learning needs. There are blackline masters that include suggestions for instruction and assessment, design process, performance rubrics, graphic organizers, and differentiated learning strategies. Web site suggestions and common student misconceptions are identified. An overall correlation chart summarizing which Manitoba specific student learning outcomes are addressed by each lesson is included. Some Cluster 0: *Overall Skills and Attitudes* outcomes are addressed.

Comments

The guide addresses concepts relating to technology and traditional knowledge that are not addressed in the student text. Contributions of Canadian scientists are highlighted.

Cautions

Web sites require previewing before use with students.

Physical Characteristics

Grade K 1 2 3 4 Cluster 0 1 2 3 4

• 92 pages, hole-punched

Copyright ISBN/Order # Title

2000 0-7791-0032-8 Healthy Habitats (Teacher's Guide - Manitoba Edition)

Rockhound (Student Text)



Rockhound contains 11 lessons. It addresses specific learning outcomes for Cluster 4: *Rocks, Minerals, and Erosion*. The text includes photographs, diagrams, and a glossary. Scientific inquiry and design process skills and attitudes are addressed.

Comments

The 1997 Manitoba flood is used to illustrate the effects of water on the landscape.

Physical Characteristics

Grade K 1 2 3 4 Cluster 0 1 2 3 4

• 48 pages, softcover

Copyright ISBN/Order # Title

2000 0-7791-0049-2 Rockhound (Student Text)

Rockhound (Teacher's Guide - Manitoba Edition)



The teacher's guide is organized into lessons that correspond with the student text and include activating, investigating, and applying strategies. The guide is student-centered and contains a variety of activities that connect science with other areas of the curriculum. Background information related to science concepts is provided. Links to other subjects areas are made as well as suggestions to extend student learning and address students with diverse learning needs. There are blackline masters that include suggestions for instruction and assessment, design process, performance rubrics, graphic organizers, and differentiated learning strategies. Web site suggestions and common student misconceptions are identified. An overall correlation chart summarizing which Manitoba specific student learning outcomes are addressed by each lesson is included. Some Cluster 0: *Overall Skills and Attitudes* outcomes are addressed.

Cautions

Web sites require previewing before use with students.

Physical Characteristics

Grade K 1 2 3 4 Cluster 0 1 2 3 4

• 88 pages, hole-punched

Copyright ISBN/Order # Title

2000 0-7791-0044-1 Rockhound (Teacher's Guide - Manitoba Edition)

Pan-Canadian Science Place 4

Grade Level(s)

K 2 4 6 8 S2 S4
 1 3 5 7 S1 S3

Author(s) Graham, Wendy, ed.

Intended User(s) Student, Teacher

Sounds Good (Student Text)



Sounds Good contains 11 lessons. It addresses specific learning outcomes for Cluster 3: *Sound*. The text includes photographs, diagrams, and a glossary. Scientific inquiry and design process skills and attitudes are addressed.

Physical Characteristics

• 48 pages, softcover

Grade K 1 2 3 4 Cluster 0 1 2 3 4

Copyright ISBN/Order # Title

2000 0-7791-0048-4 Sounds Good (Student Text)

Sounds Good (Teacher's Guide - Manitoba Edition)



The teacher's guide is organized into lessons that correspond with the student text and include activating, investigating, and applying strategies. The guide is student-centered and contains a variety of activities that connect science with other areas of the curriculum. Background information related to science concepts is provided. Links to other subjects areas are made as well as suggestions to extend student learning and address students with diverse learning needs. There are blackline masters that include suggestions for instruction and assessment, design process, performance rubrics, graphic organizers, and differentiated learning strategies. Web site suggestions and common student misconceptions are identified. An overall correlation chart summarizing which Manitoba specific student learning outcomes are addressed by each lesson is included. Some Cluster 0: *Overall Skills and Attitudes* outcomes are addressed.

Cautions

Web sites require previewing before use with students.

Physical Characteristics

• 80 pages, hole-punched

Grade K 1 2 3 4 Cluster 0 1 2 3 4

Copyright ISBN/Order # Title

2000 0-7791-0041-7 Sounds Good (Teacher's Guide - Manitoba Edition)