

ACTIVITY LIBRARY — MIDDLE SCHOOL

A Deeper Dive Into Greenhouse Gases

A closer look at greenhouse gases and the greenhouse effect, with a personal-impact quiz and a take-action challenge.

Greenhouse gases (GHGs) are components of the atmosphere which trap heat on Earth. They act as a blanket around the planet, remaining in the atmosphere for a long time as they increase Earth's surface temperature. This process is called the greenhouse effect.

Through burning fossil fuels for daily use, humans contribute to the amount of GHGs surrounding Earth. This leads to global warming, which enhances the natural greenhouse effect and causes global temperatures to rise.

The main GHGs are typically identified as:

- Carbon dioxide (CO₂)
- Methane (CH₄)
- Nitrous oxide (N₂O)
- Water vapor (H₂O)

Global warming, and the greenhouse effect, have many important implications for humans and our everyday lives. According to the UN, climate change can affect our health, ability to grow food, housing, safety and work. Global warming is a key part of climate change and its related impacts, making it crucial for us to learn about it.

Connections to Your Life

For the following statements, circle Add or Reduce in order to determine if your actions add or reduce GHGs in the atmosphere.

- Riding your bike to school. Add or Reduce
- Using a reusable water bottle every day. Add or Reduce
- Eating beef. Add or Reduce
- Buying new clothes frequently. Add or Reduce
- Reducing the amount of time you spend showering. Add or Reduce

Reflect

Consider the impacts of global warming and climate change beyond those already mentioned. How may they impact those in lower-income communities, with less resources?

Write a short, 2-3 sentence paragraph about the impacts on climate change on those who can't afford to keep up with them.



Take Action

Come up with 5 ways in which you can take action to reduce greenhouse gas emissions in your community, and circle 2 you will focus on working towards.

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