

Lesson Plan

Who Releases the Most Greenhouse Gases

Length

one 45-minute period

Grade Level

High School

Learning Objectives

- Students will be able to compare and contrast different ways of measuring greenhouse gas emissions
- Students will be able to construct an argument about responsibility for climate change grounded in data about emissions

[Who Releases the Most Greenhouse Gases?](#)



[Who Is Responsible for Climate Change?](#)



[Handout](#)



Homework

- Read CFR Education | “Who Releases the Most Greenhouse Gases”
- Complete part 1 of the handout (attached)

Class

- **(10 minutes)** Divide the class into small groups. Ask students in each group to work together to fill out the table in part 2 of the handout.
- **(5 minutes)** Have groups share out their responses and work together to fill out a version of the table on the board.
- **(5 minutes)** Watch the video “Who Is Responsible for Climate Change” (3 minutes). Ask students to briefly summarize Modi’s argument.
- **(20 minutes)** Write-pair-share: ask students to write a short paragraph answering the prompt “how should world leaders decide how much each country should cut its emissions? Why that method?” Then, ask them to share with a neighbor, and ask their neighbor one question about the neighbor’s argument. Finally ask a few students to share their argument with the class.
 - If students need additional guidance, offer the following framing questions:
 - What is the fairest approach?
 - What is the most feasible approach? (i.e. what is the approach everyone will be most likely to agree to?)
 - Who can most afford to cut emissions?
 - Who is incurring the most costs from climate change?
- **(5 minutes)** Spend a few minutes to reflect as a group on the following questions:
 - Why is this question so difficult?

- Why is this question so important?

Homework (optional)

- Ask students to revise their argument and submit it as a short writing assignment.

Vocabulary

greenhouse gas

any gas that absorbs heat in the atmosphere and re-emits it back toward Earth, causing a warming effect.

emissions

refers to the amount of greenhouse gases an entity, such as a country or company, produces.

fossil fuels

hydrocarbon energy sources such as oil, coal, or natural gas.

Intergovernmental Panel on Climate Change (IPCC)

a group formed in 1988 by the United Nations Environment Program and the World Meteorological Organization to evaluate the scientific literature on climate change and provide reports to international policymakers.

industrialization

the process by which the balance of production shifts from agriculture toward manufacturing and industry.

Paris Agreement

a nearly universal international agreement reached in 2015 that requires signatories to offer concrete emissions reductions pledges, establishes rules to monitor their performance against those pledges, and sets up a process to review and increase the ambition of the pledges over time. The Paris Agreement's goal is to limit global warming by 2 degrees Celsius (about 3.6 degrees Fahrenheit) above pre-industrial temperatures.

greenhouse gases

gases that absorb heat in the atmosphere and re-emit it back toward earth, causing a warming effect.

Industrial Revolution

a transition, beginning in the eighteenth century, from small-scale, largely agricultural economies to more industry-intensive ones.