

TREES & CLIMATE CHANGE



Contact K-12 Environmental Educator Vanessa Wyns at vanessa@canopy.org with questions regarding this lesson

TOPIC

Fitting within the NGSS 6th grade Integrated Instruction Segment "Effects of Global Warming on Living Systems," this lesson approaches the topic of climate change from the perspective of trees. Students learn how trees positively contribute to carbon storage, as well as how human actions like deforestation and the combustion of fossil fuels can accelerate climate change.

In the second part of this lesson, students follow instructions to measure a tree, discover the amount of carbon it stores, and compare this to how much carbon our daily activities release.



Students should take approximately **60-90 minutes** to complete this lesson, not including time spent for pre- and post-lesson material.

NGSS

This lesson addresses the following 6th grade NGSS Specific Learning Outcome:

MS-ESS3-5. Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century*

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Asking questions and defining problems.	ESS3.D: Global Climate Change (vocab.: human activities, greenhouse gases, fossil fuels, global warming).	Stability and Change

*The post-lesson material additionally addresses **MS-ESS3-3: Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.**

INSTRUCTIONS FOR TEACHERS:

DISTRIBUTE

1. Print a front and back copy for each student of the PDF "Student Material" or send your students the material electronically. It is possible to do the lesson in a notebook using the electronic material as reference.
2. Let students know that they will need the following materials to complete the lesson: long string, meter stick, activity pages (or notebook), pencil, marker, tape, and the assistance of one other person when measuring the tree.

EVALUATE

1. Either collect the finished activity pages to grade yourself, or send the provided answer key to students digitally (after allowing enough time to complete the lesson) and ask them to self-grade.

PRE- and POST-LESSON MATERIAL

Though this lesson can stand alone, it is advised to teach this lesson in conjunction with the provided pre- and post-lesson material. The pre-lesson material helps students reflect on their emotional response to climate change while introducing the historical background of how we got to this point. The post-lesson material empowers students to adopt a solutionary mindset by choosing a climate-friendly habit and tracking their experience doing it for a week.