

Health & Wellness
Mrs. Coon

Blizzard Bag #1
"Environment & Your Health"

Read pages 548 – 551

1. Write out the vocabulary words that are highlighted and their definitions.
2. Answer review questions # 1, 2, & 3 on page 551

Environment and Your Health

There was a big meeting tonight at Daniel's school. The community wanted to discuss what to do about the recent news that the water supply might be contaminated. What's the big deal, thought Daniel.

Why should I care about the environment?

The **environment** is the living and nonliving things that surround an organism. The environment includes plants, animals, air, water, and land. Your health and the health of your community is affected by your environment. If the environment in which you live is unhealthy, the chances increase that your health and the health of your community will suffer.

What makes an environment healthy?

A healthy environment is one in which the air is clean, the water is safe, and the land is fertile. It is one in which there is plenty of food for all the inhabitants. A healthy environment is free of pollutants and wastes that can make water, air, and land unsafe for living things. A healthy environment is a balanced environment.

Why are ecosystems important to our health?

An **ecosystem** is a community of living things and the nonliving parts of the community's environment. The living and nonliving parts of an ecosystem interact and depend on each other. If one part of an ecosystem is damaged, the whole ecosystem could become unhealthy. We depend on the ecosystem we live in to produce the resources we need to survive. We can be healthy only if our ecosystem is healthy.



How can pollution be harmful?

Pollution can harm your ecosystem and thus, your health in several ways, as shown in the table. For example, many air pollutants such as smog can cause respiratory problems and eye irritation.

Gases produced by the burning of fossil fuels can react with water vapor in the air and produce acid rain. **Acid rain** is any precipitation that has a below-normal pH (acidic).

Chlorofluorocarbons (CFCs) are pollutants released by certain coolants and aerosol sprays. Chlorofluorocarbons are another type of pollution that can harm your health. CFCs can increase your risk of skin cancer because they move into the Earth's upper atmosphere and destroy ozone. *Ozone* is a gas in the upper atmosphere that reduces the amount of ultraviolet radiation from the sun. **Ultraviolet (UV) radiation** is radiation in sunlight that is responsible for tanning and burning skin. Excessive exposure to UV radiation increases your risk of skin cancer and premature aging of the skin. The ozone layer which is high in the atmosphere is beneficial because it absorbs harmful UV radiation.

Pollution and Your Health

Pollutants	Effects on your health
Water pollutants	
Sewage	breeds pathogens that cause hepatitis, cholera, typhoid fever, and amebic dysentery
Pesticides	cause brain and nerve disorders, birth defects, and cancer
Fertilizers	cause damage to ecosystems and death of fish, birth defects
Mercury and other metals	cause brain damage, mental retardation, nerve disorders, kidney disorders, paralysis, and loss of vision
Indoor and outdoor air pollutants	
Smog and other gases	cause or worsen respiratory illnesses such as asthma
Carbon monoxide	prevents red blood cells from carrying oxygen; loss of consciousness, brain damage, or death
Tobacco smoke	causes lung cancer, asthma, emphysema, and sudden infant death syndrome (SIDS)
Radiation	causes sunburn, cataracts, and cancer
Noise	causes hearing damage
Radon	causes lung cancer
Soil pollutants	
Acid rain	causes lower soil fertility, damages vegetation and buildings, and causes famine
Pesticides and herbicides	cause brain disorders and nerve disorders, birth defects, and cancer

What is conservation?

A *resource* is a material that can be used to meet a need. **Conservation** is the wise use and protection of natural resources. To protect our health and improve our environment, we need to conserve several specific resources in the environment.

► **Water** Fresh, clean water is needed for us to live; to keep clean; to grow, prepare, and process our food; and to make items we use.

Environment and Your Health (continued)

- ▶ **Air** To live, we need certain gases that are in the air. For example, we need oxygen in order to get energy from our food. Carbon dioxide is used by plants to make food. Ozone, in the upper atmosphere, reduces the amount of UV radiation from the sun.
- ▶ **Minerals** We need minerals such as iron, phosphorus, calcium, and sodium to carry out our bodies' activities. We get minerals from the plants and animals we eat and from our drinking water.

- ▶ **Food** Our bodies need energy in order to live. We get nutrients for energy from plants and animals.
- ▶ **Land** All living things need a certain amount of land in order to live. Land also provides a growing space for plants. Plants provide food for animals, shelter from the weather, and oxygen.

Why should we conserve natural resources?

Conserving our natural resources helps ensure that resources will be available in the future. A natural resource that can be replaced over a short period of time is called a **renewable resource**. Trees and crops are renewable resources.

Nonrenewable resources are natural resources that can be used up faster than they can be replenished naturally. Oil and natural gas are examples of nonrenewable resources.

Some renewable resources can also be used up too quickly to be replaced. Resources such as fresh water, topsoil, timber, and ocean fish must be conserved.

How does overpopulation affect our health and environment?

The point at which a population is too large to be supported by the available resources is called **overpopulation**. Earth's human population has been increasing rapidly. Overpopulation can lead to many problems.

Low food supplies Overpopulation makes it difficult to find and produce enough food to support the community. Famine is common in overpopulated areas.

Polluted water Polluted water from bathing, washing, and dumping wastes is a frequent result of overpopulation. Drinking, swimming, and bathing in polluted water spread disease.

Poverty, poor sanitation, and disease These problems are common in overpopulated parts of the world.

Overuse of the land and resources In order to feed, clothe, and shelter a growing population, we must use more natural resources. Nonrenewable resources can become depleted because of overuse, which results from supplying a large population.



Deforestation Many countries do not have enough farmland to feed their populations. Populations in tropical areas have little clear land for farming. **Deforestation** is the clearing of trees from natural forests to make space for crops, grazing, or development. When crops are grown on soil from tropical forests, the nutrients in the soil are depleted quickly. More forest must be cleared for people to continue farming.

Overfishing Overpopulation can also lead to overfishing. Because oceans do not belong to any one country, regulating the amount of fishing in oceans is difficult. Our government places limits on the fishing industry in the United States to preserve species. However, not all countries do the same.

How does our government protect our environment?

One approach to protecting our environment has been to make pollution more expensive by placing a tax on it. The gasoline tax is a good example of such a tax. A second approach has been to pass laws. The United States has many laws aimed at protecting the environment.

- ▶ The Clean Air Act of 1970 limits the release of pollutants into the environment and sets safe levels of several air pollutants.
- ▶ The Clean Water Act of 1972 limits the release of sewage and chemicals into water in the United States.

The U.S. Environmental Protection Agency (EPA) is the agency that sets and enforces the standards established by these laws.

Who else protects the environment?

A number of local, national, and international organizations also work to protect the environment. Members of these organizations talk to lawmakers, raise money to help preserve land, and publish educational material to teach people about the importance of protecting the environment.

How can you help improve the environment?

- ▶ **Recycle or reuse products.** Recycling is reusing materials from used products to make new products.
- ▶ **Conserve electricity and water.** Take showers instead of baths, water lawns in the evenings to prevent evaporation, and fix leaky faucets.
- ▶ **Become involved in a local environmental issue.** Support recycling and conservation projects in your school. Join or start a group that keeps litter off school and neighborhood lawns.



EXPRESS Lesson REVIEW

1. What do living things need from their environment to live a healthy life?
2. How do pollution and overpopulation affect an ecosystem?
3. **CRITICAL THINKING** What are three ways you can help reduce each of the following: water pollution, air pollution, and soil pollution?
4. **LIFE SKILL Using Community Resources** Describe how you can plan a school or community effort to improve the environment around your school.