

UNIT 5

GLOBAL WARMING

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Students Learning Outcomes:

On completion of the unit, students will be able to:

- answer the comprehension questions.
- skim text to have general idea of the text.
- Infer theme/main idea.
- demonstrate the use of nouns, noun phrases and clauses.
- use the active and passive voice.
- understand and use the idiomatic and colloquial expressions.
- write an expository composition.
- share findings in class presentation.

Pre-reading:

- What is global warming?
- What is climate change?

Global Warming

Our earth was formed about 4.6 billion years ago and its temperature has changed through history. It has been warmer in the past than it is today, and sometimes much colder. But it is the speed at which the earth is now heating up that is alarming. For the first time in history, humans, not nature, are the main cause of Earth's changing climate_ or, as it is commonly known as global warming.

Fossil Fuels

Millions of years ago, when plants and animals died, some of them were buried, crushed, and fossilized under the ground. Oil, coal, and natural gas are formed from these fossilized remains _ this is why they are called fossil fuels. When we burn the fossil fuels we release large amounts of carbon into the atmosphere as part of the gas carbon dioxide (Co2). It is also released naturally from sources such as volcanoes, but humans and the machines we use are producing more Co2 than ever before.

Greenhouse Gases

Greenhouse gases absorb heat from the Sun and help warm the planet, which makes it possible for plants and animals to live. Most greenhouse gases are a natural



part of life. For example, humans breathe out small amounts of carbon dioxide into the air. But human activities have caused some gases to build up too much. Many scientists believe that this increase in greenhouse gases is causing global warming.

The Greenhouse Effect

The greenhouse effect is a natural process discovered in 1896. It has kept our planet warm enough to support botanical life for billions of years. But as the amount of greenhouse gases increases, more heat is trapped in the atmosphere. The natural process has sped up and earth is getting hotter.

Large Population

The increasing number of people on earth is one of the greatest factors in global warming. The world's population grew nearly four times larger during the past hundred years. More people mean that more fossil fuels are burned. This has led to a massive rise in the levels of greenhouse gases in earth's atmosphere.

City Life

It is not just that there are more people than ever before, it is also how we choose to live that puts a strain on our planet. Life in large cities is comfortable and convenient, but the energy this lifestyle requires has a high environmental cost.

Melting Ice

Melting ice is perhaps the most obvious effect of global warming. The vast ice sheets of the Arctic are getting smaller every year. Many glaciers - the huge rivers of ice that flow in slow motion down the mountains- are disappearing completely. Melting ice contributes to rising sea levels, which could flood land and destroy homes in low-lying areas. Sea levels have already risen by 8 inches (200mm) over the last 100 years. That might not sound like much, but as the oceans warm and glaciers melt, levels will continue to rise faster and faster. Before too long, many low-lying villages, towns, cities, and islands will be threatened by flooding.

Wetter, Drier

Some scientists predict that global warming will make many wet regions even wetter and dry regions even drier. And as the sea temperatures rise, the existing climate problems such as drought, desertification, and flooding may become more common and more destructive.

Extreme Weather

Many scientists believe that we can already see signs of **climate change** in



the form of extreme weather conditions around the world. Hurricanes, forest fires, and other weather-related disasters have always occurred, but some seem to be getting stronger and more frequent as the world's atmosphere and oceans get warmer.

Pollution

Burning fossil fuels, the major cause of global warming, also causes air pollution. Exhaust gases from factories, cars, and other vehicles contain greenhouse gases that trap heat in our atmosphere. As well as making earth warmer, some of these gases can create smog and acid rain.

More Diseases

A rise in temperature around the world is expected to cause an increase in infectious diseases. Flooding could transmit diseases, such as typhoid and cholera that spread through water. Also, the number of insects that carry diseases may increase, move to warmer areas, and spread sicknesses, such as malaria and encephalitis, to new places.

Steps for Preventing Global Warming/Climate Change

Cleaner Energy

If we want to stop climate change, rather than just slowing it down, we need to do more than just reducing the amount of fossil fuels we burn. We must switch to alternative energies; ideally from sources that produce low amounts of greenhouse gas and that are renewable. Our supply of fossil fuels will one day be completely used up, but energy resources which rely on sunlight and earth's natural cycles, will never run out.

Cleaner Transportation

The exhaust gases from vehicles account for about a quarter of all the carbon dioxide we release. As more people buy cars and take cheap flights, the amount of pollution is increasing. Engineers are helping to clean up the future of travel by designing more efficient cars, buses and airplanes, and moving toward new kinds of fuel.

Preserving Forests and Oceans

Forests and oceans remove and trap carbon as part of their natural processes. In turn, they can reduce the amount of carbon dioxide in the atmosphere and limit the power of the greenhouse effect. By damaging forests, polluting oceans, and burning fossil fuels, humans have upset the Earth's natural balance. This is why we must work together to protect our precious trees and seas.

Less Waste

Most of our household waste ends up in solid waste landfills. These huge trash dumps release methane- a greenhouse gas - as they rot. One simple way to cut the amount of methane that is released, is to reduce the amount of trash you produce, and recycle as much as possible of what is left.

Working Together

For a huge problem like climate change, we need big, global solutions. That means the whole world working together, with scientists gathering and sharing information, and governments taking action to find solutions.

Reading and Thinking Skills:

1. Answer the following questions.

- i) What is the main cause of change in climate?
- ii) What is causing global warming?
- iii) How does melting of ice cause global warming?
- iv) How do floods cause increase in infectious diseases?
- v) Why should we use renewable sources of energy?
- vi) Why should we use cleaner transportation?
- vii) How can forests and oceans limit the power of greenhouse effect?
- viii) Why should we reduce the amount of trash we produce?
- ix) How can we reduce the release of methane gas?
- x) Why do we need combined efforts to control climate change?

2. Choose the correct answer.

- i) The speed at which earth is now heating up
 - (a) is interesting.
 - (b) is alarming.
 - (c) is funny.
 - (d) is entertaining.
- ii) When we burn fossil fuels we release large amounts of carbon into the atmosphere
 - (a) as part of the gas oxygen.
 - (b) as part of the gas nitrogen.
 - (c) as part of the gas methane.
 - (d) as part of the gas carbon dioxide (CO₂).

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- iii) Many scientists believe this increase in greenhouse gases
- (a) is causing global cooling.
 - (b) is causing global wars.
 - (c) is causing global warming.
 - (d) is causing global festivals.
- iv) Some scientists predict that global warming will make many wet regions even wetter and
- (a) dry regions ever hotter.
 - (b) dry regions even drier.
 - (c) dry regions even pleasant.
 - (d) dry regions even dry.
- v) The increasing number of people on earth is one of
- a) the greatest factors in global warming.
 - b) the smallest factors in global warming.
 - c) the small factors in global warming.
 - d) the great gases in global warming.
- vi) Flooding could transmit diseases, such as typhoid and cholera
- (a) that spread in space.
 - (b) that spread at hospital.
 - (c) that spread through water.
 - (d) that spread in sand.
- vii) If we want to stop climate change, rather than just slow it down, we need to do more than just reduce
- (a) the amount of oil we burn.
 - (b) the amount of gas we burn.
 - (c) the amount of trash we burn.
 - (d) the amount of fossil fuels we burn.
- viii) The exhaust gases from vehicles account for about
- (a) half of carbon dioxide.
 - (b) a quarter of all the carbon dioxide we release.
 - (c) a quarter of all the oxygen we release.
 - (d) a quarter of all the gases.
- ix) Forests and oceans remove and trap carbon as part of
- (a) their power.
 - (b) their natural processes.
 - (c) their artificial processes.
 - (d) their water.

- x) We must work together to protect our
- (a) precious trees and seas.
 - (b) precious trees and leaves.
 - (c) precious trees and plants.
 - (d) precious seas and grass.

3. Mark the sentences as True or False.

- i) Humans and the machines we use are producing more CO₂ than ever before. (T / F)
- ii) When we burn fossil fuels we release large amounts of carbon into the atmosphere as part of the gas nitrogen. (T / F)
- iii) Greenhouse gases absorb heat from the Sun and help warm the trees. (T / F)
- iv) Many scientists believe this increase in greenhouse gases is causing global warming. (T / F)
- v) More people mean that more fossil fuels are burned. (T / F)
- vi) The vast ice sheets of the Africa are getting smaller every year. (T / F)
- vii) Some scientists predict that global warming will make many wet regions even wetter and dry regions even drier. (T / F)
- viii) Flooding could transmit diseases, such as typhoid and cholera that spread through water. (T / F)
- ix) We must not switch to alternative sources of energies. (T / F)
- x) By damaging forests, polluting oceans, and burning fossil fuels, humans have upset Earth's natural balance. (T / F)

Skimming

Activity:

Read the lesson 'Global Warming' for skimming and tell the theme / main idea of it.

Critical Thinking:

- Climate change is causing a dire threat to all living beings. Do you agree/disagree? Give reasons.

Use of Nouns

1. As a Subject:

Noun is used as a subject in a sentence.

Examples:

- i) *Ali* bought an expensive car last year.
- ii) *Salma* teaches English in a good manner.

2. As an Object:

Noun is used as an object in a sentence.

Examples:

- i) My friend gave me *a book*.
- ii) The Government is trying to control *inflation*.

3. As a Complement:

Noun is used as a complement in a sentence.

Examples:

- i) He is a *student* of first year.
- ii) She is a *teacher*.

Noun Phrases

Noun phrase consists of a noun and the modifier which distinguishes it.

Examples:

- i) I know *his address*. (Noun phrase as an object)
- ii) *The spotted dog* was the winner. (Noun phrase as a subject)
- iii) He is a *student of class ten*. (Noun phrase as a complement)

Noun Clauses

A noun clause is a subordinate clause which functions as a noun in relation to the main clause. There are several types of noun clauses and they are distinguished by their functions in the sentences.

A noun clause can begin with *that, what, when, which, where, if* etc.

Examples:

- i) I know *that the earth is round*. (Noun clause as an object)
- ii) *That he teaches English* is obvious. (Noun clause as a subject)
- iii) I am sure *that he did it*. (Noun clause as a complement)

Activities:

- **Underline the noun clauses in the following sentences.**
 - i) We did not know that Shahzaib wanted to be left alone.
 - ii) I wonder where they have gone.
 - iii) I know where he lives.
 - iv) I don't understand why Saleem is absent today.
 - v) Please tell me what she said.
 - vi) I don't know if Abid is at home.
 - vii) I think that Mr. Butt is a good teacher.
 - viii) Do you know if the bus stops here.
- **Identify nouns, noun phrases and noun clauses from the unit.**

Active and Passive Voice

The Active Voice

Examples

- i) I have read this book.
- ii) The gardener plants a tree.

It is also used where there is no object in a sentence.

Example

Plants grow well in alluvial soil.

The Passive Voice

Example

He has been arrested by the police.

- It is used when the doer is unimportant or unknown.

Example

My book has been stolen.

- It is also used when the material of which a thing is made is referred to.

Example

This door has been made of wood by him.

- It is used when the active voice cannot be used as no action can be received.

Example

This piece of pottery has been cracked.

Activity:

Change the active voice into passive voice.

- i) They are reading books.
- ii) Gambling has ruined many.
- iii) Who did this?
- iv) Why did your friend write such a letter?
- v) All of them laughed at him.
- vi) They help the poor and needy people.
- vii) We should respect our teachers.
- viii) She is reading the newspaper.
- ix) I take exercise daily.
- x) The teacher will guide us.

Vocabulary:

Colloquialism and Idiomatic Expressions

Colloquialisms are words and phrases that are part of our everyday speech, but that are not part of our formal language.

They are understood by all people in a specific location or geographic region.

Examples of Colloquialism:

ain't (am not) is not, have not, has not

freak out (become very excited)

Over yonder (over there)

ruckus (controversy, noisy disturbance)

reckon (guess, calculate, suppose)

Idiomatic Expressions:

Idiomatic expressions are peculiar to a language. These should not be taken literally.

Examples

Not a sausage:

Nothing at all.

To make clean breast of:

confess or admit to (something)

Activity:

Use the following expressions in your sentence:

- | | | |
|-----|--|-------------------------------------|
| (a) | <i>To have a bee in one's bonnet:</i> | (to be obsessed on some point) |
| (b) | <i>To be all ears:</i> | (to listen attentively) |
| (c) | <i>To pay through the nose:</i> | (to pay an excessive price) |
| (d) | <i>To smell a rat:</i> | (to suspect something wrongly done) |
| (e) | <i>To be at one's wits ends:</i> | (to be at a loss) |
| (f) | <i>Between the devil and the deep sea:</i> | (surrounded by troubles) |
| (g) | <i>Not a sausage:</i> | Nothing at all. |
| (h) | <i>To make clean breast of:</i> | confess or admit to (something) |

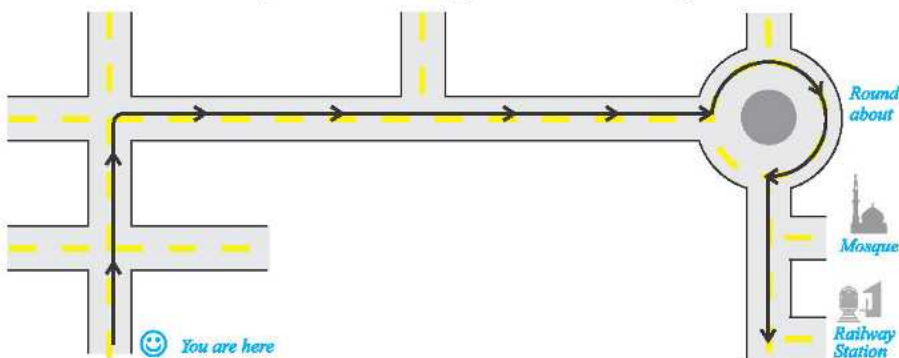
Writing Skills:

Expository Writing

Exposition explains or classifies ideas, processes and the nature or functions of things. e.g. How does this gadget work? Which is the way to the station? What is 'slang'?

Giving Direction

Assume that the person you are giving directions to is a complete stranger to the area. Read the example on how to get to the railway station.



From where you are now, walk straight on till you come to crossroads. Do not turn but continue walking. When you come to the next crossroads, turn right. Keep straight on and when you reach the round about, turn right. The railway station is on the right just after the mosque.

Activity:

Write a composition on the following topics.

- i) How to take care of a wound to prevent infection?
- ii) How to entertain guests inexpensively?

Research Project

Collect the data from different resources (people, library, internet etc) and write a research report on the following question.

- *What are the dangers and hazards of climate change?*

Oral Communication Skills:

Form groups of five and make a plan to control the effects of global warming. Share your findings in class presentation.

Revision 1-5

1. Answer the following questions.

- i) What happened to the garden after the children left?
- ii) Why could not the small boy reach up to the branches of the tree?
- iii) Why did the boy give the wrong answers?
- iv) What were the stories told by the teacher?
- v) Why should we read the biographies of great personalities?
- vi) Which personality has inspired you and how?
- vii) What are the kinds of libraries?
- viii) What is Dewey Decimal system?
- ix) How does melting of ice cause global warming?
- x) How do floods cause increase in infectious diseases?

2. Choose the correct answer.

- i) Cornish ogre was
 - (a) an enemy of the Giant.
 - (b) a dwarf.
 - (c) a man eating Giant .
 - (d) a friend of the Giant.
- ii) The Autumn gave golden fruit to every garden, but to the Giant's garden
 - (a) she gave too much.
 - (b) she gave some.
 - (c) she gave none.
 - (d) she gave enough.
- iii) The boy in the story was
 - (a) an orphan.
 - (b) the only child of his parents.
 - (c) well-behaved student.
 - (d) a dunce fellow.
- iv) The parents of the boy were
 - (a) illiterate.

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- (b) poor.
 - (c) greedy.
 - (d) rich and provided their son with all kinds of expensive toys and sweets.
- v) 'Psalm' means
- (a) a sacred song or poem.
 - (b) biography of a person
 - (c) a musical song
 - (d) a ballad
- vi) The poet says 'life' is
- (a) a dream.
 - (b) real and earnest.
 - (c) enjoyment.
 - (d) full of tears.
- vii) Special library is also known as
- (a) college library.
 - (b) information centre.
 - (c) school library.
 - (d) university library.
- viii) Circulation desk is the counter where you sign for books and
- (a) keep it on the shelf.
 - (b) buy it.
 - (c) keep them back.
 - (d) take them out.
- ix) Many scientists believe this increase in greenhouse gases
- (a) is causing global cooling.
 - (b) is causing global wars.
 - (c) is causing global warming.
 - (d) is causing global festivals.
- x) Some scientists predict that global warming will make many wet regions even wetter and
- (a) dry regions ever hotter.
 - (b) dry regions even drier.
 - (c) dry regions even pleasant.
 - (d) dry regions even dry.

3. Tick the sentences as True or False.

- i) The Giant took a great axe and knocked down the wall. (T/F)
- ii) The teacher told the parents that the boy was not doing mathematics sums properly. (T/F)
- iii) The boy asked the teacher to sing a song instead of teaching him. (T/F)
- iv) The teacher thought that the little boy was an angel. (T/F)
- v) Learn to labour and to wait. (T/F)
- vi) We should act in the present. (T/F)
- vii) The boy went over to his cupboard, opened it, took out his bus set, and started assembling the track. (T/F)
- viii) The teacher was absolutely non-mechanical. (T/F)
- ix) More people mean that more fossil fuels are burned. (T/F)
- x) The vast ice sheets of the Africa are getting smaller every year. (T/F)

4. Critical Thinking

- Suggest the measures to prevent global warming.

5. Write summary of the poem "A psalm of life".

6.

Research Project

Activity:

Collect data from different resources (people, library, internet etc) and write a research report on the following question.

- *What steps are being taken to protect endangered wildlife?*

7. Use the following nouns in your sentences and state whether these are collective, material, abstract, countable, or uncountable nouns.

Noun	Kind of Noun	Sentence
i) love		
ii) herd		
iii) honesty		
iv) oil		
v) butter		
vi) football		

Noun	Kind of Noun	Sentence
vii) money		
viii) rupees		
ix) silver		
x) sugar		

8. Fill in the blanks with relative pronouns (who, whose, which or that)

- The boy, _____ father is a doctor, is my friend.
- It is the pen _____ was gifted to me.
- She is the girl _____ got first position in annual examination.
- That is the dog _____ barks a lot.
- He is the teacher _____ teaches me English.
- Mr. Kashif is the doctor _____ treats my grandfather.
- Do you know the boy _____ brother is a footballer?

9. Write five anaphoric and cataphoric references in the relevant column.

Anaphoric references	Cataphoric references

10. Identify the cataphoric and anaphoric references in the following sentences.

- As they were coming from school, the children used to go and play in the Giant's garden.
- The teacher hunched up in a corner and obeyed. He grew tired of the position.
- Muneeb was the first who entered the classroom. He is my best friend.
- She was very frightened, when Asma saw a snake.
- A little girl, Nazia, was playing in the garden.
- The monkey took the banana and ate it.