



ASRTS Elementary Thematic Unit

Nova Scotia Cross-Curricular Links for Grade 4 and 5

The *ASRTS Elementary Thematic Unit* is an initiative of Go for Green's Active & Safe Routes to School (ASRTS) program. ASRTS encourages more children, youth and their families to use active transportation – such as walking and cycling – for the environment, physical activity and traffic safety. Active & Safe Routes to School is a national Go for Green program coordinated in Nova Scotia by the Ecology Action Centre in partnership with the Nova Scotia Department of Health Promotion and Protection as part of the Active Kids Healthy Kids Initiative. For more information, see <http://www.ecologyaction.ca/asrts> or contact us at asrts@ecologyaction.ca or (902) 442-5055.

The *ASRTS Elementary Thematic Unit* is an online resource designed for Grades 4 and 5. Find it online at <http://ffl.nbed.nb.ca>. The overall unit can be guided by a handful of Specific Curriculum Outcomes, from each grade, which correspond with the programs overall goals: promoting safe active transportation, physical activity, and environmental consciousness.

Grade 4	
Subject Area	Specific Curriculum Outcomes
Health Education	B3.1 identify and practice bicycle and off-road vehicle safety precautions B3.2 identify and practice strategies for preventing injury to the skeletal, muscular, and nervous system B7.1 participate in a broad range of physical activities C4.1 demonstrate proactive strategies for enhancing the social and environmental health of the school
Physical Education	- perform locomotor activities of low-, medium-, and high-intensity (e.g. walking, jogging, running)
Science	- identify their own and their families' impact on habitats and describe how personal actions help conserve habitats (108-3, 108-6)

Grade 5	
Subject Area	Specific Curriculum Outcomes
Health Education	B3.2 identify and practice outdoor safety precautions B7.1 participate in a broad range of physical activities C4.1 demonstrate proactive strategies for enhancing the social and environmental health of the community
Physical Education	- appreciate and recognize the effects of human activity on the environment
Science	- identify positive and negative effects of technologies that affect weather and the environment (108-1) - describe how studies of the depletion of the ozone layer, global warming and the increase in acid rain have lead to new inventions and stricter regulations on emissions from cars, factories and other polluting technologies (106-4)

Thematic Units:

The following tables are divided into this guide's seven subject-related Thematic Units. Each unit is summarized and accompanied by the Specific Curriculum Outcomes that best fit the Unit for Grade 4 (Gr.4) and Grade 5 (Gr.5). The

unit summary is brief and requires reference to the main document, which can be viewed and downloaded at ffl.nbed.nb.ca.

Unit 1: Language Arts

Most of the activities in this unit involve using the language arts to present material (written or oral) to an audience, such as writing announcements, articles, brochures and poems for the school, writing letters to local officials and community members, and developing safety board games. An unrelated activity listed in the unit involves discussing and explaining personal opinions regarding safety and environmental issues. Specific Curriculum Outcomes associated with safety, environmental awareness and physical fitness also apply to these activities, as they are the focus of the writing.

The following Specific Curriculum Outcomes can be used to guide these activities:

Gr.4 English Language Arts:

9.1 create written and media texts, collaboratively and independently, in different modes (expressive, transactional, and poetic) and in a variety of forms

- recognize that particular forms require the use of specific features, structures, and patterns

9.2 demonstrate an awareness of purpose and audience

9.3 invite responses to early drafts of their writing/media productions

- use audience reaction to help shape subsequent drafts

1.1 explore and discuss their thoughts, ideas, and experiences and consider those of their peers

Gr.5 English Language Arts:

9.1 create written and media texts, collaboratively and independently, in different modes (expressive, transactional, and poetic), and in an increasing variety of forms

- use specific features, structures, and patterns of various text forms to create written and media texts

9.2 address the demands of a variety of purposes and audiences

- make choices of form, style, and content for specific audiences and purposes

9.3 invite responses to early drafts of their writing media/productions

- use audience reaction to help shape subsequent drafts
- reflect on their final drafts from a reader's/viewer's/listener's point of view

1.1 contribute thoughts, ideas, and experiences to discussions, and ask questions to clarify their ideas and those of their peers

Unit 2: Mathematics

The activities in this section use data collected from surveying students and staff or from the results generated from the class's participation in the "Walking Tour of Canada" program. Either way the main ideas of these activities are to record and graph data, find averages and percentages, create addition and subtraction equations, and build fractions. Specific Curriculum Outcomes associated with safety, environmental awareness and physical fitness also apply to these activities, as they are the focus of the math and problem solving.

The following Specific Curriculum Outcomes can be used to guide these activities:

Gr.4 Mathematics:

A5 compare and order fractions

B15 mentally solve appropriate addition and subtraction computations

F1 recognize and use a variety of methods for the collection and organization of data

F5 construct bar graphs, pictographs, and stem-and-leaf plots

F8 explore real-world issues of interest to students and for which data collection is necessary to determine an answer

Gr.5 Mathematics:

A3 interpret, model and rename fractions

A10 compare and order fractions using conceptual methods

B8 solve and create addition and subtraction problems involving whole numbers and/or decimals

C9 represent measurement relationships using tables and two-dimensional graphs

F2 use pictographs and bar graphs to display and interpret data

F7 explore relevant issues for which data collection assists in reaching conclusions

Unit 3: Science and Environmental Studies

Key topics in this unit are air pollution, carbon dioxide emissions from cars, the respiratory system, and ecological

footprints. This is a hands-on unit that involves experiments, collecting data and discussions.

The following Specific Curriculum Outcomes can be used to guide these activities:

Gr.4 Science

- identify their own and their families' impact on habitats and describe how personal actions help conserve habitats (108-3, 108-6)
- identify examples of positive and negative effects of technological developments on natural habitats (108-1)
- describe effects of wind, water, and ice on the landscape (301-5)

Gr.4 Health Education:

C4.1 demonstrate proactive strategies for enhancing the social and environmental health of the school

Gr.5 Science

- describe the structure and function of the major organs of the respiratory system (302-5c)
- propose questions about the factors that affect breathing and heartbeat rate and rephrase these questions in a testable form (204-1, 204-2)
- carry out procedures, making sure to control variables, to investigate the factors affecting breathing and heartbeat rate, and compile and display data from these investigations in a graph (205-1, 206-2)
- demonstrate and describe the scientific processes used to investigate the factors that affect breathing and heartbeat rate (104-2)
- identify examples of weather phenomena that are currently being studied (105-1) (e.g., smog)
- identify positive and negative effects of technologies that affect weather and the environment (108-1)
- describe how studies of the depletion of the ozone layer, global warming and the increase in acid rain have lead to new inventions and stricter regulations on emissions from cars, factories and other polluting technologies (106-4)

Gr.5 Health Education

A1.1 demonstrate a knowledge of the circulatory and respiratory systems and their related organs

A2.1 demonstrate an understanding of how the respiratory and circulatory systems work together to exchange gases in the body

Unit 4: Social Studies

The major themes in this unit are creating safer routes to school, encouraging active transport and environmental awareness through the *Walk Across Canada Challenge*, *Community Walk to School Day Event*, and *International Walk to School Day*. The unit also includes learning about Canada's provinces and territories while "walking across Canada", which alliance well with the Grade 4 expectations.

The following Specific Curriculum Outcomes can be used to guide these activities:

Gr.4 Social Studies:

- 4.4.1 identify and describe the physical regions of Canada
- 4.4.2 identify and describe the human landscape of Canada
- 4.4.4 research and describe symbols of Canadian Heritage

Gr. 4 Health Education:

- B3.1 identify and practice bicycle and off-road vehicle safety precautions
- B3.2 identify and practice strategies for preventing injury to the skeletal, muscular, and nervous system
- B3.3 demonstrate knowledge needed to seek help when personal safety is threatened
- C4.1 demonstrate proactive strategies for enhancing the social and environmental health of the school
- D1.1 identify and demonstrate attitudes and behaviours that support healthy lifestyle choices

Gr.4 Science:

- identify their own and their families' impact on habitats and describe how personal actions help conserve habitats (108-3, 108-6)

Gr.5 Social Studies:

- 5.4.1 identify and locate selected Aboriginal societies in North America
- 5.4.2 demonstrate an understanding of the diverse lifestyles of early Aboriginal peoples in what is now Canada

Gr.5 Health Education:

- B3.2 identify and practice outdoor safety precautions
- B3.5 recognize and avoid threatening situations
- C2.1 identify ways that volunteer groups and government agencies contribute to the health of the community
- C4.1 demonstrate proactive strategies for enhancing the social and environmental health of the community

Gr.5 Science:

- describe and compare the techniques used by different people in their community and region to address their health requirements (107-2)

Unit 5: Health

Many of the activities in this unit focus on personal health and safety, which involve discussions on personal and social health, watching relevant videos on road safety and inviting health professionals into the classroom to discuss nutrition and safety.

The following Specific Curriculum Outcomes can be used to guide these discussions and activities:

Gr.4 Health Education:

- B1.1 demonstrate a knowledge of the personal and social factors affecting food choices
- B1.2 demonstrate an ability to select nutritious breakfast foods
- B3.1 identify and practice bicycle and off-road vehicle safety precautions
- B3.2 identify and practice strategies for preventing injury to the skeletal, muscular, and nervous system
- B3.3 demonstrate knowledge needed to seek help when personal safety is threatened
- B7.2 describe the role of exercise and diet in maintaining healthy bones and muscles

Gr.5 Health Education:

- B1.1 demonstrate a knowledge of the six major nutrients and how they affect body functions
- B1.2 make healthy, balanced food choices
- B1.3 demonstrate an understanding of the impact of additives on the nutritional value and safety of food
- B3.1 identify and practice basic first aid procedures
- B3.2 identify and practice outdoor safety precautions
- B3.5 recognize and avoid threatening situations
- B7.1 participate in a broad range of physical activities

The remaining activities in this unit focus on educating students on climate change and air pollution, and their connections to personal health. This discussions could lead to activities that meet the following Specific Curriculum Outcomes:

Gr.4 Health Education:

- C4.1 demonstrate proactive strategies for enhancing the social and environmental health of the school

Gr.4 Science:

- identify their own and their families' impact on habitats, and describe how personal actions help conserve habitats (108-6, 108-3)
- identify examples of positive and negative effects of technological developments on natural habitats (108-1)

Gr.5 Health Education

- C4.1 demonstrate proactive strategies for enhancing the social and environmental health of the community

Gr.5 Science:

- identify examples of weather phenomena that are currently being studied (105-1) (e.g., smog)
- identify positive and negative effects of technologies that affect weather and the environment (108-1)
- describe how studies of the depletion of the ozone layer, global warming and the increase in acid rain have lead to new inventions and stricter regulations on emissions from cars, factories and other polluting technologies (106-4)

Unit 6: Physical Education

This unit provides a list of recommendations to increase the physical fitness of students, by providing incentives to walk/bike to school, and implementing special walk to school days. There are also activities based on heartbeat rates and air pollution.

The following Specific Curriculum Outcomes can be used to guide these activities:

Gr. 4 Physical Education:

- perform locomotor activities of low-, medium-, and high-intensity (e.g. walking, jogging, running)
- experience an outdoor activity in each of the four seasons

Gr. 4 Health Education:

- B7.1 participate in a broad range of physical activities
- C4.1 demonstrate proactive strategies for enhancing the social and environmental health of the school

Gr. 5 Physical Education:

- demonstrate a willingness to choose and participate in an activity at home or in the community for personal

enjoyment and health benefits

- appreciate and recognize the effects of human activity on the environment

Gr. 5 Health Education:

A1.1 demonstrate a knowledge of the circulatory and respiratory systems and their related organs

A2.1 demonstrate an understanding of how the respiratory and circulatory systems work together to exchange gases in the body

B7.1 participate in a broad range of physical activities

C4.1 demonstrate proactive strategies for enhancing the social and environmental health of the community

Gr. 5 Science:

- carry out procedures, making sure to control variables, to investigate the factors affecting breathing and heartbeat rate, and compile and display data from these investigations in a graph (205-1, 206-2)

Unit 7: Music

There are three suggested activities for the Music Unit. The first involves students finding music/songs that best fit their rhythm for walking, the next activity involves the students composing a theme song to play during International Walk to School Day, and the third suggests writing a rap song about safety. Specific Curriculum Outcomes associated with safety, environmental awareness and physical fitness also apply to these activities, as they are the focus of the music making.

The following Specific Curriculum Outcomes can be used to guide these activities:

Gr.4 Music:

1.2.2 demonstrate an awareness of rhythmic/melodic concepts, form, and texture through language, movement and performance

2.2.1 use specific materials, techniques, and forms to create, make and present music

6.2.2 use knowledge of music elements to describe the music they hear

6.3.1 demonstrate respect for others' responses to music

Gr.5 Music:

1.2.1 experiment with the elements of music to create musical works that explore topics and issues of personal interest

2.2.2 use a range of materials, techniques, and forms to create, make and present music

6.2.3 use knowledge of musical elements to compare and contrast music of various genres

*Note the *ASRTS Elementary Teachers Guide* has 12 Units. The latter five units are not summarized here because they are:

1) supporting units that are referred to in the first seven units of the Guide, such as *Literature and Video, Tools and Games* and *Websites*; or

2) they are units, such as *Technology* and *Special Activities*, that do not correspond to a specific subject and therefore, can be guided by the overall specific curriculum expectations that were outlined at the beginning of this document for each grade.