
GLOBAL WARMING

What is Global Warming?

1. Introduction

Global Warming is the increase in the Earth's average temperature. For thousands of years, the Earth's climate changed very slowly. However, in the last 100 years, the planet has become much warmer. This change is mostly caused by human activities.

2. The Greenhouse Effect

Think of the Earth like a car parked in the sun with the windows closed. The glass lets the sunlight in, but it traps the heat inside. This is exactly how the **Greenhouse Effect** works.

- **Sunlight** enters the atmosphere.
- The **Earth** absorbs the light and turns it into heat.
- **Greenhouse Gases** (like a blanket around the Earth) stop the heat from going back into space.

Without this effect, the Earth would be too cold for humans to live. But today, there are too many gases, and the Earth is getting too hot.

Why is it Happening? (Causes)

1. Fossil Fuels

Most of our energy comes from burning coal, oil, and gas. We use these "fossil fuels" for:

- Driving cars and flying planes.
- Making electricity for our homes.
- Running big factories.

When we burn these fuels, they release **Carbon Dioxide (CO₂)**. This is the main gas causing global warming.

2. Cutting Down Trees (Deforestation)

Trees are like the "lungs" of our planet. They breathe in CO₂ and breathe out oxygen. When people cut down forests to build farms or cities, there are fewer trees to clean the air.

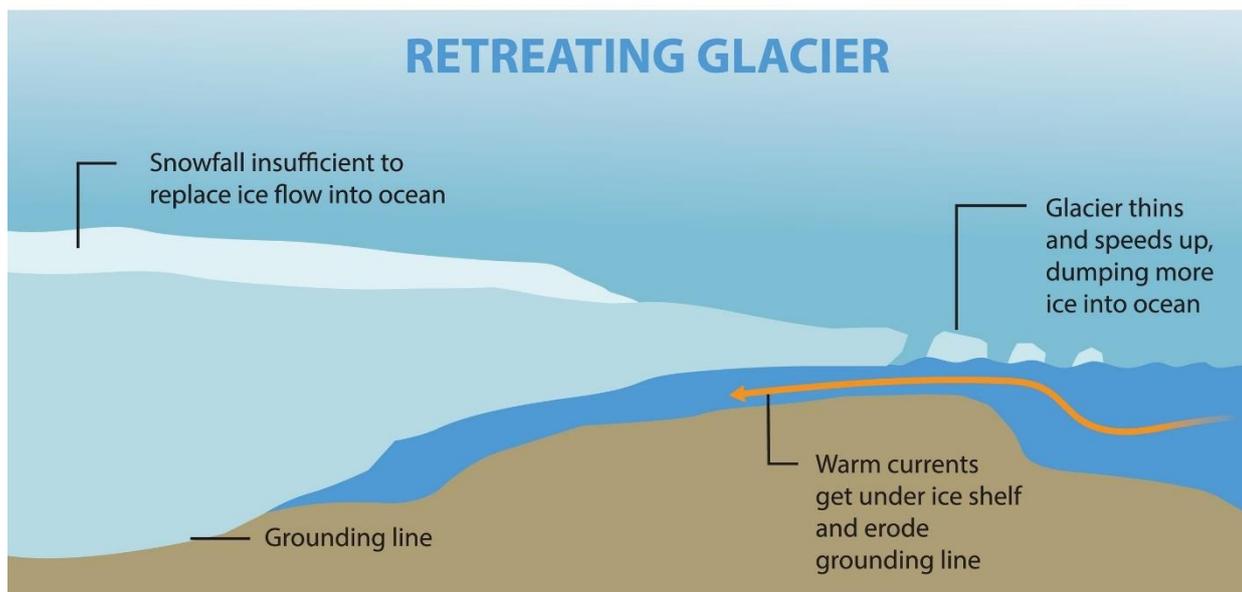
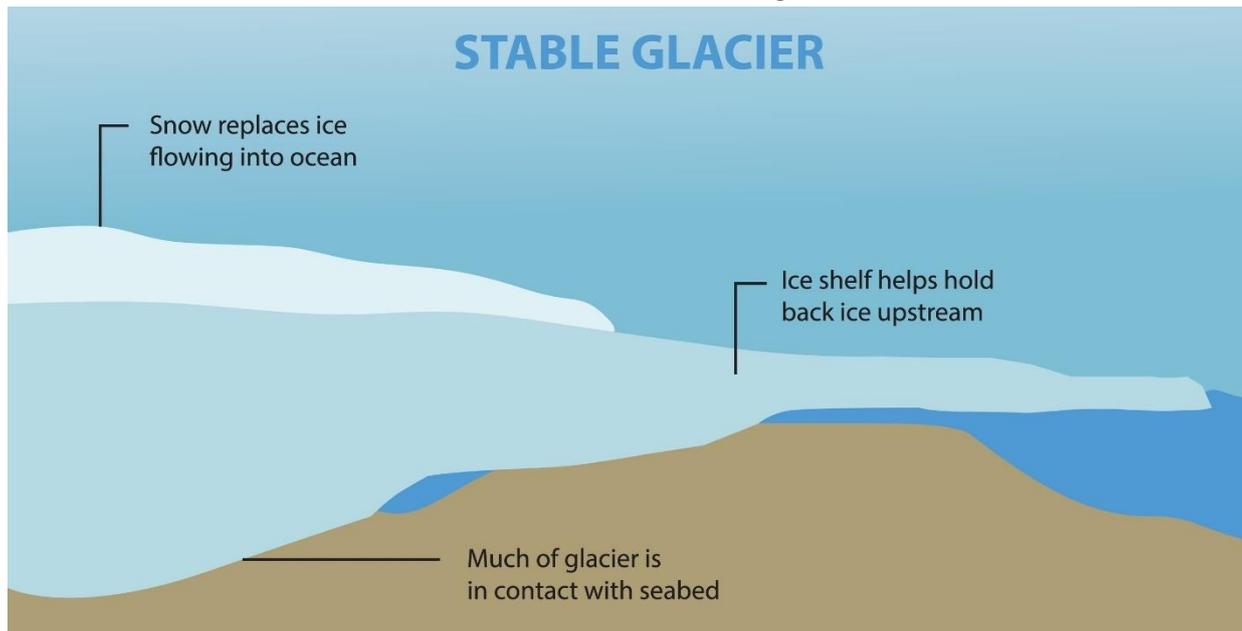
3. Farming and Waste

- **Cows:** Believe it or not, cows produce a gas called **Methane** when they digest food. Methane is even stronger than CO₂.
- **Landfills:** When we throw away too much trash, it rots and releases harmful gases.

What Happens to the Earth? (Effects)

1. Melting Ice and Rising Seas

The North and South Poles are covered in ice. As the world gets warmer, this ice melts into the ocean. This causes **Sea Level Rise**, which means some coastal cities might be underwater in the future.



2.

Extreme Weather

Global warming makes the weather "angry." We are seeing:

- **Heatwaves:** Very hot days that are dangerous for old people and animals.
- **Floods:** Too much rain in a short time.
- **Droughts:** Long periods with no rain, making it hard to grow food.

3. Animals in Danger

Many animals, like polar bears and orangutans, are losing their homes (habitats). If the temperature changes too fast, they cannot adapt and might disappear forever.

Global Solutions (Policy)

1. The Paris Agreement

Almost every country in the world signed a big contract called the **Paris Agreement**. The goal is to keep the global temperature from rising more than 1.5°C.

2. Renewable Energy

To stop using fossil fuels, countries are switching to "Green Energy."

- **Solar Power:** Using energy from the sun.
- **Wind Power:** Using big turbines to make electricity.
- **Hydro Power:** Using moving water.

3. Reforestation

Governments are starting to plant millions of new trees to help absorb CO₂ from the air.

Vocabulary Builder

- **Atmosphere:** The air around the Earth.
 - **Climate:** The general weather patterns over a long time.
 - **Emission:** Gas that is sent out into the air (e.g., from a car exhaust).
 - **Environment:** The natural world (plants, animals, water).
 - **Renewable:** Something that can be used again and again and never runs out.
 - **Sustainable:** Using resources in a way that doesn't hurt the future.
 - **Protect:** To keep something safe.
 - **Reduce:** To use less of something.
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Task 3: Key Terms (Gap Fill)

Fill in the missing word from the box below.

WORD LIST: emissions, climate, renewable, warming, fossil, atmosphere, sustainable, carbon, energy, melting

1. The Earth's _____ acts like a blanket that holds in heat.
2. Global _____ is caused by too many greenhouse gases.
3. Coal, oil, and gas are known as _____ fuels.
4. We need to reduce our CO2 _____ to help the planet.
5. _____ change describes long-term shifts in weather patterns.
6. Solar and wind are types of _____ energy.
7. _____ glaciers contribute to higher sea levels.
8. A _____ lifestyle helps protect natural resources.
9. Every person has a _____ footprint based on their habits.
10. Using _____ efficiently means using less of it for the same task.

Task 4: Concepts and Definitions (Matching)

Write the letter of the correct definition next to the term.

Term	Definition
1. Global Warming (___)	A. A potent gas from cows and landfills.
2. Methane (___)	B. The rise in Earth's average temperature.
3. Deforestation (___)	C. A resource that will eventually run out.
4. Recycling (___)	D. Cutting down large areas of trees.
5. Non-renewable (___)	E. Turning waste into new materials.
6. Sea Level Rise (___)	F. Using energy without wasting it.
7. Efficiency (___)	G. The result of melting polar ice.

Term	Definition
8. Ecosystem (___)	H. A community of plants and animals.
9. Mitigation (___)	I. Someone moving because of climate issues.
10. Climate Refugee (___)	J. Actions taken to reduce climate change.

Task 5: Sentence Completion

Finish the sentences using your own words or the lesson notes.

- To save electricity at school, students should _____.
- We can reduce air pollution by _____.
- Greenhouse gases trap _____ in the atmosphere.
- Plastic is a problem because it takes _____ to decompose.
- Using a reusable water bottle reduces _____.
- The ocean absorbs a lot of the world's _____.
- Solar panels turn _____ into clean electricity.
- When we recycle paper, we save _____.
- Climate change is a major _____ for the 21st century.
- Environmental awareness helps people _____.

Task 6: Environmental Decision Making

Which choice is the most eco-friendly? Circle A, B, or C.

1. Unplugging a charger when not in use:	A. Saves energy	B. Is useless	C. Breaks the charger
2. For a short trip to the park:	A. Take a taxi	B. Walk or cycle	C. Drive a car
3. Leftover food should be:	A. Thrown in the trash	B. Composted	C. Put in plastic recycling
4. Buying clothes:	A. Buy cheap/fast fashion	B. Buy durable items	C. Throw away old ones
5. Brushing teeth:	A. Leave the tap on	B. Turn the tap off	C. Use hot water only
6. In an empty room:	A. Leave lights on	B. Turn lights off	C. Open all windows
7. At the grocery store:	A. Use a cloth bag	B. Use two plastic bags	C. Use no bag at all

8. Using paper:	A. Use both sides	B. Print extra copies	C. Use a new sheet per sentence
9. A broken device:	A. Throw it away	B. Try to repair it	C. Buy a new one immediately
10. School project:	A. Start a recycling club	B. Use disposables	C. Ignore the rules

TEACHER'S ANSWER KEY: Global Warming

Task 1: Environmental Awareness (True/False)

1. **T**
2. **F** (It warms the planet)
3. **T**
4. **T**
5. **F** (They absorb carbon dioxide)
6. **T**
7. **F** (It is a global issue)
8. **T**
9. **T**
10. **F** (Individual actions are important)

Task 2: Environmental Concepts (Multiple Choice)

1. **B** (Carbon Dioxide)
2. **B** (Burning fossil fuels)
3. **B** (They may struggle to survive)
4. **C** (Solar Power)
5. **A** (They absorb CO₂)
6. **B** (A measure of your greenhouse gas impact)
7. **B** (To limit global temperature rise)
8. **C** (Large-scale agriculture)
9. **A** (A long period with no rain)
10. **A** (Future generations)

Task 3: Key Terms (Gap Fill)

1. The Earth's **atmosphere** acts like a blanket that holds in heat.
2. Global **warming** is caused by too many greenhouse gases.
3. Coal, oil, and gas are known as **fossil** fuels.
4. We need to reduce our CO₂ **emissions** to help the planet.
5. **Climate** change describes long-term shifts in weather patterns.
6. Solar and wind are types of **renewable** energy.
7. **Melting** glaciers contribute to higher sea levels.
8. A **sustainable** lifestyle helps protect natural resources.
9. Every person has a **carbon** footprint based on their habits.
10. Using **energy** efficiently means using less of it for the same task.

Task 4: Concepts and Definitions (Matching)

1. **B** (Global Warming — The rise in Earth's average temperature)
2. **A** (Methane — A potent gas from cows and landfills)
3. **D** (Deforestation — Cutting down large areas of trees)
4. **E** (Recycling — Turning waste into new materials)
5. **C** (Non-renewable — A resource that will eventually run out)
6. **G** (Sea Level Rise — The result of melting polar ice)
7. **F** (Efficiency — Using energy without wasting it)
8. **H** (Ecosystem — A community of plants and animals)
9. **J** (Mitigation — Actions taken to reduce climate change)
10. **I** (Climate Refugee — Someone moving because of climate issues)

Task 5: Sentence Completion (Suggested Answers)

Accept any answers that are grammatically correct and logically sound.

1. To save electricity at school, students should **turn off the lights and computers**.
2. We can reduce air pollution by **using public transport or carpooling**.
3. Greenhouse gases trap **heat/thermal energy** in the atmosphere.
4. Plastic is a problem because it takes **hundreds of years** to decompose.
5. Using a reusable water bottle reduces **plastic waste/pollution**.
6. The ocean absorbs a lot of the world's **carbon dioxide (CO₂)**.
7. Solar panels turn **sunlight/solar energy** into clean electricity.
8. When we recycle paper, we save **trees and forests**.
9. Climate change is a major **problem/challenge** for the 21st century.
10. Environmental awareness helps people **make better/greener choices**.

Task 6: Environmental Decision Making

1. **A** (Saves energy)
2. **B** (Walk or cycle)
3. **B** (Composted)
4. **B** (Buy durable items)
5. **B** (Turn the tap off)
6. **B** (Turn lights off)
7. **A** (Use a cloth bag)
8. **A** (Use both sides)
9. **B** (Try to repair it)
10. **A** (Start a recycling club)

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