

PLT *Carbon & Climate E-Unit* Workshop Agendas

Place, Date, Time

(Suggested duration of 4 hours)

Note about these agendas:

- The “participant agenda” is the abbreviated, one--pager that is appropriate to share with participants. You may want to also share the purpose, participant outcomes, participant learning outcomes along with this snapshot agenda.
- The “detailed facilitator agenda” contains all the details that a workshop facilitator needs to deliver the workshop. This detail is important to ensure that all of the parts of the workshop contribute to meeting the intended participant outcomes.

Purpose: In this workshop, grade 6-8 educators will explore Project Learning Tree’s *Carbon & Climate E-Unit* and learn how to incorporate these activities into their lessons/activities with youth to inspire curiosity about the natural world.

Participant Outcomes

- Participants integrate *Carbon & Climate E-Unit* activities and resources into lessons, education programs, and other work with students.
- Participants use PLT activities to introduce students to climate science and its associated social, political, and environmental challenges.
- Participants use PLT activities to inspire students to learn about the natural world inside and outside the classroom.

Participant Learning Objectives

During this workshop, participants will:

- Navigate the layout and organization of PLT’s *Carbon & Climate E-Unit* for grades 6-8 educators.
- Discuss how the E-Unit activities can be used alone or as a learning progression throughout a school year.
- Identify how key features support their teaching using the 5E Instructional Model and connecting to Common Core, NGSS, and The C3 Framework.
- Articulate at least one way that using the environment can enhance their students’ learning outcomes.
- Plan a lesson or unit that incorporates the *Carbon & Climate E-Unit*, including the materials needed and how to get them, and identifying the steps required to use the activity with your students.

Suggested Pre-workshop Activities

- [Welcome to PLT online module](#)
- [Hike through the Website](#)

PLT *Carbon & Climate E-Unit* Workshop

Place, Date, Time

Participant Agenda

Before the workshop	Pre-Workshop Activities <ul style="list-style-type: none"> • Welcome to PLT online module • Hike through the Website
	Setup and Preparation
8:30 am (20 min)	Welcome and Introductions
8:50 am (25 min)	Hook Activity: The Carbon Cycle
9:15 am (30 min)	What Is an E-Unit?
9:45 am (15 min)	What About the Assessments?
10:00 am (10 min)	Break
10:10 am (40 min)	Another Activity from the E-Unit
10:50 am (10 min)	Benefits of PLT & EE
11:00 am (40 min)	Another Activity from the E-Unit
11:40 am (30 min)	Lesson Planning
12:10 pm (20 min)	Wrap Up and Evaluation
12:30 pm	Head home

PLT *Carbon & Climate E-Unit* Workshop Agenda
Place, Date, Time
Detailed Agenda (for use by facilitators)

Time and Preparation	Activity Details
<p>Intent: Be ready to focus on the educators as they arrive</p> <p>Who:</p> <p>Setup and Preparation</p> <ul style="list-style-type: none"> • Sign-in sheet, name tags • Markers, flip charts, easel • Computer & projector 	<p>Room Set-up</p> <ul style="list-style-type: none"> • Registration table with sign in sheet, name tags and markers, E-Unit access instructions (distribute these as participants arrive or during What Is an E-Unit?) • Set up resource table with materials for participants to look at • Set up computer and projector, check that everything is working (if needed)

<ul style="list-style-type: none"> • E-Unit access codes and instructions for signing on and viewing E-Unit • Parking lot on chart paper <p>Resource Table</p> <ul style="list-style-type: none"> • PreK-8 Activity Guide • Greenschools Investigations • Nature Activities for Families • Energy & Society kit • Secondary modules • State resources • ?? 	<ul style="list-style-type: none"> • Set up tables and chairs to facilitate communication as a whole group and as small groups. There should be plenty a space to get up and move between tables. • Check the outdoor spaces for activities, as needed • Check the indoor spaces in case of inclement weather • Group workshop materials in an organized way • Have supply bins ready and easily accessible • Post Outcomes and Agenda
<p>Intent: To create a safe and welcoming climate</p> <p>Time: 20 minutes</p> <p>Who:</p> <p>Supplies:</p> <ul style="list-style-type: none"> • Parking lot on chart paper • Blank chart paper for goals • ?? 	<p>Welcome and Introductions</p> <ul style="list-style-type: none"> • Review outcomes and agenda, ask for questions • Rule of two feet: take care of your needs away from group • Due to limited time, keep conversations on task. Reflection and discussion time is built into your day. • Honor the experience in the room • Use parking lot to post questions/idea/ concerns, will be addressed at end of workshop • Introduce facilitators • Invite participants to introduce themselves, including name, grade level, goal for participating in this workshop • Record goals on flip chart
<p>Intent: To hook participants' interest and establish relevance</p> <p>Time: 25 minutes</p> <p>Who:</p> <p>Materials:</p> <ul style="list-style-type: none"> • Cards cut apart from the Carbon Cycle Station Cards teacher pages • Six dice • Six carbon station labels • Carbon Pathway student page 	<p>Hook Activity: The Carbon Cycle</p> <p>Introduction: Referring to this activity's Background in the E-Unit, introduce the concept of the carbon cycle. Make sure participants understand the terms of carbon pool, carbon flux, carbon cycle, and carbon sequestration</p> <p>Doing the Activity:</p> <ul style="list-style-type: none"> • Conduct steps 2-8 in Doing the Activity <p>Debrief: (OFIS questions for Content and Teaching Applications) <u>Content</u> (pay attention to and address any misinformation):</p> <ul style="list-style-type: none"> • Open: What did you observe or notice as you engaged in this activity? • Focus: What key concepts did you learn about the carbon cycle? • Interpretive: What are some ways that the carbon cycle are affected by human and natural occurrences? • Summary: Why is it important to know about the carbon cycle?

	<p><i>Teaching Applications:</i></p> <ul style="list-style-type: none"> • Open: How would an activity like this work for your students? • Focus: How does this activity engage students in learning? What vocabulary was used? How are you meeting standards? • Interpretation: What are some ways you might modify this activity to use with your students this year? How would you handle misinformation? • Summary: What can you say about activities like this one as they relate to student learning? <p><i>Transition:</i></p> <p>This is activity #2, the Carbon Cycle, in the E-Unit. As you will see in a moment, the activity preceding this unit is designed to introduce key concepts used in this activity, and the three activities following it build on these concepts. The E-Units are designed to create a cohesive learning progression, but as you just experienced, each activity can also be used individually.</p>
<p>Intent: To model and practice navigating through the E-Unit, to familiarize participants with key features</p> <p>Time: 30 minutes</p> <p>Who:</p> <p>Supplies:</p> <ul style="list-style-type: none"> • Internet access • Mobile devices (BYOD) • Projector, screen or blank wall • Exploring Key Features of an E-Unit • Hike thru the E-Unit 	<p>What is an E-Unit?</p> <p><i>Introduction:</i></p> <p>This E-Unit is one of three new web-based units available from PLT. The other two E-Units are Tremendous Science for grades K-2 and Energy in Ecosystems for grades 3-5. These E-Units meet PLT’s rigorous standards for high quality educational materials and several activities can be found in both the electronic and print format. Activities in the E-Units offer several enhancements that are important to today’s teachers. These enhancements fall into three “big ideas”.</p> <ul style="list-style-type: none"> • Learning progressions, including pre- and post-assessments and activities that build conceptual understanding sequentially • Connections to Standards, embedded as highlighted and pop-up text, as well as used to design the activities • 5E Instructional Model, as an overarching framework for designing the activities and unit as a whole <p>We are going to look at the layout and organization of the E-Unit, keeping these three big ideas in mind.</p> <p><i>Doing the Activity:</i></p> <ul style="list-style-type: none"> • Referring to the E-Unit Access Instructions, lead participants through the process of using their codes to access the E-Unit on their mobile devices. Have extra

	<p>facilitators roam the room to troubleshoot with individuals.</p> <ul style="list-style-type: none"> • Distribute the Exploring Key Features of an E-Unit. Invite participants to take notes as you navigate through the E-Unit, making reference to the 3 big ideas • With the E-Unit projected onto a screen or wall, navigate through the main sections: Introduction, Activities, and Appendices. Give enough time to take notes on their worksheets, but do not go into too much depth, as participants will do this in small groups. Instead, point out the overall organization and big ideas to help them build a mental map of its design. • Distribute the Hike through the Carbon & Climate E-Unit • Instruct participants to divide into groups of 3. Each member will review one of the following: 1) Introduction, 2) Activities, or 3) Appendices and Navigation Quick Tips. Answer the questions on the hike worksheet. You will have approximately 5 minutes to answer the questions. • Instruct group members to take turns describing the sections they reviewed and at least one key takeaway. They should each plan to take about 3 minutes each to review their individual sections. <p>Debrief:</p> <ul style="list-style-type: none"> • Open: What did you observe or notice as you hiked through the E-Unit? • Focus: What new concepts or teaching strategies did you learn about? What about the design of the E-Unit makes it easier or more difficult for you to use? • Interpretive: What are some ways that the “big ideas” will support your classroom instruction? • Summary: What can you say about this E-Unit as it relates to classroom application? <p>Transition: Now that you know more about how the E-Unit is organized and the tools available to support you in using it, let’s look closer at the assessments.</p>
<p>Intent: To familiarize participants with the pre- and post-assessments, including their purpose, content, how to use them, and their relationship to the “Evaluate” tab</p> <p>Time: 15 minutes</p>	<p>What About the Assessments?</p> <p>Introduction: Assessment is embedded into the unit as pre- and post-assessment. It is also embedded into individual activities under the “Evaluate” tab (one of the 5 E’s). We will take some time to see how each of these tools work together in the E-Unit.</p> <p>Doing the Activity:</p>

<p>Who:</p> <p>Supplies:</p> <ul style="list-style-type: none"> • Pre-Assessment • Post-Assessment 	<ul style="list-style-type: none"> • Distribute the Pre-Assessment and invite participants to complete it. • Distribute the Post-Assessment and instruct participants to compare it to the Pre-Assessment. • Discuss these questions with participants: <ul style="list-style-type: none"> ○ How are the assessments similar and different? ○ How might you use them • Direct participants to select an activity and review the “Evaluate” tab <ul style="list-style-type: none"> ○ How do these assessment ideas relate to the Pre- or Post-Assessment? ○ How might you use them? <p>Debrief:</p> <ul style="list-style-type: none"> • Open: What else did you observe or notice about the assessments? • Focus: How do the assessments compare to what you use now? • Interpretive: How might the pre- and post- assessments help you use these activities as a unit during the school year? • Summary: What can you say about assessment tools and ideas as they relates to classroom application? <p>Transition: Now that you see how assessment is built into the design of the E-Unit, let’s experience another activity.</p>
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<p>Break, 10 min</p>	
<p>Intent: To model an activity, to share content knowledge about the concept of carbon and climate, to review all the parts of a single activity</p> <p>Time: 40 minutes</p> <p>Who:</p> <p>Supplies:</p> <ul style="list-style-type: none"> • ?? 	<p>Pick Another E-Unit Activity to Model (see 5½ hr Carbon & Climate agenda for ideas)</p> <p>Introduction:</p> <ul style="list-style-type: none"> • Insert Background information for selected activity. <p>Doing the Activity:</p> <ul style="list-style-type: none"> • Insert steps for conducting the activity. In general, the Explore and Engage steps of activities are best suited to doing in a workshop. • After conducting the activity, take time to review all the parts of the activity, paying attention to those steps that come before and after those that you modeled. Navigate participants through these steps on screen. <p>Debrief: (OFIS questions for Content and Teaching Applications) <u>Content</u> (pay attention to and address any misinformation):</p>

	<ul style="list-style-type: none"> • Open: What did you observe or notice as you engaged in this activity? • Focus: What key concepts did you learn about? • Interpretive: [Insert Q related to this activity that requires some interpretation, see samples above for ideas] • Summary: Why are the key concepts in this activity important to know about? <p><i>Teaching Applications:</i></p> <ul style="list-style-type: none"> • Open: How would an activity like this work for your students? • Focus: How does this activities engage students in learning? What was the vocabulary used? How are you meeting standards? • Interpretation: What are some ways you might modify this activity to use with your students this year? How would you handle misinformation? • Summary: What can you say about activities like this one as they relate to student learning? <p><i>Transition:</i></p> <p>Now that we have experienced two activities from the E-Unit and navigated around it, we'd like to let you know more about how PLT and EE can benefit you, your students, your school, and your community.</p>
<p>Intent: To encourage participants to use more of PLT's resources and to continue to engage with PLT in your state.</p> <p>Time: 10 minutes</p> <p>Who:</p> <p>Supplies:</p> <ul style="list-style-type: none"> • Internet access to PLT website, shop.plt.org 	<p>The Benefits and Resources of PLT and EE</p> <p><i>Introduction:</i></p> <p>Research shows that environmental education benefits students, schools, and the larger world. For students in particular, environmental education improves academic achievement, increases student engagement, breaks the indoor habit, and improves focus and cognition.</p> <p>National PLT offers lots of resources to help you embed environmental education in your classroom and school, including:</p> <ul style="list-style-type: none"> • PLT Website (navigate thru the site) • Additional Resources (model how to register) • PreK-8 Activity Guides • GreenSchools Investigations • Energy & Society kit • GreenWorks Grants • Online PD • PLT Store (navigate thru shop.plt.org)

	<p>At the state level, PLT is sponsored by [insert state sponsor info]. We are committed to supporting our PLT teachers in the following ways:</p> <ul style="list-style-type: none"> • Insert resources available • Insert programs available • ?? <p>Transition: Now that we have experienced two activities from the E-Unit, navigated around it, and learned how PLT and EE can benefit you and your students, let’s spend some time thinking about how you may implement this E-Unit in your classroom or educational setting.</p>
<p>Intent: To model an activity, to share content knowledge about the concept of carbon and climate, to review all the parts of a single activity</p> <p>Time: 40 minutes</p> <p>Who:</p> <p>Supplies:</p> <ul style="list-style-type: none"> • ?? 	<p>Pick Another E-Unit Activity to Model (see 5½ hr Carbon & Climate agenda for ideas)</p> <p>Introduction:</p> <ul style="list-style-type: none"> • Insert Background information for selected activity. <p>Doing the Activity:</p> <ul style="list-style-type: none"> • Insert steps for conducting the activity. In general, the Explore and Engage steps of activities are best suited to doing in a workshop. • After conducting the activity, take time to review all the parts of the activity, paying attention to those steps that come before and after those that you modeled. Navigate participants through these steps on screen. <p>Debrief: (OFIS questions for Content and Teaching Applications) <u>Content</u> (pay attention to and address any misinformation):</p> <ul style="list-style-type: none"> • Open: What did you observe or notice as you engaged in this activity? • Focus: What key concepts did you learn about? • Interpretive: [Insert Q related to this activity that requires some interpretation, see samples above for ideas] • Summary: Why are the key concepts in this activity important to know about? <p><u>Teaching Applications:</u></p> <ul style="list-style-type: none"> • Open: How would an activity like this work for your students? • Focus: How does this activities engage students in learning? What was the vocabulary used? How are you meeting standards? • Interpretation: What are some ways you might modify this activity to use with your students this year? How would you handle misinformation?

	<ul style="list-style-type: none"> • Summary: What can you say about activities like this one as they relate to student learning? <p>Transition: Now that we have experienced two activities from the E-Unit and navigated around it, we'd like to let you know more about how PLT and EE can benefit you, your students, your school, and your community.</p>
<p>Intent: To give participants time to plan for how they will use what they've learned and the E-Unit back in their classrooms.</p> <p>Time: 30 min</p> <p>Who:</p> <p>Supplies:</p> <ul style="list-style-type: none"> • E-Unit Lesson Planning Worksheet 	<p>Lesson Planning Time</p> <p>Introduction: To help you feel confident integrating environmental education into your classroom, please take the next 30 minutes to reflect on the needs of your students and how this E-Unit might be incorporated into your lessons. You may wish to use the entire E-Unit, or portions of it.</p> <p>Doing the Activity:</p> <ul style="list-style-type: none"> • Distribute planning worksheets to participants • Walk around the room, answer questions, and provide support to participants • Invite participants to share their lesson plans with others <p>Debrief:</p> <ul style="list-style-type: none"> • In what ways might the E-Unit change what you are already doing? • What do you need to do with your students before introducing the E-Unit or activities? • Do you foresee any challenges in integrating the entire E-Unit into your curriculum over the course of a year? What might you do to overcome these challenges? <p>Transition: Planning is an ongoing process. We hope you continue to explore PLT's <i>Carbon & Climate E-Unit</i> and share ideas with your colleagues.</p>
<p>Intent: To invite any final questions or concerns, and to collect participant feedback</p> <p>Time: 20 minutes</p> <p>Who:</p> <p>Supplies:</p> <ul style="list-style-type: none"> • Workshop Certificate • Participant Information Form • PD Evaluation Form 	<p>Wrap-Up and Workshop Evaluation</p> <p>Let's take a few minutes to review our intended outcomes and your goals for today. How well did we address them?</p> <p>Now let's look at the parking lot for any remaining questions or comments. Are there any others?</p> <p>Thank you for participating in today's workshop! PLT values your feedback and would appreciate you spending five minutes to complete a workshop evaluation.</p> <ul style="list-style-type: none"> • Distribute forms to participants.

- [Photo and Video Release](#)

- Hand out workshop certificates as forms are turned in