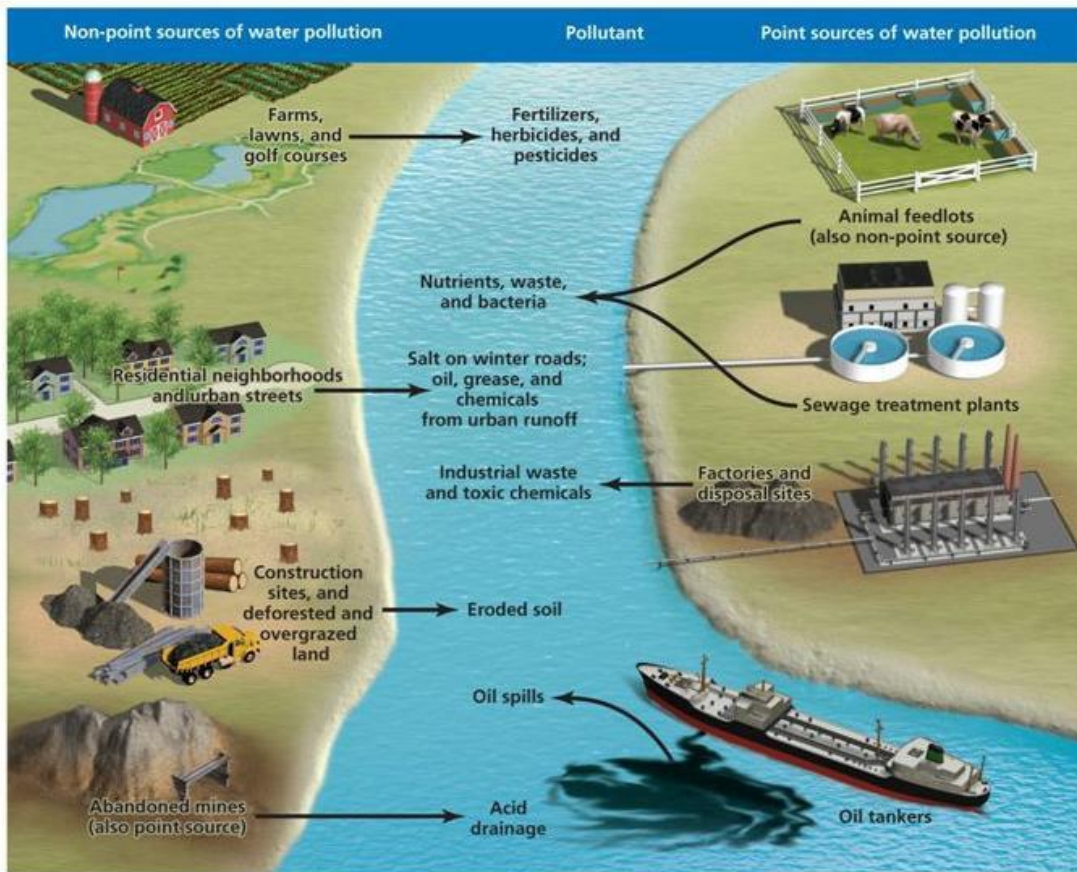


GEOGRAPHY ASSESSMENT PREP WORK

TASK 1

WATER POLLUTION

Water covers over 70% of the Earth's surface and is a very important resource for people and the environment. Water pollution affects drinking water, rivers, lakes and oceans all over the world. This consequently harms human health and the natural environment.



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Water pollution is the contamination of water bodies (e.g. lakes, rivers, oceans, aquifers and groundwater). Water pollution can come from a number of different sources. If the pollution comes from a single source, such as an oil spill, it is called point-source pollution. If the pollution comes from many sources, it is called nonpoint-source pollution. There are three basic types of water pollution:

Biological Pollutants

Biological pollutants such as bacteria, viruses and parasites can be treated chemically or by biological means. Other living organisms may be introduced or may occur naturally that will eliminate harmful infestations by competition in the food web or by depleting nutrients vital for the survival of the life, such as causing an anoxic (oxygen poor) condition. Biological pollution

refers to the bacteria and viruses that enter the lakes and rivers from city sewage sites and are the largest contributing factor.

Chemical Pollutants

Chemical pollutants represent a challenge to treat in a natural environment because of the complex interaction of the natural chemical mineral and biological environment. These types of pollutants are best treated at the source before being released into a waterway or groundwater. Chemical pollution is often colourless, odorless and tasteless, but it can be the most deadly. Two sources are pesticides and herbicides which we use to protect our food, lawns, fields, etc. from weeds, animals, pests and disease. Some industries have been dumping toxic chemicals into our water for years causing the waters of the Great Lakes to become heavily polluted.

Physical pollution

Physical pollution is the garbage, pop cans, litter, bottles, etc. that are easily spotted enabling easy clean up and prevention.

What Government Is Doing To Protect our Water?

In Canada, all three levels of government (federal, provincial/territorial, and municipal) have roles and responsibilities with respect to fresh water management. The provinces and territories have the primary responsibility for most areas of water management and protection, including the licensing of a majority of the principal water uses. The federal government's role includes management of water on Aboriginal and federal lands, fisheries, boundary and transboundary water, water monitoring, and water-related science and research.

The Government of Canada is:

- Continuing to help Canadians restore lakes and marine ecosystems that have been damaged by pollution – the Government allocated \$96 million in clean-up funding: \$30 million for Lake Simcoe; \$18 million for Lake Winnipeg; and \$48 million for Areas of Concern in the Great Lakes (Environment Canada, 2010);
- Working with communities and other tiers of government to protect and restore water quality in other priority areas such as the St. Lawrence River;
- Using a modern and coordinated approach to managing the impact of human activities on Canada's oceans, and making important progress in expanding the network of marine protected areas;
- Working to preserve and protect Canada's water resources through numerous commitments made under the Canadian Environmental Protection Act and the Action Plan for Clean Water – the Oceans Action Plan and the Plan of Action for Drinking Water in First Nations Communities (Environment Canada, 2010);
- Working to eliminate the dumping of raw sewage into our waterways and enabling municipalities to upgrade water and wastewater infrastructure;
- Undertaking important science, research, and monitoring to enhance our understanding of the problems facing our ecosystems and to evaluate the effectiveness of our actions.

- Working to ensure effective stewardship of water resources shared with the United States through the Great Lakes Water Quality Agreement.

The Government of Ontario Responsibilities

The provincial government, through the Ministry of the Environment and Climate Change, regulates these systems to ensure water safety and quality. Ontario has set up an award-winning drinking water safety net to ensure water quality. The first step in having clean water to drink is protecting the local, natural sources of water that supply our local systems.

This includes:

- registering all municipal drinking water systems
- licensing systems and authorizing owners/operators to run and maintain drinking water systems
- issuing drinking water works permits to modify, repair or extend drinking water systems

What Can We Do?

Everyday household activities contribute to water pollution. When it rains, fertilizer from lawns, oil from driveways, paint and solvent residues from walls and decks and even pet waste are all washed into storm sewers or nearby lakes, rivers and streams -- the same lakes, rivers and streams we rely on for drinking water supply, boating, swimming and fishing. Also, improper handling of materials around the house can lead to pollution.

Here are some ways you can help reduce your impact on waterways.

Five Things You Can Do To Reduce Water Pollution

1. DO NOT pour fat from cooking or any other type of fat, oil, or grease down the sink. Keep a “fat jar” under the sink to collect the fat and discard in the solid waste when full.
 2. DO NOT flush pills, liquid or powder medications or drugs down the toilet.
 3. Avoid using the toilet as a wastebasket. Most tissues, wrappers, dust cloths, and other paper goods should be properly discarded in recycling or wastebasket.
 4. Install a water efficient toilet. In the meantime, put a brick or 1/2 gal container in the standard toilet tank to reduce water use per flush.
 5. Minimize the use of pesticides, herbicides, fertilizers. Do not dispose of chemicals into the sewer or storm sewer systems. Use the minimum amount of detergent and/or bleach when you are washing clothes or dishes. Use only phosphate free soaps and detergents.
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1. Write two paragraphs on other ways you can avoid polluting water in your home. Please write complete sentences.

TASK 2 ALTERNATIVE ENERGY SOURCES

Alternative energy includes all those energies that do not consume fossil fuel. They are widely available and environment friendly. They cause little or almost no pollution. Some of the more common forms of alternative energy are described below.

Solar Energy

Solar was the first energy source in the world. It was in use even before humans learned how to light a fire. Many living things are dependent on solar energy from plants, aquatic life and animals. Solar energy is mostly used in generating light and heat and is the alternative energy source that is used most widely across the globe.

About 70% of sunlight gets reflected back into space so we have only 30% of sunlight to meet our energy demands. Solar energy is used for drying clothes, used by plants during the process of photosynthesis and also used by human beings during winter seasons to make their body temperature warm.

Solar energy does not create any pollution and is widely used by many countries. It is a renewable source of power since the sun will continue to produce sunlight for many years to come. Solar panels, which are required to harness this energy, can be used for a long time and require little or no maintenance. Solar energy can prove to be ineffective in colder regions that receive less sunlight hours per day.

Wind Energy

This energy source has been in use for a very long time. It was used in powering sailing ships,

which made it possible for explorers to sail around their trade routes in distant lands. A single windmill could power crop irrigation, water pumping, electric lights and family energy needs. However, in the present, there are several windmills that are used to generate energy required mostly for industrial uses. Many of the wind turbines today can capture power all at once before feeding it to the power grid. These turbines are commonly called “wind farms” and have been in use for many years all round the world.

Wind power is a renewable source of energy and reduces our reliance on other countries for the supply of oil and gas. It does not cause any air pollution and has created several jobs in the last few decades. Advancement in technologies has reduced the cost of setting up wind power plants. Wind energy can only be used in areas which experience high winds so cannot be used as a source to extract energy anywhere on earth. Wind turbines can create noise disturbances and cannot be used near residential areas.

Biomass Energy

Biomass energy has been around since ancient times when people use to burn wood or coal to heat their homes or prepare food. Biomass energy is the energy which is contained inside plants and animals. This can include organic matter of all kinds: plants, animals, or waste products from organic sources. These sorts of energy sources are known as biofuels and typically include wood chips, rotted trees, manure, sewage, mulch, and tree components.

Biomass is a renewable source of energy – it can be produced as long as crops, plants and waste exist. It does not create any greenhouse gases and can be easily extracted through the process of combustion. Another advantage of biomass is that it helps to reduce landfills. Biomass is comparatively ineffective compared to fossil fuels. It releases methane gases which can be harmful to the environment.

Geothermal Energy

Geothermal energy is the heat from the Earth. It's clean and sustainable. Resources of geothermal energy range from the shallow ground to hot water and hot rock found a few miles beneath the Earth's surface, and down even deeper to the extremely high temperatures of molten rock called magma.

Almost everywhere, the shallow ground or upper 10 feet of the Earth's surface maintains a nearly constant temperature between 50° and 60°F (10° and 16°C). Geothermal heat pumps can tap into this resource to heat and cool buildings. A geothermal heat pump system consists of a heat pump, an air delivery system (ductwork), and a heat exchanger—a system of pipes buried in the shallow ground near the building. In the winter, the heat pump removes heat from the heat exchanger and pumps it into the indoor air delivery system. In the summer, the process is reversed, and the heat pump moves heat from the indoor air into the heat exchanger. The heat removed from the indoor air during the summer can also be used to provide a free source of hot water

Hydro Power

Hydropower is electricity generated using the energy of moving water. Rain or melted snow, usually originating in hills and mountains, create streams and rivers that eventually run to the ocean. The energy of that moving water can be substantial, as anyone who has been whitewater rafting knows.

This energy has been exploited for centuries. Farmers since the ancient Greeks have used water wheels to grind wheat into flour. Placed in a river, a water wheel picks up flowing water in buckets located around the wheel. The kinetic energy of the flowing river turns the wheel and is converted into mechanical energy that runs the mill.

In the late 19th century, hydropower became a source for generating electricity. The first hydroelectric power plant was built at Niagara Falls in 1879. In 1881, street lamps in the city of Niagara Falls were powered by hydropower. In 1882 the world's first hydroelectric power plant began operating in the United States in Appleton, Wisconsin

Tidal (Ocean) Energy

The earth promises other power sources. Due to the massive size of oceans, tidal energy can be used on a much wider scale than other alternative sources of energy. The waves produced by the ocean tides that hit the sea shore have enormous energy potential. If they are harnessed with full capacity, they can go a long way in reducing the world's energy problems.

Tidal power basically involves using energy from the incoming and outgoing tides - there is a lot of energy that can be harnessed from waves. It is another form of hydropower. The rise and fall of ocean tides are captured by tidal energy generators which turn turbines. The movement of turbines is responsible for producing electricity. In short, tidal energy generators capture the motion of the tides and converts them into electrical energy. The main advantage of tidal energy is that it is completely renewable.

In Canada, the Bay of Fundy is used in generating tidal energy. The area has the largest tide range in the world. Its tidal range averages 10.8 meters making it the best place to produce electricity and produces more electricity than any other place in the world. The largest tidal power station is La Rance station in France which generates around 240 MW of power.

Wood Energy

Wood is considered humankind's very first source of energy. Today it is still the most important single source of renewable energy providing over 9% of the global total primary energy supply.

1. In the space provided below, describe the advantages and disadvantages of each type of alternative energy. You may use the internet to do research for your answers.

TASK THREE

COMMON LANGUAGE

Inuktitut – the Inuit Languageⁱ

Who are you if you don’t have culture? How do you feel? How do you see yourself? If you know who you are, if you know your language, your culture, if you know where you came from, then you are that much more confident in yourself, and you are ready to take on the challenges of life.

Eva Arreak, Nunavut Languages Commissioner

Language is a cultural mosaic of communication. Through song, story, and conversation, we reveal our cultural identities. The air of Nunavut is filled with sounds, resonating in four languages. Often, the words begin to meld together. The balance between Inuktitut, Inuinnaqtun, English, and French is a delicate one. Language is dynamic, capable of adapting and evolving.

Nunavut Department of Culture, Language, Elders and Youth

Two Inuit go hunting. One hands the other his rifle and the recipient says “ma’na.” His partner, though, has no idea what he’s just heard. The word for thanks in his dialect is “qujannamiik.”

There are only 60,000 Inuit in Canada, but they are divided between nine different writing forms and at least that many dialects.

“People can generally understand each other, but there are serious limitations for that understanding,” said Natan Obed, head of Inuit Tapiriit Kanatami, Canada’s national Inuit group. “If we had one unified writing system, we could maximize the ability for us to read in our language and also educate our children and provide them with learning resources.” Inuktitut fractured because it was spoken by widely dispersed groups who rarely interacted.

The language splintered further when missionaries developed writing for it. Syllabics, originally based on characters from Pitman shorthand, are most common in the Eastern Arctic. Roman orthography, the letters of the alphabet most of us recognize, is mostly used in the west.

The dialects have diverged so widely that some use sounds that speakers from other parts of the North can’t even pronounce. Obed’s group produces a magazine called Inuktitut that native speakers in the far west and the Far East just can’t read.

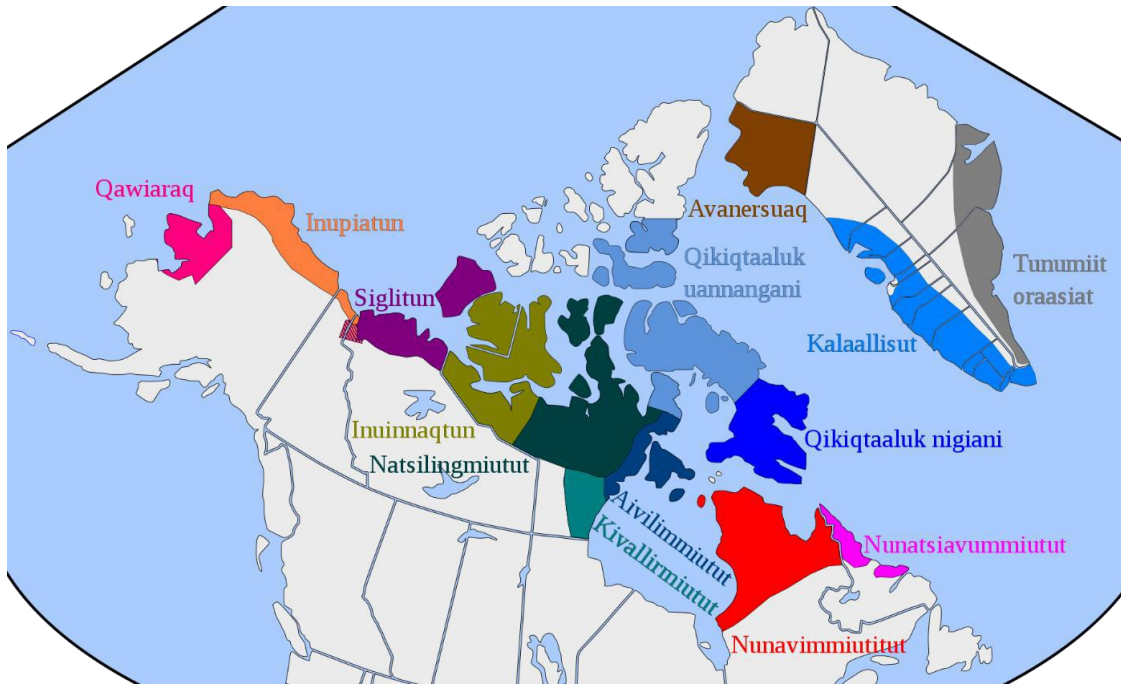
The drive to establish a standard writing form dates back to a recommendation in a 2011 report on Inuit education. Last year, experts from the four major Inuit regions began that task and continue their work on Friday.

Controversy is expected. Many argue orthography is the way to go. It’s in common use everywhere — especially on social media and the Internet, both widely used by Inuit. Last week, Inuktitut interpreters and translators voted at a conference in Iqaluit in favour of moving to orthography. But many don’t want to say goodbye to the triangles, circles and squiggles of syllabics. The debate gets more heated because the areas where Inuktitut is strongest — almost all Quebec Inuit say they’re fluent — are the same areas that use syllabics. “There are more Inuit talking seriously about transitioning out of syllabics into orthography,” Obed said. “(But) it is very contentious because it gets to the heart of who people are and how they’ve learned and express themselves.

“People have equated linguistic preservation and use to syllabics,” Obed said. “Syllabics attachment is based on the overarching history and the fact that syllabics allowed people to retain their language and their culture at a time of colonization and great upheaval.” There is no central language authority across all four Inuit regions. Implementing any recommendations from the standardization report will be up to the regional land-claim groups.

Coming together would have economic and cultural benefits, said Obed. It would draw Inuit together and make developing curriculum materials for schools easier and cheaper. “The Roman orthography side says, ‘Look at the practicality of what orthography could do to unlock the learning potential, to reduce costs, to ensure in this digital age that we don’t have to get through another set of barriers to express ourselves.’”

The experts hope to complete their work by 2017.



Please answer in complete sentence form.

1. What problem are the Inuit people facing in terms of their written language? Please give at least 2 details to support your answer.

2. Define the following terms:

a. Syllabics

b. Orthography

2. What would be the benefits of a common language? What would be lost if there is a common language?

¹ Written by Nadine Fabbi, Assistant Director, Canadian Studies Center Henry M. Jackson School of International Studies, University of Washington Last Updated: March 2003