

Ontario Elementary Curriculum Connections to Active Safe, Sustainable Transportation (2016)

BIG IDEAS: Active, Safe, Sustainable Transportation

Transportation Shapes Our Lives

Personal travel habits have an impact on our personal health and fitness and the quality of the environment around us. For students, active forms of transportation help to increase physical activity, reduce stress, and improve academic performance. Our transportation policies and infrastructure also affect our safety, our ability to access transportation systems and ultimately the livelihoods of our neighbours and communities.

Transportation Shapes Our Natural and Physical Environment

Focusing on driving as the main mode of travel has decreased the walkability and safety of our communities for students travelling to schools and has contributed to climate change. Construction of roads and transportation systems have social, economic, political, and environmental consequences. Changing to sustainable forms of transportation requires re-thinking about how public spaces are used and designated, the short term and long term impacts of sustainable transportation and the required infrastructure, and the choices we make about adding more carbon to the atmosphere.

Active Transportation is defined by the Ontario Health and Physical Education Curriculum as “any type of human powered transportation – walking, cycling, skateboarding, wheeling a wheelchair, and so on – used to get oneself or others from one place to another. Active transportation may include a combination of methods, such as combining human-powered motion with public transportation.”

Sustainability is defined by the Ontario Science and Technology Curriculum as “A condition or process that can be maintained without interruption, weakening, or loss of valued qualities. Sustainability ensures that a population remains within the carrying capacity of its environment. The term is often used in reference to the ability to meet the needs of the present generation without compromising the ability of future generations to meet their needs.

Elementary Curriculum Connections

Environmental Education Standards (K-12)

https://www.edu.gov.on.ca/eng/teachers/enviroed/Env_Ed_Standards.pdf

THEME	STANDARDS <i>The curriculum provides students with opportunities to:</i>	RELATED CONCEPTS
COMMUNITY	<ul style="list-style-type: none"> engage in authentic learning situations and interactions in their local environment (e.g., natural, built, cultural); explore and appreciate the outdoors, to help develop their understanding of the local environment; develop and communicate a sense of connection with the local and global environments; demonstrate environmental stewardship by thinking globally and acting locally. 	<ul style="list-style-type: none"> ✓ Sense of connection ✓ Responsible citizenship ✓ Sense of place ✓ Sense of local and global citizenship
KNOWLEDGE	<ul style="list-style-type: none"> study a variety of human and natural systems at the local, regional and global levels; develop a general understanding of the kinds of interactions that occur within and between human and natural systems; understand the concept of sustainability and the behaviours, practices, and 	<ul style="list-style-type: none"> ✓ Human and natural systems ✓ Interactions within and between systems

	approaches that promote sustainability in various areas of human activity.	✓ Sustainability
PERSPECTIVES	<ul style="list-style-type: none"> consider different points of view or perspectives (e.g., historical, economic, political, Aboriginal, cultural, technological) on the environment and the role of human beings in relationship to it; examine and explain the assumptions and motivations underlying their own and others' (e.g., other individuals', NGOs', governments', other countries') action and reactions with respect to environmental issues or concerns; develop and articulate their own perspective on human-natural interactions and environmental issues. 	<ul style="list-style-type: none"> ✓ Consideration of diverse points of view ✓ Critical thinking and evaluation ✓ Formation of an opinion
ACTION	<ul style="list-style-type: none"> Develop skills in problem solving, inquiry and research, decision making and action planning; Contribute to the protection, conservation, and remediation of the environment; Develop, communicate, and implement plans to support sustainability. 	<ul style="list-style-type: none"> ✓ Skills and practices ✓ Protection ✓ Innovation ✓ Conservation ✓ Remediation

Science and Technology Curriculum (Gr. 1-8)

(<http://www.edu.gov.on.ca/eng/curriculum/elementary/scientec18currb.pdf>)

Goal 1: To relate science and technology to society and the environment		
Fundamental Concepts:		
CONCEPT	ASST Focus BIG IDEAS	CURRICULUM STRAND
Energy	<ul style="list-style-type: none"> Energy comes in many forms and can change forms. Energy is needed for transportation and movement 	<ul style="list-style-type: none"> Gr1 Energy in our Lives Gr2 Movement Gr3 Forces Causing Movement Gr4 Pulleys and Gears, Light and Sound Gr5 Forces Acting on Structures, Properties of and Changes in Matter, Conservation of Energy and Resources Gr6 Electricity and Electrical Devices
Systems and Interactions	<ul style="list-style-type: none"> Transportation modes and systems are dependent on and interact with the Earth's natural systems. Changing one part of a system impacts the whole system 	<ul style="list-style-type: none"> Gr 2 Air and Water in the Environment Gr4 Pulleys and Gears, Light and Sound, Rocks and Minerals Gr5 Human Organ Systems Gr7 Interactions in the Environment, Heat in the Environment Gr8 Cells, Systems in Action
Sustainability and Stewardship	<ul style="list-style-type: none"> Science and technology impacts people, other living things and the environment. Understanding the impacts of Science and Technology provides meaningful contexts for proposing courses of practical action to protect the environment 	<ul style="list-style-type: none"> Gr 1 Needs and Characteristics of Living Things Gr2 Growth and Changes in Animals Gr3 Growth and Changes in Plants Gr4 Habitats and Communities Gr5 Properties of and Changes in Matter, Conservation of Energy and Resources Gr6 Biodiversity, Electricity and Electrical Devices Gr7 Interactions in the Environment

Social Studies (Gr. 1-8)

(<http://www.edu.gov.on.ca/eng/curriculum/elementary/sstudies18curr.pdf>)

<p>Goals of Social Studies: Developing a sense of who I am, and who we are <i>Where have I come from? What makes me belong? Where are we now? How can I contribute to society?</i></p>	<p>Goals of History: Developing a sense of time <i>Who are we? Who came before us? How have we changed?</i></p>	<p>Goals of Geography? Developing a sense of place <i>What is where, why there, and why care?</i></p>
<p>Fundamental Concepts:</p>		
CONCEPT	ASST Focus BIG IDEAS	CURRICULUM STRAND
<p>Significance</p>	<p>A person's roles, responsibilities, and relationships change over time and in different situations.</p> <p>Human activities affect the environment, but the environment also affects human activities.</p> <p>To be active and effective citizens, Canadians need to understand their rights and responsibilities as well as how governments work.</p>	<ul style="list-style-type: none"> • Grade 1: Our Changing Roles and Responsibilities • Grade 2: Global Communities • Grade 3: Living and Working in Ontario • Grade 5: The Role of Government and Responsible Citizenship
<p>Cause and Consequence</p>	<p>Our actions can have an impact on the natural and built features of the community, so it is important for us to act responsibly.</p> <p>The climate and physical features of a region affect how people in that region live.</p> <p>Social and environmental challenges were a major part of life in all communities in early-nineteenth-century Canada.</p> <p>Human activity and the environment have an impact on each other.</p> <p>Global issues require global action.</p>	<ul style="list-style-type: none"> • Grade 1: The Local Community • Grade 2: Global Communities • Grade 3: Communities in Canada, 1780–1850 • Grade 4: Political and Physical Regions of Canada • Grade 6: Canada's Interactions with the Global Community
<p>Continuity and Change</p>	<p>By studying the past, we can better understand the present.</p>	<ul style="list-style-type: none"> • Grade 4: Early Societies, 3000 BCE–1500 CE
<p>Patterns and Trends</p>	<p>A community consists of different areas, each of which has a specific layout and characteristics.</p> <p>Different people have adapted to similar climate and physical features in similar ways.</p>	<ul style="list-style-type: none"> • Grade 1: The Local Community • Grade 2: Global Communities
<p>Inter- relationships</p>	<p>Communities have natural and built features and provide services that help meet the needs of the people who live and work there.</p> <p>The natural features of the environment influence land use and the type of employment that is available in a region.</p> <p>Citizens and governments need to work together in order to be able to address issues effectively and fairly.</p> <p>The actions of Canada and Canadians can make a difference in the world.</p> <p>We need to develop sustainable communities that function</p>	<ul style="list-style-type: none"> • Grade 1: The Local Community • Grade 3: Living and Working in Ontario • Grade 5: The Role of Government and Responsible Citizenship • Grade 6: Canada's Interactions with the Global Community • Grade 8: Global Settlement: Patterns and Sustainability

	within the limits of our physical environment.	
Perspectives	<p>The different communities in early-nineteenth-century Canada influence the way we live today.</p> <p>Human activities and decisions about land use may alter the environment.</p> <p>Human activities should balance environmental stewardship with human needs/ wants.</p> <p>When examining an issue, it is important to understand who the different stakeholders are and to consider their perspectives.</p> <p>The ways in which people extract and use natural resources can have social, economic, political, and environmental consequences.</p> <p>Human settlement can cause social, environmental, and economic problems.</p>	<ul style="list-style-type: none"> • Grade 3: Communities in Canada, 1780–1850 • Grade 3: Living and Working in Ontario • Grade 4: Political and Physical Regions of Canada • Grade 5: The Role of Government and Responsible Citizenship • Grade 7: Natural Resources around the World: Use and Sustainability • Grade 8: Global Settlement: Patterns and Sustainability

Health and Physical Education Curriculum (Gr. 1-8)

<http://www.edu.gov.on.ca/eng/curriculum/elementary/health1to8.pdf>

Goals of the Health and Physical Education Program:

Students will develop:

- the **living skills** needed to develop resilience and a secure identity and sense of self, through opportunities to learn adaptive, management, and coping skills, to practise communication skills, to learn how to build relationships and interact positively with others, and to learn how to use critical and creative thinking processes;
- the skills and knowledge that will enable them to enjoy being **active and healthy** throughout their lives, through opportunities to participate regularly and safely in physical activity and to learn how to develop and improve their own personal fitness;
- the **movement competence** needed to participate in a range of physical activities, through opportunities to develop movement skills and to apply movement concepts and strategies in games, sports, dance, and various other physical activities;
- an understanding of the factors that contribute to **healthy development**, a sense of personal responsibility for lifelong health, and an understanding of how living healthy, active lives is connected with the world around them and the health of others.

STRAND	Focus of Learning as it relates to ASST <i>The curriculum provides students with opportunities to:</i>	RELATED SKILLS
LIVING SKILLS	<p>Primary</p> <ul style="list-style-type: none"> • learn basic inter-personal skills, such as positive communication and showing respect for others, that will help them develop their relationships with others • use their thinking skills as they learn basic problem-solving processes. <p>Junior</p> <ul style="list-style-type: none"> • use clear processes for making decisions, setting goals, and solving problems. • develop coping, adaptive, and self-management skills <p>Intermediate</p> <ul style="list-style-type: none"> • use processes for solving problems, setting goals, resolving conflicts, and making decisions. 	<ul style="list-style-type: none"> ✓ sense of self ✓ self-monitoring ✓ interpersonal skills ✓ critical and creative thinking

	<ul style="list-style-type: none"> increase their awareness of self and continuing to improve their awareness when communicating and interacting with others. 	
ACTIVE LIVING	<p>Primary</p> <ul style="list-style-type: none"> understand the benefits of daily physical activity and the factors that contribute to their enjoyment of physical activity take responsibility for their own safety and the safety of those around them while being active. recognize indicators of fitness, improve their cardiorespiratory fitness, and set simple personal fitness goals. build the habit of being active on a daily basis <p>Junior</p> <ul style="list-style-type: none"> overcome obstacles to participation, in order to expand their ability to take responsibility for their own fitness. learn components of health-related fitness (cardiorespiratory endurance, muscular strength, muscular endurance, and flexibility) and intrinsic and extrinsic factors that affect exertion <p>Intermediate</p> <ul style="list-style-type: none"> learn ways of motivating others to be physically active anticipate and protect themselves from outdoor hazards and how to respond to emergency situations 	<ul style="list-style-type: none"> ✓ appropriate clothing and equipment selection ✓ identification of environmental factors that may impact activity ✓ warm up/ cool-down activities selection and participation
MOVEMENT COMPETENCE	<p>Primary</p> <ul style="list-style-type: none"> develop fundamental movement skills, stability and locomotor skills and strategies learn to move and stop safely and in control learn about the skills, equipment, and rules, involved in physical activities <p>Junior</p> <ul style="list-style-type: none"> understand activity components, movement strategies, and the use of different tactical solutions to increase success in physical activities. <p>Intermediate</p> <ul style="list-style-type: none"> work on more complex combinations of stability and locomotor skills 	<ul style="list-style-type: none"> ✓ spatial awareness ✓ effort and relationship ✓ sense of self ✓ confidence
HEALTHY LIVING	<p>Primary</p> <ul style="list-style-type: none"> make connections between their health and well-being and their interactions with others and the world around them take responsibility for their own safety, at home and in the community understand some of the factors that contribute to healthy physical, social, and emotional development. <p>Junior</p> <ul style="list-style-type: none"> assess risk, respond to dangerous situations, and protect themselves from a variety of social dangers <p>Intermediate</p> <ul style="list-style-type: none"> learn about the factors that contribute to healthy development and consider how that information connects to their personal health choices and to the health of others in the world around them. 	<ul style="list-style-type: none"> ✓ personal safety ✓ traffic/road/ community safety ✓ injury prevention ✓ risk assessment and prevention

Active & Safe Routes to School Curriculum Resource created by York Region Health Services, the York Region District School Board and Greenest City.

Curriculum	Active, Safe, Sustainable Transportation Links
MATHEMATICS	<ul style="list-style-type: none"> • Traffic/transit/safe route studies around their school. • Calculating the percentage of students who participate in Walking Wednesday programs, including # of driven or bussed students etc., analyzing the results at the individual class and school level compared to other school days. • Cost analysis of walking verses driving to school • Cost analysis of road infrastructure/ transit options, designated bike lanes
SCIENCE AND TECHNOLOGY	<ul style="list-style-type: none"> • Impacts of cars on air quality and climate change. Investigations of the use of alternative fuels and alternative transportation. Impacts of roads on habitats on ecosystems, water systems • Write about the change of seasons the students experience on their journey to school throughout the year • Investigating insulation, evaporation, related to how to dress for walking to school in different kinds of weather • Explore forces with regards to safety equipment- bike helmets, knee pads
HEALTH AND PHYSICAL EDUCATION	<ul style="list-style-type: none"> • Identify the safe routes to school • Explain relevant safety procedures for traffic/road/bicycle safety and ways of obtaining support for personal safety in the community • Active School's Award • Participate on a regular basis in physical activities that maintain or improve physical fitness
THE ARTS	<ul style="list-style-type: none"> • Creating works of art or performing songs to promote, or educate on importance of walking to school • Explore other artists work (photo essays, film) on the impact of roads, cars, transportation and transportation systems- e.g., Edward Burtynsky • Provide music to entertain during an event related to the Active & Safe Routes to School Program. E.g. Band or class plays for an event in the school yard
LANGUAGE	<ul style="list-style-type: none"> • Write to students in other parts of Canada, or the world, who are also participating in Active & Safe Routes to School Programs and share experiences • Interview a city planner regarding transportation decisions • Write a persuasive essay for the community paper or School Newsletter! E.g., Benefits of Walking to School, "I walk to school because..." • P.A. Announcements, songs, skits, stories regarding the Walking School Bus, Walk to School Day etc.