

ACTIVE AND SUSTAINABLE SCHOOL TRANSPORTATION

LESSON PLANS FOR THE ONTARIO CURRICULUM

Grade 9
Health and Physical Education



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This lesson plan can help teachers and students with the Curriculum/Ecological Literacy section of their EcoSchools program by engaging students in classroom lessons on the environmental, health and social benefits of making active and sustainable travel choices.

Definition of “ASST”

What is Active and Sustainable School Transportation (ASST)?

Active Transportation refers to any mode of human-powered transportation, including but not limited to:

- Walking/running
- Cycling
- Scootering
- Skateboarding
- In-line skating
- Snowshoeing
- Skiing
- Travel with the use of mobility aids, including motorized wheelchairs and other power-assisted devices moving at comparable speed



Sustainable Transportation refers to modes of transportation of people or goods that meet the needs of the present without compromising the ability of future generations to meet their needs. All modes of active transportation are sustainable. Sustainable transportation also includes mechanized modes of transportation which use energy efficiently:

- School bus
- Carpooling
- Public transportation (bus, subway, light rail, etc.)



Other terms

School boards, public health departments and community advocates have long promoted Active and Sustainable School Transportation through various programs. Terms and phrases commonly associated with such programs include:

- Active and Safe Routes to School
- Active School Travel
- School Travel Planning
- Walk to School, Bike to School
- Micro-mobility



Grade 9 – Physical and Health Education

Unit: Active and Sustainable School Transportation (Cycling)

Overview

Curriculum Expectations

A. Active Living

Overall Expectations:

- A1. participate regularly in a balanced instructional program that includes a wide variety of enjoyable physical activities that encourage lifelong participation
- A3. demonstrate safe practices regarding the safety of themselves and others

Specific Expectations:

- A1.2. demonstrate an understanding of factors that contribute to personal enjoyment of being active and can support their participation in physical activity throughout their lives
- A3.1. demonstrate behaviours and apply procedures that maximize their safety and that of others

B. Movement Competence: Skills, Concepts and Strategies

Overall Expectations:

- B1. perform movement skills, demonstrating an understanding of the basic requirements of the skills and applying movement concepts as appropriate, as they engage in a variety of physical activities

Specific Expectations:

- B1.1. perform stability and locomotor skills in combination in a variety of physical activities while responding to external stimuli

C. Healthy Living

Overall Expectations:

- C1. demonstrate an understanding of factors that contribute to healthy development

Specific Expectations:

- C1.1. explain how active living and healthy eating contribute to a person's physical health and mental, emotional, and spiritual well-being, and describe the benefits of a holistic approach to health

Unit Overview

Day 1 ASST Promotion (Mental Wellbeing, Healthy Living/ Community Connections)

Day 2 Cycling Rules and Safety Checks on the Bicycle (Competency)

Day 3 Riding Skills on the Track (Competency)

Day 4 Area Audit-Walk/Run (Community Connections)

Day 5 Neighbourhood Bicycle Ride (Culminating Activity - Performance Assessment)

Teacher Preparation Required

Teacher to review *Young Cyclist's Guide* (Ontario Ministry of Transportation):

<http://www.mto.gov.on.ca/english/safety/pdfs/young-cyclist-guide.pdf>

Teacher to review OPHEA Guidelines for cycling activities (secondary):

<http://safety.ophea.net/safety-plan/169/1919>

Basic materials: chart paper, markers, timer

Copy *BLM – Grade 9, Lesson #1 – Activity Stations*, *BLM – Grade 9, Lesson #2 – Worksheet* (provided)

Maps of school property and neighbourhood, ideally a cycling map (inquire from region/ municipality)

Bicycle for demonstration of safety checks

Bicycles and safety equipment: helmets, safety vests for ride leaders, First Aid kit, whistle, pump, allen keys, cell phone or walkie-talkies (for Lessons 3 and 5 only)

Lesson #1 – ASST: Benefits, Barriers, Opportunities

Topic/Focus	Curriculum Experience
Promotion of Active and Sustainable School Transportation, focusing on physical and mental health benefits	Overall: A1, C1 Specific: A1.2, C1.1
Fitness Blast	Equipment
5-10 minutes cardio workout at 5 stations	Chart paper, markers Timer Printout of ASST Definition Printouts of <i>BLM – Grade 9, Lesson #1 – Activity Stations</i>

Teaching and Learning Strategies

1. Brainstorm (10 minutes)

Introduce the term **ASST**, and brainstorm together some of the benefits associated with it.

2. Small group discussion of barriers and facilitators (50 minutes)

Students are broken up into 5 groups. Each group goes to a different station in the gym where they will find a chart paper, markers and a question they need to answer and a task to complete. Students rotate around all 5 stations for approximately 8 minutes each, including the time it takes to rotate to the next station. When the activity is completed, each group brings the chart paper at their station to a common area. As a large group, discuss the answers to each question.

3. Consolidation (10 minutes)

Together come up with a definition of **ASST** that can be displayed in the gym or Phys Ed Office.

Assessment and Evaluation	Announcements
	Remind students to bring helmets for Lesson #2. If applying for EcoSchools certification, don't forget to take photos to include in your application!

How did you get to school today? Why did you choose that method? What is a different way you could have travelled this morning to school?

Get Active!

Do 15 lunges on both legs. Alternate legs. Make sure your knee is in line with your toes, and lower your back knee to the ground.

What barriers prevent more people, including students, from using active and sustainable transportation, public transit, or carpooling?

Get Active!

Do 60 seconds of Jumping Jacks.
Count out loud to see how many you can complete in a minute.

What are the costs associated with owning and driving a car?

Why do you think that people are willing to spend so much time and money to pay for cars?

Get Active!

Do 60 seconds of high knees. If you get tired, simply lift your knees for the remaining time.

What impact does using active and sustainable transportation have on our: physical health, wallets, mental wellbeing and social interactions?

Get Active!

Hold a plank from your elbows for 60 seconds. Remember to keep your back straight. If you want more of a challenge, do a straight arm plank.

What impact does using active and sustainable transportation have on our: quality of life, the environment, local businesses, global sustainability?

Get Active!

Do 20 burpees. Remember to jump straight up into the air every time.

Lesson #2 – Cycling Rules and Safety Checks on the Bicycle

Topic/Focus	Curriculum Experience
<p>Cycling Rules and Safety Checks on the Bicycle</p> <p>Important: Instructor must review <i>Young Cyclist's Guide</i> (Ontario Ministry of Transportation)</p> <p>http://www.mto.gov.on.ca/english/safety/pdfs/young-cyclist-guide.pdf</p>	<p>Overall: A3, B1</p> <p>Specific: A3.1, B1.1</p>
Fitness Blast	Equipment
<p>5 minutes of cycling-specific warm-up exercises.</p>	<p>Helmets (with surgical cap liners if desired)</p> <p>Bicycle (for demonstration)</p> <p>Copies of <i>BLM – Grade 9, Lesson #2 – Worksheet (double-sided)</i></p>
Teaching and Learning Strategies	
<p>1. Sprint and Share (10 minutes)</p> <p>Students reflect on safe riding habits in twos and threes, in between sprints around the gym. Teacher prompts with questions: what does safe riding mean to you? What are some rules of the road for cyclists? For drivers? Teacher brings group together to reinforce key rules from <i>Young Cyclist's Guide</i>.</p> <p>2. Hands-on Helmet Fit (15 minutes)</p> <p>Students practice fitting their helmet following instruction.</p> <p>3. Show and Tell (15 minutes)</p> <p>Demonstration of ABC Quick Check and Bike Fit by teacher</p> <p>4. Stations with warm-up exercises (15 minutes)</p> <p>Students circulate among 3 stations to complete activities on worksheet: Safety Equipment, ABC Quick Check Review, Signs and Signals.</p>	
CONSOLIDATION	
<p>Review in preparation for Lesson #3 – Riding Skills. Review clothing and equipment (bicycle, helmet, closed-toed shoes). Where to park bikes. Plans for rain.</p>	
Assessment and Evaluation	Announcements
	<p>If applying for EcoSchools certification, don't forget to take photos to include in your application.</p>

BLM – Grade 9, Lesson #2 – Worksheet

Safety equipment

Match each number with the name of the item it refers to on the picture, as in the example.
Bonus! Circle those items which are required by law.



- 1 Red light
- 2 Bike lock
- 3 Water bottle in holder
- 4 White light
- 5 Rack or basket
- 6 Bright coloured clothing
- 7 Helmet
- 8 Reflective Tape
- 9 Bell or horn
- 10 Shoes that cover your toes

ABC Quick Check Review

What do you check for, during the ABC Quick Check?

- A. _____

- B. _____

- C. _____

Quick Check. _____

Signs and Signals

Match each sign or signal with its meaning, as in the example.

1. One way

2. Pedestrian crossover

3. Yield

4. Road narrows

5. No bicycles allowed.

6. Stop sign

7. Railway crossing

8. Left hand turn signal

9. Right hand turn signal

10. Stop signal



Lesson #3 – Bicycle Riding Skills

Topic/Focus	Curriculum Experience
<p>Bicycle Riding Skills</p> <p>Important: OPHEA guidelines for cycling in secondary schools http://safety.ophea.net/safety-plan/169/1919</p> <p>Stipulate a ratio of supervisor to students of 20:1 for grades 9 and 10. More supervisors can be helpful, particularly if some students cannot balance and require extra attention. Teachers may wish to access outside resources (eg. police, community organizations, parent volunteers) to carry out this lesson safely and effectively.</p>	<p>Overall: A3, B1</p> <p>Specific: A3.1, B1.1</p>
Fitness Blast	Equipment
<p>Cycling Warm Up Exercises</p>	<p>Bicycles for each student</p> <p>Allen key for adjusting seat height</p> <p>Pump for inflating tires</p> <p>Helmets for each student (with surgical cap or similar if desired)</p> <p>Field cones / soccer saucers or similar are useful</p>
Preparation (15 minutes)	Hands on Practice (40 minutes)
<p>Hands-on helmet fit</p> <p>Bike fit</p> <p>Hands-on ABC check</p> <p>Warm-up exercises</p> <p>Review of assessment criteria</p>	<p>Starting and stopping</p> <p>Straight line riding</p> <p>Signalling</p> <p>Shoulder-checking</p> <p>Using gears</p>
Teaching Games for Understanding	
<p>Slow race: mark a race course (about 15 metres). The objective for students is to be the last person to cross the finish line, without reversing direction or putting a foot on the ground.</p>	
Assessment and Evaluation	Announcements
	<p>If applying for EcoSchools certification, don't forget to take photos to include in your application.</p>

Lesson #4 – School Walkability and Bikeability Audit

Topic/Focus	Curriculum Experience
Auditing the school property and immediate neighbourhood to identify barriers to ASST.	Overall: A3, B1 Specific: A3.1, B1.1
Fitness Blast	Equipment
Students sprint throughout the period.	5 copies of map of school property 5 copies of neighbourhood map (ideally a cycling map) Clipboards/pencils
Teaching and Learning Strategies	
<p>1. Cycling and/or running stretches (10 minutes)</p> <p>2. Map activity (10 minutes)</p> <p>In small groups review a neighbourhood map. Find the school and each student traces their route to school, and calculates the distance. If using a cycling map, take note of any nearby cycling infrastructure.</p> <p>3. Audit activity (25 minutes)</p> <p>In small groups, student sprint to each entry point to school property and comment on safety of driveways, parking lots, walkways, nearby intersections. Mark school entrances most used by students or teachers. Mark all bike parking (racks and any places where bikes are locked.) Mark all water fountains, shade, transit stops and other services or amenities for those using active and sustainable transportation.</p> <p>4. Consolidation (15 minutes)</p> <p>Identify recommendations to improve walkability and bikeability of school site to submit to school administration.</p>	
Assessment and Evaluation	Announcements
	If applying for EcoSchools certification, don't forget to take photos to include in your application.

Lesson #5 – Neighbourhood Ride / Run

Topic/Focus: Neighbourhood Ride/Run	Curriculum Experience
<p>Important: OPHEA guidelines for cycling in secondary schools (http://safety.ophea.net/safety-plan/169/1919)</p> <p>Stipulate a ratio of supervisor to students of 20:1 for grades 9 and 10. More supervisors can be helpful, particularly if some students cannot balance and require extra attention. Teachers may wish to access outside resources (eg. police, community organizations, parent volunteers) to carry out this lesson safely and effectively.</p>	<p>Overall: A1, A3, B1 Specific: A1.2, A3.1, B1.1</p>
Fitness Blast	Equipment
<p>30+ minutes of cycling, ideally including climbs</p>	<p>Bicycles, helmets Printed copies of ride route Safety vests for ride leaders First Aid kit Whistle Pump, allen keys Cell phone or walkie-talkies Water</p>
Preparation (20 minutes)	Neighbourhood Ride/Run (30-35 minutes):
<p>Helmet Fit ABC Quick Check Controlled ride around the track Safety review Review of route, timing etc. Review of what to do when group is separated Review of assessment/evaluation criteria</p>	<p>Closure (5-10 minutes): Assess the bikeability of the neighbourhood and behavior of cyclists with this tool: www.nhtsa.gov/staticfiles/nti/pdf/8014-BikeabilityChecklistForYouth.pdf Assess walkability with this tool: www.nhtsa.gov/staticfiles/nti/pdf/8015-WalkabilityChecklistForYouth.pdf</p>
Assessment and Evaluation	Announcements
	<p>If applying for EcoSchools certification, don't forget to take photos to include in your application.</p>