



HABITATS OF HAMILTON AND HALTON

www.hamiltonnature.org/habitats

SOCIAL STUDIES/GEOGRAPHY

GRADES 1-6: SOCIAL STUDIES

CANADA AND WORLD CONNECTIONS

Grade 3: Urban and Rural Communities

Overall Expectations:

- Contributes to understanding distinguishing features of urban and rural communities and relationships between communities and natural environments

Specific Expectations:

- *Understanding Concepts:* characteristics of urban and rural land use and physical
- *Developing map skills:* home page map and poster can be used as guide to mapping local area's urban and rural areas and to show use of legend, direction, colours for different features, and other map features

GRADES 7-8: GEOGRAPHY

Grade 7: The Themes of Geographic Inquiry

Overall Expectations:

- Provides an example of structure in the treatment of local geography (habitats as units of inquiry and their breakdown in to elements such as soil/climate, plants, animals)
- Provides examples of geographic themes in use (location/place, environment, region, interaction, movement)

Specific Expectations:

- *Understanding Concepts:* can be used to identify and understand geographic themes including location/place, environment, region, interaction and movement
- *Developing Inquiry/Research and Communication Skills:* provides vocabulary; provides relevant information (secondary source)

Grade 7: Patterns in Physical Geography

Overall Expectations:

- Provides information about local patterns and their utility in geographic study
- Identifies and explains certain geographic patterns
- Illustrates how major physical patterns affect human activity

Specific Expectations:

- *Understanding Concepts*: identify how land-forms are used to delineate regions (e.g. escarpment, Great Lakes); identify and describe landform patterns; understand how climate/weather patterns are modified by landforms; understand how vegetation patterns are the result of several factors (e.g. temperature, precipitation, soil type, nutrients); correlate crop type with physical patterns (e.g. wine grapes in Niagara Peninsula)
- *Developing Inquiry/Research and Communication Skills*: provides vocabulary; provides relevant information (secondary source)
- *Developing Map and Globe Skills*: see cross section of Michigan Basin (escarpment)

Grade 7: Natural Resources

Overall Expectations:

- Provides better understanding of how human activity affects people and the environment

Specific Expectations:

- *Understanding Concepts*: discusses the use of local resources and implications for the local environment

Grade 8: Patterns in Human Geography

Overall Expectations:

- Identifies local patterns in human geography (e.g. the Golden Horseshoe) and factors relating to this pattern

Specific Expectations:

- *Understanding Concepts*: relates factors about the distribution of human settlement along Lake Ontario, identifies some common characteristics of urban and rural areas; site and situation and their relationship to Hamilton's location; human land use types;
- *Developing Inquiry/Research and Communication Skills*: provides vocabulary (e.g. urban sprawl); provides relevant information (secondary source)
- *Developing Map and Globe Skills*: see cross section of Michigan Basin (escarpment)

GRADES 9-10: CANADIAN AND WORLD STUDIES

GEOGRAPHY OF CANADA

Grade 9: Geographic Foundations: Space and Systems

Overall Expectations:

- Identifies local ecozone(s) and discusses processes that shape(d) them
- Identifies local patterns of land use, population distribution and habitats
- Assists in understanding of the regional diversity of Canada's natural systems (local)
- Identifies factors that affect natural systems using local examples

Specific Expectations:

- *Understanding Concepts:* defines terminology relating to natural systems; provides understanding of the characteristics of natural systems (*each unit broken down into ecosystem units plants, animals, soil/climate/geology); discusses interactions between human and natural systems; contrasts characteristics of human and natural systems; distinguishes between urban and rural environments;
- *Learning Through Application:* provides knowledge of the local bioregion for the generation of research questions; suggests ways of contributing to quality of life in our homes and local ecosystems

Grade 9: Human-Environment Interactions

Overall Expectations:

- Provides insight into ways in which local natural systems interact with human systems, and the interdependence of natural and human systems in urban and rural landscapes

Specific Expectations:

- *Understanding Concepts:* human activities and their affects on the local environment (e.g. agriculture, industrial development, highway construction, pollution); natural systems and their influence on human activities (e.g. where crops are grown, where people settle, local climate, major landforms)
- *Developing and Practicing Skills:* discusses urban growth (urban sprawl) and how it alters the natural environment; suggests ways of improving the balance between human needs and natural environments (e.g. restoration, habitat corridors/islands, native species gardens)

Grade 9: Global Connections

N/A

Grade 9: Understanding and Managing Change

Overall Expectations:

- Provides understanding of how local natural systems change over time (e.g. formation of escarpment, succession) and across an area
- Provides information on changes in land use and urban patterns in local area

Specific Expectations:

- *Understanding Concepts:* addresses selected factors that cause(d) change in natural systems (e.g. spread of urban and agricultural areas, stream course alteration for human water use/control, introduction of alien species)

Grade 9: Methods of Geographic Enquiry

Specific Expectations:

- *Developing and Practicing Skills*: provides vocabulary; secondary information source for local area; synthesizes information about local bioregion; provides example of a kind of map used to show boundaries of interest accurately (e.g. lake edge, natural areas, transportation corridors) and other information conceptually or graphically (icons; photos etc.)

CANADIAN HISTORY IN THE TWENTIETH CENTURY/CIVICS (Grade 10)

While the curriculum for History and Civics do not correspond directly to this project, it is our hope that Active and Purposeful Citizenship will be encouraged and informed by this website. Information about local environmental concerns is provided, with links to more detailed information and groups involved in efforts to conserve local natural areas and environmental health. I encourage Civics teachers to use this resource as an example of how students can become involved in their local community.

GRADES 11-12: CANADIAN AND WORLD STUDIES

THE AMERICAS: GEOGRAPHIC PATTERNS AND ISSUES – UNIV/COLLEGE (GRADE 11)

This website has a local focus but the descriptions of local habitats provides a good representation of a typical temperate, mid-latitude region for comparison with other earth regions.

PHYSICAL GEOGRAPHY: PATTERNS, PROCESSES AND INTERACTIONS – UNIV/COLLEGE (GRADE 11)

Grade 11: Geographic Foundations: Space and Systems

Overall Expectations:

- Explains the physical processes (sedimentation, mineralization, glaciation, glacial scour, erosion) that created local landforms (escarpment, river valleys)

Specific Expectations:

- *Understanding Concepts*: identifies the interconnections between natural systems (e.g. climate, wildlife, vegetation) within selected local ecosystems; describes rates at which certain local physical processes occur (erosion, glaciation, lake presence)
- *Developing and Practicing Skills*: discusses sedimentary rock and its formation; explains roles of water and glaciers in shaping physical features
- *Learning Through Application*: analyze relationships between present characteristics of local landforms (escarpment, stream valleys) and the processes that shaped them

Grade 11: Human-Environment Interactions

Overall Expectations:

- Describes how local areas provide habitats for life and a resource for society

Specific Expectations:

- *Understanding Concepts*: human activities and their affects on the local environment (e.g. urban expansion, agriculture, industrial development, highway construction, pollution); natural systems and their influence on humans and their activities (e.g. human physical and mental health benefits, where crops are grown, where people settle, local climate)
- *Learning Through Application*: discusses selected human activities (e.g. urban sprawl, farming, industrial development) and their effects on the local natural environment

Grade 11: Understanding and Managing Change

Overall Expectations:

- Provides understanding of how local natural systems have changed over time through natural processes (e.g. glacial lakes, glaciation)
- Provides information on how human uses of local areas can cause change in natural systems

Specific Expectations:

- *Understanding Concepts*: illustrates that the earth's surface is dynamic (e.g. glacial movement, water body movement, erosion); explains glacial cycles (retreat and advance) in the local landscape; expresses how soils are the result of long-term processes acting upon parent material (weathering, decomposition, erosion)
- *Developing and Practicing Skills*: helps understanding of how population growth and activities over the past one hundred years have increased the human ecological footprint
- *Learning Through Application*: evaluate physical evidence of past climates in southern Ontario (e.g. glacial features); evaluate long term effects of human use of Carolinian zone; evaluate changes in land use in local area over the past twenty years and the effects of these changes on the environment

Grade 11: Methods of Geographic Enquiry

Specific Expectations:

- *Developing and Practicing Skills*: provides vocabulary; secondary information source for physical geography of local area; synthesizes information about local bioregion; provides one kind of map of local area

GEOGRAPHICS: THE GEOGRAPHERS TOOLKIT – WORKPLACE (GRADE 11)

This website does not discuss practical applications of geo-technology, although it may be useful for students to know that the map used to portray the local area was based upon local GIS layers for lake, waterways, urban and rural boundaries, conservation areas and nature sanctuaries.

REGIONAL GEOGRAPHY: TRAVEL AND TOURISM – OPEN (GRADE 11)

This website does not discuss travel or tourism, however it is helpful in understanding the local natural resources upon which much local tourism is based (e.g. the Niagara Escarpment and Lake Ontario), human-environment interactions relating to these resources and efforts to protect these resources so that future generations may enjoy them (e.g. Hamilton Harbour restoration).

CANADIAN AND WORLD ISSUES: A GEOGRAPHIC ANALYSIS – UNIVERSITY (GRADE 12)

This website is local in focus but may be of use in understanding of biodiversity of our local ecosystems as compared to others worldwide, geographic issues that arise from the impact of human activities, impacts of farming and urbanization, and ways of promoting sustainable development including participation in the local development process and the role played by NGO's like the Hamilton Naturalists Club in promoting local resource protection.

WORLD GEOGRAPHY: HUMAN PATTERNS AND INTERACTIONS – UNIVERSITY (GRADE 12)

Grade 12: Geographic Foundations: Space and Systems

Overall Expectations:

- Addresses the characteristics of the local ecumene (the Golden Horseshoe)

Specific Expectations:

- *Learning Through Application:* assists in analysis of the Great Lakes megalopolis

Grade 12: Human-Environment Interactions

Overall Expectations:

- Helps explain how humans have modified the natural environment locally
- Helps explain how the natural environment and natural phenomena effect human activities (e.g. agriculture, climate, settlement pattern)

Specific Expectations:

- *Understanding Concepts:* identifies local examples of human effects on the natural environment; addresses how local landforms, climate, soils and vegetation have influenced local settlement patterns; identifies advantage of local area for human activities (e.g. agriculture)
- *Learning Through Application:* provides a basis for case studies that analyse aspects of human-environment interaction in our local area

THE ENVIRONMENT AND RESOURCE MANAGEMENT – UNIVERSITY/COLLEGE (GRADE 12)

Grade 12: Geographic Foundations: Space and Systems

Overall Expectations:

- Addresses ecological processes and their significance for ecosystem health

Specific Expectations:

- *Understanding Concepts:* addresses the variety, complexity, and characteristics of selected ecosystems; explains the role of micro-organisms in maintaining soil fertility, assists in understanding of factors that affect species survival
- *Developing and Practicing Skills:* evaluate relationships between natural systems (climate, soils, vegetation, wildlife); explains interactions between producers, consumers and decomposers in selected ecosystems
- *Learning Through Application:* explains the combination of biotic and abiotic processes that produce selected soils, wetlands, or forests; evaluate the impacts of introduced species; analyses interactions between natural features (e.g. escarpment and Lake Ontario)

Grade 12: Human-Environment Interactions

Overall Expectations:

- Demonstrates how humans are an integral part of an ecological system and how human activity has short-term and long-term effects on the natural environment
- Discusses interrelationships between the environment and society
- Mentions local patterns of resource availability and use

Specific Expectations:

- *Understanding Concepts:* understand how human well-being and survival depends on complex linkages with other components of the biosphere (e.g. vegetation); understand the use of selected synthetic chemicals in society and the effects of their use on human health and the environment
- *Developing and Practicing Skills:* analyses ways in which selected human activities alter the natural environment; (e.g. agriculture, industrial development, roadways, urban sprawl, introduced species); understand the impact of selected rural land use practices on human and natural systems (e.g. pesticide and fertilizer use)
- *Learning Through Application:* analyses interactions between human systems (e.g. land use, transportation networks, urban areas) and natural systems in the local bioregion; relationship between environmental degradation and human health concerns; factors that threaten the preservation of wild spaces and the relationship between preservation of wild spaces and preservation of species

Grade 12: Global Connections

Use this website to understand why certain local features are globally significant ecological sites (e.g. the Niagara Escarpment as a World Biosphere Preserve under UNESCO)

Grade 12: Understanding and Managing Change

Overall Expectations:

- Analyse the purpose and effects of environmental regulations/government procedures at the local level
- Evaluate how to resolve environmental and resource management concerns on local scale

Specific Expectations:

- *Developing and Practicing Skills:* understand environmental protection principles and initiatives (e.g. wildlife migration corridors), ways to improve balance between humans and natural systems (e.g. organic food production, wetland restoration; evaluate efforts by local groups to achieve solutions to environmental problems (e.g. Bay Area Restoration Council, this website)
- *Learning Through Application:* assists in producing a case study of a particular human system or activity to determine its environmental impact and to make recommendations for environmental sustainability

Grade 12: Methods of Geographic Enquiry

Specific Expectations:

Developing and Practicing Skills: provides vocabulary; secondary information source for physical geography of local area; synthesizes information about local bioregion; provides one kind of map of local area

GEOMATICS: GEOTECHNOLOGIES IN ACTION – UNIVERSITY/COLLEGE (GRADE 12)

This website does not discuss practical applications of geo-technology, although it may be useful for students to know that the map used to portray the local area was based upon local GIS layers for lake, waterways, urban and rural boundaries, conservation areas and nature sanctuaries.

WORLD GEOGRAPHY: URBAN PATTERNS AND INTERACTIONS – COLLEGE (GRADE 12)

This website is local in focus but does provide useful information about the local urban area, its land use types and characteristics and its relationship to local natural systems. This may be of use as a basis of comparison to other types of urban areas worldwide.

THE ENVIRONMENT AND RESOURCE MANAGEMENT – WORKPLACE (GRADE 12)

Grade 12: Geographic Foundations: Space and Systems

Overall Expectations:

- Addresses ecological processes and their significance for ecosystem health

Specific Expectations:

- *Understanding Concepts:* explains the role of plants in growth of other organisms, explains roles played by between producers, consumers and decomposers in relationships between organisms
- *Developing and Practicing Skills:* evaluate relationships between living and non-living components of ecosystems (e.g. decomposition)
- *Learning Through Application:* describes local bioregion and selected ecosystems within it; explains how various components of local bioregion interact with each other; helps to predict effects of habitat destruction on biodiversity

Grade 12: Human-Environment Interactions

Overall Expectations:

- Demonstrates how humans depend on nature and are an integrated part of ecosystems
- Describes how human activity has negative and positive effects on natural systems
- Mentions local patterns of resource availability and use

Specific Expectations:

- *Understanding Concepts:* understand how people and other living organisms depend on the natural environment
- *Developing and Practicing Skills:* analyse ways in which selected human activities alter the natural environment (e.g. agriculture, industrial development, roadways, urban sprawl, introduced species); understand the impact of pollution on human and natural systems (e.g. pesticide and fertilizer use)
- *Learning Through Application:* explain how human use of toxic substance contaminates the food web; introduces local endangered species; use this community resource to research a report on local human-environment interactions (e.g. urban sprawl, transportation corridors, agriculture)

Grade 12: Global Connections

Use this website to understand why certain local features are globally significant ecological sites (e.g. the Niagara Escarpment as a World Biosphere Preserve under UNESCO)

Grade 12: Understanding and Managing Change

Overall Expectations:

- Analyse local environmental regulations/government environmental strategies and our role in protecting local natural areas

Specific Expectations:

- *Understanding Concepts*: understand why we should protect local natural areas (e.g. wetlands, forests, natural habitats); explain why preserving large spaces and wildlife corridors is important to preserve species
- *Learning Through Application*: assists in producing an action plan for rehabilitating a local resource in a sustainable way

Grade 12: Methods of Geographic Enquiry

Specific Expectations:

Developing and Practicing Skills: provides vocabulary; secondary information source for physical geography of local area; synthesizes information about local bioregion; provides one kind of map of local area