



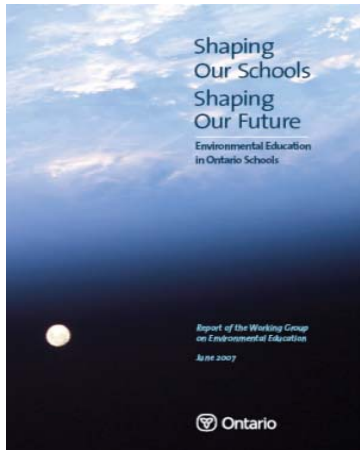
reach every student
appuyer chaque élève

**Opportunities to learn about wastewater:
A Presentation for the
Water Environment Association of Ontario
January 20, 2011**

Purpose of this presentation

- Overview of opportunities to learn about wastewater in the Ontario Curriculum
- EDU strategies to help students learn about career opportunities





Vision for environmental education in Ontario

Ontario's education system will prepare students with the knowledge, skills, perspectives, and practices they need to be environmentally responsible citizens.

Students will understand our fundamental connections to each other and to the world around us through our relationship to food, water, energy, air, and land, and our interaction with all living things.

The education system will provide opportunities within the classroom and the community for students to engage in actions that deepen this understanding. *from Shaping our Schools, Shaping our Future, p.4*

Opportunities to learn about wastewater in Science and Technology

Some examples include:

- In *Science and Technology, Grades 1-8*
 - Grade 2, Grade 7, Grade 8
- In *Science, Grades 9 and 10*
 - Grade 9, Academic and Applied
 - Grade 10, Academic and Applied
- In *Science, Grades 11 and 12*
 - Grade 11 Biology, College Preparation
 - Grade 12 Biology, University Preparation
 - Grade 11 Chemistry, University Preparation
 - Grade 12 Chemistry, University Preparation
 - Grade 11 Environmental Science, University/College Preparation ⁴



reach every student
appuyer chaque élève



Opportunities to learn about wastewater in Technological Education

Some examples include:

- In *Technological Education, Grades 9-10*
 - Grade 9 Exploring Technologies, Open
 - Grade 10 Green Industries, Open
- In *Technological Education, Grades 11-12*
 - Grade 11 Green Industries, University/College Preparation and Workplace Preparation
 - Grade 12 Green Industries, University/College Preparation and Workplace Preparation
 - Grade 11 Construction Engineering Technology, College Preparation
 - Grade 12 Construction Engineering Technology, College Preparation

5



reach every student
appuyer chaque élève



Opportunities to learn about wastewater in Social Studies

One area of focus in Social Studies is the interaction between human and natural environments and their impacts. This focus can be applied to the study of wastewater in the following examples:

Gr. 3 Urban and Rural Communities

Gr. 5 Aspects of Citizenship and Government in Canada

Gr. 7 Natural Resources

Gr. 8 Patterns in Human Geography

This curriculum is currently under review and there may be opportunities to strengthen connections during this process.



Opportunities to learn about wastewater in Canadian and World Studies

One area of focus in Canadian and World Studies is the interaction between human and natural environments and their impacts. Some examples of learning opportunities are found in:

- In *Canadian and World Studies Grades 9 and 10*
 - Grade 9 Geography of Canada, Academic and Applied
- In *Canadian and World Studies Grades 11 and 12*
 - Grade 11 Physical Geography: Patterns, Processes, and Interactions, University/College Preparation
 - Grade 12 The Environment and Resource Management, University/College Preparation
 - Grade 12 World Geography: Urban Patterns and Interactions, College Preparation
 - Grade 12 Canadian and International Law, University Preparation ⁷

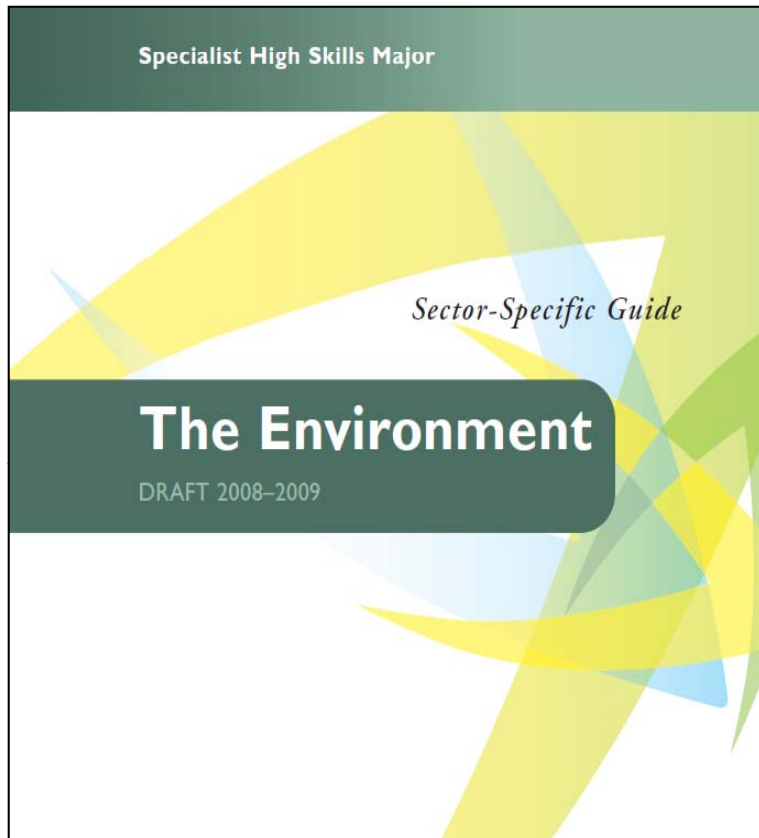


Learning about career opportunities

- Within subjects (e.g. *“identify and describe careers related to the fields of science... from Science Gr. 9-12)*)
- Gr. 10 Career Studies (compulsory)
- Co-op placements
- Specialist High Skills Major program



Specialist High Skills Major



In the 2010-2011 school year, there are 70 SHSM-Environment programs in 40 boards engaging 1709 students.

-Student Success/Learning to 18



reach every student
appuyer chaque élève



C. Required Components for the SHSM–The Environment

Required Components for the SHSM–The Environment

1. a bundle of 9 Grade 11 and Grade 12 credits that includes:
 - i) 4 environment major credits that provide sector-specific knowledge and skills;
 - ii) 3 other required credits from the Ontario curriculum, in English and mathematics, in which some expectations are met through learning activities contextualized to the environment sector;
 - iii) 2 cooperative education credits that provide authentic learning experiences in a workplace setting, enabling students to refine, extend, apply, and practise sector-specific knowledge and skills
2. 7 sector-recognized certifications and/or training courses/programs (4 compulsory and a choice of 3 electives from a list of additional certifications and training courses/programs)
3. experiential learning and career exploration activities within the sector
4. “reach ahead” experiences connected with the student’s postsecondary pathway
5. development of Essential Skills and work habits required in the sector, and use of the Ontario Skills Passport (OSP) for purposes of documentation

From *Specialist High Skills Major-The Environment* p.5



reach every student
appuyer chaque élève



E. Occupations in the Environment Sector

	<p>College <i>(continued)</i></p> <ul style="list-style-type: none"> • Habitat Management Technician 2221 • Hatchery or Fisheries Technician 2221 • Land Surveyors 2154 • Mapping and Related Technologist/ Technician 2255 • Quality Control – Chemical Engineering Technologist 2211 • Silviculture and Forestry Workers 8422 • Soil Testing Technologist 2231 • Technician – Pollution Control 2231
<p>University</p> <ul style="list-style-type: none"> • Air Quality Meteorologist 2114 • Chemical Engineer 2134 • Climatologist 2114 • Environmental Biologist 2121 • Environmental Engineer 2131 • Environmental Impact Analyst 4161 • Environmental Planner 2152 • Environmental and Occupational Toxicologist 2121 • Environmental Program Co-ordinator 4161 • Forestry Professional 2122 • Geological Engineer 2144 • Geologist and Geochemist 2113 • Interpretive Naturalist 2121 • Landscape Architects 2152 • Meteorologist 2114 • Urban and Land Use Planners 2153 • Waste Diversion Consultant 4161 	<p>Workplace</p> <ul style="list-style-type: none"> • Canoeing Guide 6442 • Fishing Guide 6442 • Hunting Guide 6442 • Landscaping and Grounds Maintenance Workers 8612 • Lifeguard 5254 • Outdoor Sport and Recreation Guide 6442 • Outfitter 6442 • Recreation Program Leader 5254 • Recycled Paper Handler 7452 • Silviculture and Forestry Workers 8422 • Ski Instructor 5254 • Wastewater Treatment Plant Operator 9424

From *Specialist High Skills Major-The Environment* p.19



reach every student
appuyer chaque élève



Curriculum documents and other resources
are available on our website:

www.edu.gov.on.ca



Thank you!

Questions?

Catherine Mahler
Education Officer

Curriculum and Assessment Policy Branch

catherine.mahler@ontario.ca

13



reach every student
appuyer chaque élève

