

Lesson Plan

Carbon Sinks and Sources

Book: *Using Carbon Sinks to Fight Climate Change*

Series: Fighting Climate Change with Science

Level: Navigator

Objective

To help students explain the relationships and interactions between carbon sources and carbon sinks by writing a short essay.

Supplies

- *Using Carbon Sinks to Fight Climate Change* book
- Whiteboard
- Paper and pencils

Before the Activity

Read the *Using Carbon Sinks to Fight Climate Change* book, or assign it to students to read on their own.

Activity

Using Carbon Sinks to Fight Climate Change explains how carbon is released into the atmosphere, how it affects the planet and atmosphere, and how it is stored. Write the following questions on the whiteboard:

- What are some ways carbon is released into the atmosphere?
- What are some things in nature that act as carbon sinks?

Divide students into groups of two or three. Give each group paper and a pencil. Have students work together to brainstorm as many answers as possible to both questions on the board. Give students several minutes to come up with their answers. Then come back together as a class.

Invite volunteers to share their group's answers. Use the following sample answers as a guide:

- carbon sources: burning fossil fuels, plowing fields, volcanic eruptions, cattle
- carbon sinks: plants, permafrost, grasslands, mangroves, limestone, peatlands

Next, ask each student to write a four-paragraph essay based on the book and discussion. First, the introduction paragraph should give a short summary of the carbon cycle. The second paragraph should describe three specific examples of carbon sources. The third paragraph should describe three specific examples of carbon sinks. For the concluding paragraph, students should explain why carbon sinks are important for the environment.

Evaluation

Collect the essays at the end of class. Give students up to 10 points, using the following system:

- 2 points for summarizing the carbon cycle in the introduction paragraph
- 1 point for each example of carbon sources listed in paragraph two
- 1 point for each example of carbon sinks listed in paragraph three
- 2 points for concluding by describing the importance of carbon sinks

Standards

This lesson may be used to address the Common Core State Standards' reading standards for informational text, grade 5 (RI 5.2, 5.3), and writing standards, grade 5 (W 5.2, 5.4).