

Human Systems

Big Idea

Human systems are made up of a network of roads, houses, railways, social services, urban centres, businesses and industries, etc. All of these depend upon and have impacts on natural systems. Towns and cities are examples of human-*built* systems and provinces and countries are human-*defined* systems. The type and size of human systems that develop depend in part upon the natural systems that make up the geography of the place. For example, where soil is rich in nutrients and the climate favourable, the land might be designated as farmland to be used for growing food crops. Or where waterways are easily accessible, shipping or fishing might be the local industry that supports the town or city. Urbanization leads to the reduction of green spaces and an increase in asphalt areas. Such change increases the energy required as well as the land needed for waste disposal, destroying the habitat of plants and animals along the way.

x
<p><i>Geographic Foundations: Space and Systems</i></p> <ul style="list-style-type: none">• [OE] identify patterns and diversity in Canada's natural and human systems• [OE] describe issues that affect natural and human systems in Canada• [SE] describe selected characteristics of natural systems (e.g., climate, landforms, natural vegetation)• [SE] describe selected characteristics of human systems (e.g., transportation networks, population, industry)• [SE] describe how natural and human systems interact within selected Canadian ecozones• [SE] determine the best place (e.g., ecozone, region, city) to locate an industry in Canada, using a decision-making process <p><i>Human-Environment Interactions</i></p> <ul style="list-style-type: none">• [OE] assess the impact of human systems and/or resource extraction on the natural environment• [OE] relate current lifestyle choices of Canadians to the prospects for sustaining Canada's economic and environmental well-being <p><i>Understanding and Managing Change</i></p> <ul style="list-style-type: none">• [OE] identify current or anticipated physical, social, or economic changes and explain how they could affect the lives of Canadians• [SE] report on how current national or international trends or events (e.g., immigration, rural-urban migration, changing demographics, natural or human disasters) affect the sustainability of Canada's human systems

<p><i>Methods of Geographic Inquiry and Communication</i></p> <ul style="list-style-type: none"> • [OE] use the methods and tools of geographic inquiry to locate, gather, evaluate, and organize information about Canada’s natural and human systems 	
<p>Geography in the 21st Century</p>	
<p><i>Geographic Foundations: Space and Systems</i></p> <ul style="list-style-type: none"> • [OE] describe issues that affect natural and human systems in Canada • [OE] identify characteristics of urban, suburban, fringe, and rural environments (e.g., population density, land use) 	
<p><i>Understanding and Managing Change</i></p> <ul style="list-style-type: none"> • [OE] predict the impact of selected technological changes (e.g., in communications and information technology, renewable energy technology) on the future quality of life for Canadians (e.g., working conditions, air and water quality, education, transportation) 	
<p>For tips on using Focus Questions, please see page 2.</p>	
<p>1. <i>How do human activities affect the natural environment?</i></p> <p>x <i>How do human activities affect the natural environment?</i></p> <p>x <i>How do human activities affect the natural environment?</i></p>	<p>▶ <i>Transportation, population distribution and settlement, location of businesses, sewage, parks/green space</i></p>
<p>. H <i>How do human activities affect the natural environment?</i></p> <p>x <i>How do human activities affect the natural environment?</i></p> <p>x <i>How do human activities affect the natural environment?</i></p>	<p>▶ <i>Transportation contributes to climate change.</i></p> <p>▶ <i>Industry such as mining or the logging of forests alters habitat, soil integrity, etc.</i></p> <p>▶ <i>Urban sprawl displaces natural features such as forests, swamps, or other wildlife habitat.</i></p> <p>▶ <i>Businesses and industry use natural resources whether it be by extraction or the use of green space, depleting them from the natural ecosystem.</i></p> <p>▶ <i>Waste disposal results in massive dumps and sewage systems that increase naturally occurring levels of nutrients on land and in water, altering the habitat for wildlife species and ultimately affecting the food chain.</i></p>
<p>. H <i>How do human activities affect the natural environment?</i></p> <p>x <i>How do human activities affect the natural environment?</i></p> <p>x <i>How do human activities affect the natural environment?</i></p>	<p>▶ <i>Aboriginal settlement patterns tended to be nomadic. Settlement today is more static, more concentrated and dependent on industry, although the move toward electronic business ventures may allow some of the population to relocate away from large urban centres.</i></p>

<p>. H <i>Human systems have been transformed by the Industrial Revolution and the development of modern transportation and communication networks.</i></p> <p>(<i>1000000</i>)</p>	<ul style="list-style-type: none"> ▶ <i>The use of natural resources by humans has increased exponentially since the Industrial Revolution.</i> ▶ <i>Transportation networks no longer exist simply within a town; they have grown to accommodate large cities and to connect these cities nationally by car, rail, and air, and internationally by boat and air.</i> ▶ <i>Communication has also lifted the old geographical constraint which placed businesses near their markets; with the growth of the Internet and telephone communication, certain types of businesses can now be located without considering proximity to market.</i> ▶ <i>Inexpensive, fossil-fuel based transportation and world trade patterns have freed us from dependence on local produce, making exotic and out-of-season fruits and vegetables available virtually everywhere in the world.</i>
<p>. H <i>Human systems have been transformed by the Industrial Revolution and the development of modern transportation and communication networks.</i></p>	<ul style="list-style-type: none"> ▶ <i>Population rising, human consumption rising, technological innovations rising, housing needs rising, development is promoted globally</i>
<p>. H <i>Human systems have been transformed by the Industrial Revolution and the development of modern transportation and communication networks.</i></p>	<ul style="list-style-type: none"> ▶ <i>Coastal towns may have to be relocated away from the shore as water levels rise.</i> ▶ <i>Fishing settlements may decrease further in number as the availability of fish diminishes with the changing temperatures and currents of oceans.</i> ▶ <i>Greater urgency to reduce fossil fuel use may prompt new public transit initiatives and town planning may focus on reducing travelling time for residents by increasing density and locating shopping areas nearer residential areas.</i>
<p>. H <i>Human systems have been transformed by the Industrial Revolution and the development of modern transportation and communication networks.</i></p>	<ul style="list-style-type: none"> ▶ <i>Switch to alternative fuel sources such as electricity generated by non-fossil fuel sources, fuel cells or solar power; public transportation such as rail or bus; regulation of driving times (e.g., a daytime curfew driving into a city) and regulating the amount of road construction; switch to walking or bicycling; carpooling.</i>