1 UNIT

Environment

I Get Started

Activity 1

Select the corresponding expression for each picture, and write it in the blank that follows. Then compare your answers with those of your partner.

industrial exhaust	land filling	deforestation	wind power
littering	electric vehicle	recycling	ozone depletion

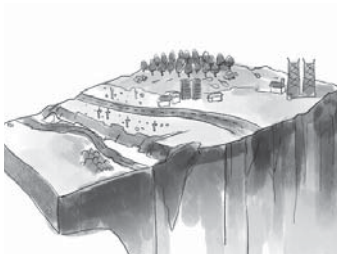
1) _____

2) _____

3) _____

4) _____

5) _____



6) _____

Activity 2

Read the facts and statistics about the world's water quality, and work in groups to search facts and statistics about water problems in China. Then fill in the blanks with full sentences.

- Seven hundred and sixty-eight million people remain without access to an improved source of water and 2.5 billion remain without access to improved sanitation.
- Natural arsenic pollution of drinking water is now considered a global threat, with as many as 140 million people affected in 70 countries on all continents.
- Hundreds of millions of people do not have soap and clean water to wash their hands, a simple practice that prevents the spread of diarrhea and respiratory illness.

- Seventy percent of untreated industrial wastes in developing countries are disposed into water where they contaminate existing water supplies.
- Every day, two million tons of human wastes are disposed of in water courses.
- Over the past 22 years, the number of people practicing open defecation fell by 21%, from 1.3 billion in 1990 to one billion in 2012. Those one billion people with no sanitation facility continue to defecate in gutters, behind bushes or in open water bodies, with no dignity or privacy.

Water Problems in China	Facts & Statistics
In Major Cities	
In Rural Areas	

Activity 3

Read the following sayings and quotes, and exchange your interpretations with your partner.

- We do not inherit the earth from our ancestors; we borrow it from our children.

—Native American proverb

- Take nothing but pictures. Leave nothing but footprints. Kill nothing but time.

—Motto of the Baltimore Grotto

- Earth provides enough to satisfy every man's needs, but not every man's greed.

—Mahatma Gandhi

- The struggle to save the global environment is in one way much more difficult than the struggle to vanquish Hitler.

—Al Gore

- Climate change is a terrible problem, and it absolutely needs to be solved. It deserves to be a huge priority.

—Bill Gates

Pause for Thought

- In what way do human activities cause damage to the habitats of animals and other species?

- What can be done to help us conserve water resources more effectively?
- Make a list of the ways that can help maintain a green lifestyle on campus.

Don't forget to record topic-related words and expressions in the Vocabulary Record Sheet in the unit, and review your notes from time to time.

Ⅱ Integrated Writing

1. Skill Building

1.1 Note-taking & Summarizing

- Identify the topic and key points of a source material;
- Organize them in the outline form.

Example

Air pollution can result from human actions. Industries and manufacturing activities constitute the largest source of pollution. Consider a typical manufacturing plant: You will notice that there are chimneys erected high into the air, with lots of smoke and fumes coming out of it. Waste incinerators, manufacturing industries and power plants emit high levels of carbon monoxide, organic compounds, and chemicals into the air. This happens almost everywhere that people live. Petroleum refineries release lots of hydrocarbons into the air. Burning fossil fuels also raise serious environmental concerns. After the industrial age, transportation has become a key part of our lives. Cars and heavy-duty trucks, trains, shipping vessels and airplanes all burn lots of fossil fuels to work. Emissions from automobile engines contain both primary and secondary pollutants. This is a major cause of pollution, and one that is very difficult to manage.

Reading Notes

Topic: Air Pollution Caused by Human Actions

- industries and manufacturing activities
  the largest source of pollution
  waste and chemicals from power plants as well as various industrial processes
- burning fossil fuels
  source of power: various modes of transportation
  emissions containing primary and secondary pollutants: a major cause of pollution

Practice 1

1 Read the following passage, and underline the important information. Then complete the notes.

If you see dead fish floating on the river, or notice that the water is discolored and smelly, you know the river has been polluted, and there are a couple of possible causes for it. Fertilizer or farm waste drains into a river, which causes the concentration of nitrate and phosphate in the water to increase considerably. Algae uses these substances to grow rapidly, turning the water green. This massive growth of algae leads to pollution. Industrial waste is another culprit. Factories sometimes discharge chemical waste into rivers. Examples of such pollutants include lead, copper, and mercury. These substances may enter the water in such high concentration that fish and other animals are killed immediately. Also, warm water, often used for cooling processes by industry, is discharged into rivers in large quantities. A high temperature of the water lowers the level of dissolved oxygen and upsets the balance of life in the water.

Reading Notes

Topic: Factors Responsible for River Pollution

- fertilizer or farm waste draining into a river
  increase the 1) _____ of nitrate and phosphate: the food source for algae → water pollution
- industrial waste from factories
  pollutants including copper and other 2) _____ in industry → kill fish and other animals
- warm water generated in 3) _____
  higher water temperature: lower the level of 4) _____ and upset the 5) _____ of water life

2 Use the reading notes above to summarize the main idea and the supporting details of the passage. Write them with full sentences in the reading outline.

Reading Outline	
Main Idea	_____
Supporting Details	1) _____ _____ 2) _____ _____ 3) _____ _____

3 Listen to a passage, and identify the important information. Then complete the notes. (01.mp3)

Listening Notes

Topic: Sources of Energy

- 1) _____
  one of the most common source of energy, e.g. coal, oil, and natural gas
  from the 2) _____ of living organisms
- moving water
  move through the dam and over turbines → 3) _____ the energy
  into electrical energy inside a generator
- geothermal energy
  drill into Earth's crust → 4) _____ hot steam
- 5) _____
  from the heat produced when atoms are 6) _____

4 Use the listening notes above to summarize the main idea and the supporting details of the passage. Write them with full sentences in the listening outline.

Listening Outline	
Main Idea	_____
Supporting Details	1) _____ _____ 2) _____ _____ 3) _____ _____ 4) _____ _____

1.2 Paraphrasing

- Use words or expressions of the same meaning;
- Use different grammatical structures.

Example

In the past 150 years, such activities have pumped enough carbon dioxide into the atmosphere to

raise its levels higher than they have been for hundreds of thousands of years.

Paraphrase

Due to human activities, much carbon dioxide has been released into the air over the past 150 years, and its levels are higher than ever before.

Practice 2

1 Paraphrase the sentences from the reading passage in Practice 1, and fill in the blanks with appropriate expressions.

1) If you see dead fish floating on the river, or notice that the water is discolored and smelly, you know the river has been polluted, and there are a couple of possible causes for it.

   Paraphrase

   A river is polluted if _____*, which is caused* _____.

2) Algae uses these substances to grow rapidly, turning the water green. This massive growth of algae leads to pollution.

   Paraphrase

   Algae relies on _____*, and thus pollutes the water.*

3) Factories sometimes discharge chemical waste into rivers. Examples of such pollutants include lead, copper, and mercury.

   Paraphrase

   Chemicals _____*, including lead and other metals,* _____.

4) A high temperature of the water lowers the level of dissolved oxygen and upsets the balance of life in the water.

   Paraphrase

   Life balance in the water would _____ *and oxygen solubility would decrease when* _____.

2 Read the summary of the reading passage in Practice 1, and rewrite it in your own words.

Three factors lead to river pollution. Farming waste, if draining into rivers, would lead to the increased concentration of nitrate and phosphate, which causes algae to grow rapidly and thus contaminates water. Chemical waste is also responsible, for it normally contains heavy metals, and may kill fish and other animals in water. Another culprit is warm water from cooling processes in industry; it would lower the level of dissolved oxygen in water, and accordingly disrupt the balance of water life.

1.3 Synthesizing

- Identify the main idea, key points and important details;
- Discover how the points contradict each other;
- Use your own words to present the information from the listening passage, explaining how it relates to the information in the reading passage.

Example

Alternative energy can meet America's energy demands. There are so many avenues of different energy sources such as biofuel, hydrogen, solar, geothermal, or nuclear energy, which can meet our energy demands better than finite fossil fuels such as oil and coal. Of these sources, the one that will propel us into the future of alternative energy will be nuclear energy, as its potential for use is enormous. Also, given the fact that scientists are continuing to research newer and better forms of energy, it is impossible to say that alternative energy can't effectively replace fossil fuels. (02.mp3)

Summarizing

Reading Outline	
Main Idea	Alternative energy can meet America's energy demands.
Supporting Details	1) Alternative energy sources are rich in diversity. 2) Research on new forms of alternative energy is continuing.
Listening Outline	
Main Idea	Alternative energy fails to meet America's energy demands.
Supporting Details	1) Wind and solar energy only meet 7% of America's energy demands. 2) There is also limitation for the wide use of other energy resources.