
► WASTE MINIMIZATION – GRADE 3

Big Ecological Idea #1:

Waste from a community affects that community's natural environment.

- a) Communities are learning that it is healthier for the environment if they use other ways of disposing of waste so that it doesn't go to landfill. Recycling and composting are Earth-friendly ways in which people can separate materials from their household waste so they can be used again in valuable new ways. Recycling provides raw materials for manufacturing (e.g., aluminum, glass, paper) which means that less has to be mined from the Earth. Composting provides nutrient rich soil that can fertilize gardens and, if available on a larger scale, fields for growing crops.

Clustering of Expectations

SOCIAL STUDIES: Canada and World Connections: Urban and Rural Communities (2005)

- 3z25 • explain how communities interact with each other and the environment to meet human needs.
3z41 • describe ways in which they and their families use the natural environment (e.g., playing in the park, growing food, drawing on nature for water and energy [as a place to put their waste]);
3z42 • compare the characteristics of their community to those of a different community (e.g., with respect to population density, services, recreation, modes of travel to isolated northern and First Nation communities [recycling services])

Big Ecological Idea #2:

Early Canadian settlers' communities had a much smaller effect on the environment than today's consumer society. They used less energy and generated less waste that had to be sent to a landfill.

- a) In the days of the early settlers, there were few stores in the large new province of Upper Canada. They worked hard to grow most of their own food. As a result they could not afford to waste anything.
- b) Many of the things that people owned – clothes, tools, furniture – had to be made by hand (electricity had not been invented yet) or traded among neighbours. Transportation was very slow, and if people wished to order manufactured goods, they had to wait a very long time for them to come from the United States or across the ocean from England. For large tasks such as building, people worked together. Most of the energy used was human energy, with transportation and some agricultural work powered by draft animals (e.g., horses). Despite the fact that people had only hand axes, most of the forests of southern Ontario were cleared within 100 years to make room for farms.
- c) Poor road or weather conditions meant that travelling to market was not always easy. Early Ontario communities worked to be as self-sufficient as possible; people made, grew and traded locally as much as possible.
- d) Today Ontario has nearly 12 million people. We have easy access to fossil fuels (coal, oil and gasoline) and we rely on them to supply energy for manufacturing and the transportation of goods all around the world. Plentiful resources and energy make it possible for Canadians to be part of a global “consumer society” – buying goods from the US and many other countries. When goods are inexpensive, it is easy for people to use them for a while, and then throw them out and replace them with new ones. The combination of people and the availability of

many affordable goods that eventually need to be disposed of have made Canada one of the world's highest producers of waste.

- e) Waste in our society has affected our water (e.g., originally water from lakes and rivers could be consumed without first being treated),

our land (e.g., huge landfills have been created), our forests (e.g., cut down to make paper), the creatures that live in and on our land and water, the air we breathe (e.g., smog), and more recently our atmosphere from burning fossil fuels (e.g., greenhouse gases from our cars that contribute to climate change).

Clustering of Expectations

SOCIAL STUDIES: Heritage and Citizenship: Early Settlements in Upper Canada (2005)

- 3z3 • compare aspects of life in early settler communities and present-day communities.
- 3z18 • compare and contrast aspects of daily life for early settler and/or First Nation children in Upper Canada and children in present-day Ontario (e.g., food, education, work and play);
- 3z19 • compare and contrast aspects of life in early settler and/or First Nation communities in Upper Canada and in their own community today (e.g., services, jobs, schools, stores, use and management of natural resources);
- 3z20 • compare and contrast buildings/dwellings in early settler and/or First Nation communities in Upper Canada with buildings and dwellings in present-day Ontario;
- 3z21 • compare and contrast tools and technologies used by early settlers and/or First Nation peoples with present-day tools and technologies (e.g., quill/word processor; sickle/combine harvester; methods of processing lumber, grain, and other products);

Big Ecological Idea #3:

Composting is a way to recycle human food waste and garden waste so it can be used to nourish soil (and save the energy otherwise needed to take it to a landfill!).

- a) Humans depend on healthy soil to grow their food.
- b) Healthy soil depends on the presence and cycling of organic materials.
- c) Organic (plant and animal) materials are those that can be recycled by nature's living systems (i.e., materials that soil and water working with organisms can break down or decompose).

- d) Composting organic waste is better for the environment than sending it to a landfill where, starved of oxygen, the waste decays and produces methane (a greenhouse gas that contributes to climate change).
- e) Composting involves separating our organic food waste (sometimes called “wet waste”) from inorganic garbage (sometimes called “dry waste”) and combining this food waste with garden waste. These two organic materials react with the air to form compost: a valuable, nourishing (free!) soil additive.
- f) Some people compost their food and garden wastes in their back yards. Some have worm composters (vermi-composters) – the worms work to help make compost faster! Some schools collect their food waste and make compost for their school grounds and gardens. Some communities collect food wastes for community gardens. And some cities (e.g., Guelph, some parts of Toronto) have separate curbside organic waste collection programs.

Clustering of Expectations

SCIENCE & TECHNOLOGY—Understanding Earth and Space Systems : Soils in the Environment (2007)

- 1.1 assess the impact of soils on society and the environment, and suggest ways in which humans can enhance positive effects and/or lessen or prevent harmful effects
- 1.2 assess the impact of human action on soils, and suggest ways in which humans can affect soils positively and/or lessen or prevent harmful effects on soil
- 2.4 investigate the process of composting and explain some advantages and disadvantages of composting
- 3.1 identify and describe the different types of soils