

McGraw-Hill Ryerson

BC Science CONNECTIONS



BC Science Connections 9

Unit 4: Earth's spheres are interconnected

Topic 4.5: How can our actions promote sustainability?



- Inquiring individuals can make a difference.
- Responsible decision making and choices can lead to sustainable practices that benefit all life.



Concept 1: Inquiring individuals can make a difference.

- Individuals can make a difference in moving toward sustainability by becoming empowered.

Table 4.5 Examples of Individual Empowerment

Role or Action	Empowerment
	<p>Consumers have power.</p> <ul style="list-style-type: none"> • What choices do you make about the products you will and will not buy? • What reasons lie behind, or motivate, your choices? • How can you find out more about the manufacturing conditions and materials used to make a product?
	<p>Volunteers inspire through their commitment and example.</p> <ul style="list-style-type: none"> • Where do you, or can you, volunteer your time? • Who benefits from your willingness to share a part of yourself? • How can volunteering locally have global effects?



Citizens have responsibility.

- In what ways are you a citizen of your community? your province? your country? your planet?
- What responsibilities do you have as a citizen?
- How can you educate yourself about candidates before you vote?



Citizen scientists can make important contributions to science.

- How can you find out more information about local projects you could participate in, such as vernal pool, butterfly, or wildflower surveys?
- What local projects interest you?
- How can your local data be used nationally or internationally to help scientists learn more about sustainability?



Science-minded advocacy groups can affect change, and increase sustainability and stewardship.

- How can you find out more about advocacy groups their motives, backing, and the causes they represent?
- How can the work you do as a member of an advocacy group lead to changes in legislation that help protect ecosystems and ecosystem services?

Discussion Questions

1. Identify one way that you can promote sustainability as a consumer.
2. What does it mean to be a citizen scientist?

Concept 2: Responsible decision making and choices can lead to sustainable practices that benefit all life.

- Although the unit has explored how human activities can cause harm to the environment, human activities can also promote sustainability



Promoting Sustainability: Smart Growth

Smart growth: A strategy focussed on concentrating growth in the centre of a city, rather than in outlying areas

- Homes and businesses are intermixed
- Green spaces are preserved
- Enhances public transportation

Figure 4.28



Promoting Sustainability: Dark Sky Preserve



Figure 4.28

- Dark Sky Preserve: A park dedicated to reducing the effects of artificial lighting on the nighttime environment.
- Helps protect wildlife in the park that rely on darkness to forage for food, mate, or migrate
- McDonald Park in Abbotsford, B.C. is a Dark Sky Preserve

Promoting Sustainability: Small Scale Solar Projects



Figure 4.28

- Small scale and community solar projects can help reduce the use of fossil fuels
- Grand Forks Aquatic Centre in Grand Forks, B.C. uses 18 solar panels to heat pool water and hot tubs

Promoting Sustainability: Cycling Promotion



Figure 4.28

- Vancouver has increased the number of protected (separated from traffic) two-way bike lanes in the downtown core
- Bike-sharing programs also promote cycling for residents and tourists

Promoting Sustainability: Waste Reduction Programs



Figure 4.28

- **Waste Reduction Week:** Nationwide program in which students are challenged to have a waste-free lunch; reduce, reuse, and recycle at school

Promoting Sustainability: Sustainable Housing Development



Figure 4.28

- The Scia's new First Nation on Beecher Bay in East Sooke, B.C. are building a sustainable housing development
- Development includes ecologically sustainable technologies (geothermal heating system to provide heat to homes; removed trees will be used to make fireplace mantels)

Topic 4.5 Summary: How can our actions promote sustainability?

- Inquiring individuals can make a difference.
- Responsible decision making and choices can lead to sustainable practices that benefit all life.

