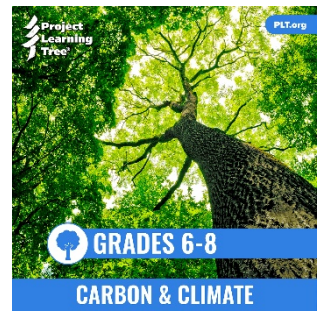




## Carbon & Climate E-Unit Grades 6-8

To get the e-unit, go to [shop.plt.org](http://shop.plt.org)



**Introduction:** This unit provides activities and resources to help educators and their students explore some of the complex issues involved in Earth’s changing climate. The introduction section was created to help teachers integrate this unit into their existing curricula. It contains the following chapter heads:

- Unit Approach
- Addressing Climate Change in the Classroom
- Flexibility Is Key
- Instructional Models
- Learning Progressions
- Lesson Planning Timeline and Tips
- Unit Organization and Navigation
- Unit Components
- Activity Components
- Pre- and Post-Assessments
- Online Quizzes
- Community and Career Connections

**Pre-Assessment** – This pre-assessment activity enables you to gauge students’ pre-existing attitudes and content knowledge on this complex and often controversial topic.

*(Time Considerations: 20-40 minutes; Setting: Classroom lesson, but try taking it Outside!)*

**Activity 1: What is Climate?** – Students explore the concept of climate as they examine global climate patterns and the relationship between temperature, precipitation, and the world’s forests.

*(Time Considerations: Two to three 50-minute periods; Setting: Classroom)*

**Activity 2: The Carbon Cycle** – Students model the movement of carbon atoms in the carbon cycle and explore the relationship between atmospheric carbon and plants.

*(Time Considerations: Two to three 50-minute periods; Setting: Classroom lesson, but try taking it Outside!)*

**Activity 3: Is It Only Natural?** – Students explore factors that have caused climate change in the past, analyze carbon dioxide levels over time, and construct a claim, supported by evidence and reasoning.

*(Time Considerations: Three to five 50-minute periods; Setting: Science Lab)*

**Activity 4: Climate Time Machine** – In this project-based activity, students explore the geologic history of a particular region of the world to see how past climatic changes have altered the landscape.

*(Time Considerations: Five or more 50-minute periods; Setting: Classroom or Computer Lab)*

**Activity 5: Are You a Bigfoot?** – After examining projections for different forest regions in the United States, students use a carbon footprint calculator to analyze their personal contribution to carbon dioxide levels in the atmosphere and design a solution for reducing their carbon footprint.

*(Time Considerations: Two or more 50-minute periods; Setting: Classroom or Computer Lab)*

**Post-Assessment** – After completing all unit activities, teachers can use this final post-assessment to determine students’ knowledge depth and content gains. Sample rubrics are provided.

*(Time Considerations: 20-40 minutes; Setting: Classroom)*

**Appendix** – The following appendices are included as a part of this e-unit.

- Standards Connections
- Additional Resources
- PLT Conceptual Framework
- Acknowledgements
- Technical Support