

First year S2

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Unit 7: **Environment and Sustainability**

Lecture 1: Reading

Climate Change

Climate change is a long-term shift in global or regional climate patterns. Often, climate change refers specifically to the rise in global temperatures from the mid-20th century to present.

Climate is sometimes mistaken for weather. But climate is different from weather because it is measured over a long period of time, whereas weather can change from day to day, or from year to year. The climate of an area includes seasonal temperature and rainfall averages, and wind patterns. Different places have different climates. A desert, for example, is referred to as an arid climate because little water falls, as rain or snow, during the year. Other types of climates include tropical climates, which are hot and humid, and temperate climates, which have warm summers and cooler winters.

Climate change is the long-term alteration of temperature and typical weather patterns in a place. Climate change could refer to a particular location or the planet as a whole. Climate change may cause weather patterns to be less predictable. These unexpected weather patterns can make it difficult to maintain and grow crops in regions that rely on farming because expected temperature and rainfall levels can no longer be relied on. Climate change has also been connected with other damaging weather events such as more frequent and more intense hurricanes, floods, downpours, and winter storms.

In polar regions, the warming global temperatures associated with climate change have meant ice sheets and glaciers are melting at an accelerated rate from season to season. This contributes to sea levels rising in different regions of the planet. Together with expanding ocean waters due to rising temperatures, the resulting rise in sea level has begun to damage coastlines as a result of increased flooding and erosion.

The cause of current climate change is largely human activity, like burning fossil fuels, like natural gas, oil, and coal. Burning these materials releases what are called greenhouse gases into Earth's atmosphere. There, these gases trap heat from the sun's rays inside the atmosphere causing Earth's average temperature to rise. This rise in the planet's temperature is called global warming. The warming of the planet impacts local and regional climates. Throughout Earth's history, climate has continually changed. When occurring naturally, this is a slow process that has taken place over hundreds and thousands of years. The human influenced climate change that is happening now is occurring at a much faster rate.

<https://education.nationalgeographic.org/resource/climate-change/>

Task 1: Read the statements and write **True (T)** or **False (F)**. Correct the false statements.

1. Climate and weather mean the same thing.
2. Climate is measured over a long period of time.
3. Tropical climates are usually cold and dry.
4. Climate change can make weather patterns less predictable.
5. Rising sea levels can damage coastlines.
6. Human activities have no effect on climate change.

Task 2: Choose the correct answer.

1. Climate change mainly refers to:
 - a) Daily weather changes
 - b) Short-term rainfall
 - c) Long-term changes in climate patterns
 - d) Seasonal temperature only
2. A desert climate is called:
 - a) Tropical
 - b) Temperate
 - c) Arid
 - d) Polar
3. What happens to glaciers due to climate change?
 - a) They grow larger
 - b) They melt faster
 - c) They stay the same
 - d) They disappear instantly
4. Which of the following is a greenhouse gas source?
 - a) Burning fossil fuels
 - b) Planting trees
 - c) Drinking water
 - d) Building houses

Task 3: Answer the questions using information from the text.

1. What is the difference between climate and weather?
2. Name **two types of climates** mentioned in the text.
3. How does climate change affect farming?
4. Why are sea levels rising?
5. What causes greenhouse gases to increase?

Task 4: *Find words in the text that match the meanings below.*

1. A long-term change in temperature and weather patterns → _____
2. A climate that is hot and humid → _____
3. Large masses of ice that move slowly → _____
4. The wearing away of land by water or wind → _____
5. Fuels such as coal, oil, and natural gas → _____

Answers:

Task 1: *Read the statements and write **True (T)** or **False (F)**. Correct the false statements.*

1. F
2. T
3. F
4. T
5. T
6. F

Task 2: *Choose the correct answer.*

1. c
2. c
3. b
4. a

Task 3: *Answer the questions using information from the text.*

1. Climate is measured over a long period of time, whereas weather can change from day to day or from year to year.
2. Tropical climate, arid climate.
3. Change may cause weather patterns to be less predictable. As a result, expected temperature and rainfall levels can no longer be relied on.
4. Because ice sheets and glaciers are melting at an accelerated rate from season to season
5. Human activity, like burning fossil fuels.

Task 4: *Find words in the text that match the meanings below.*

1. Climate change
2. Tropical
3. Glaciers
4. Erosion
5. Fossil fuels