

Lesson Plan

# Climate Change: Coffee and Costs

## Length

one 45 minute period

## Grade Level

High School

## Learning Objectives

- Students will be able to articulate the costs of climate change to the economy and to food and water security.
- Students will be able to identify some of the impacts of climate change in their own community.

[Climate Change and the Coffee Industry](#)



[Protecting Global Food and Water Supplies in a Warming World](#)



[How to Address the Economic Costs of Climate Change](#)



[Handout](#)



## Homework

- Watch *Climate Change and Coffee Industry*.
- Read *Protecting Global Food and Water Supplies in a Warming World*.
- Complete the first two sections of the handout.

## Class

1. (5 minutes) Review homework as a class.
2. (15 minutes) Individually, or in groups, have students read *How to Address the Economic Costs of Climate Change* and fill out section 3 of the handout.
3. (5 minutes) Review students work. Compare the kinds of adaptations discussed in the two readings.
4. (15 minutes) In small groups, have students explore local news sources and identify:
  - Ways in which climate change is threatening food and water security.
  - Ways in which climate change is inflicting economic costs.
  - Adaptation strategies being used or considered.
5. (5 minutes) Wrap up by having students share (in a shared Google Doc, or by writing on the board) what they found. As a class, discuss:
  - How significant are these challenges in the community?
  - How well is the community taking steps to address these challenges?

# 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.

## ocean acidification

changes in the ocean's seawater chemistry caused by an increase of atmospheric carbon dioxide, which oceans absorb, altering marine ecosystems and disrupting ocean life.

## adaptation

term for the actions and strategies that aim to reduce the exposure of people and places to climate change's effects.

## World Bank

a multilateral financial institution created in 1944 that funds long-term economic development of low- and middle-income countries through loans and grants for policy reforms and for projects in infrastructure, health, education, governance, and other areas.

## supply chain

a network—consisting of individual producers, companies, transportation, information, and more—that extracts a raw material, transforms it into a finished product, and delivers it to a consumer.

## fiber optic cable

cable, made out of strands of glass as thin as hair, used to quickly transmit large volumes of internet traffic between locations all over the globe.

## 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.

## gross domestic product

a measure of a country's economic output determined by the value of goods and services it produces in a given year.

## inflation

what happens when prices continue to rise, meaning a country's currency is worth less than it was before because it can't buy as much (also known as a decline in purchasing power).

## mitigation

efforts to reduce or prevent emissions of greenhouse gases.