

Summary of Keystone Lesson on Climate Solutions & Justice Middle School Version

LESSON TYPE: The Keystone Lesson introduces students to the Portland and Multnomah County 2030 climate goal and the solutions in our region's Climate Action Plan, and highlights opportunities for continued learning and involvement in projects in their schools. The lesson can be taught in person or online.

SUMMARY: This interactive lesson introduces students to our region's 2030 climate goal, strategies, and plan. Students gain a basic understanding of the range of climate solutions in our region and learn more about our systematic approach to reduce greenhouse gas emissions and sequester carbon. The lesson is open source, and you can adapt it and the presentation toolkit (slides, exercises, and assessment).

If you need help, contact SAGE at Melanie@WeAreSage.org or call 971-717-6570. The final slide that accompanies the lesson includes information about the Vision 2030 Team that produced the lesson. SAGE facilitates this team and can field questions.

LESSON GOAL: To help students learn about our region's climate goal and visualize the climate solutions in our region and get them involved in those solutions.

SPECIFIC OBJECTIVES:

1. Students can identify collective actions that reduce reliance on fossil fuels and greenhouse gas emissions.
2. Students are made aware of climate justice (fairness) issues, and how those can be addressed in reducing or counteracting emissions.
3. Students develop and/or choose service-learning projects at their schools which would reduce or help counter emissions.

STANDARD ADDRESSED:

MS-ESS 3-3. Earth and Human Activity
Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.

MATERIALS AVAILABLE:

1. Keystone Lesson slide deck and notes
2. Activity slides (can be displayed on screen for online version)
3. Student Response Sheets (can be distributed in advance of lesson)
4. Additional service-learning projects

OUTLINE OF LESSON

This lesson is intended to last 45 minutes that include an opening presentation, discussion, an activity (can be done as a group or in small groups), and a concluding presentation. Student engagement and

discussion is a priority. The lesson is also available as two 30 minute presentations.

Here is a roadmap to the use of the slides.

Introduction slides

Timing: About 8 minutes for presentation and discussion of basic climate change causes and effects, and the local climate goal and plan for countering emissions.

Climate Justice slides

Timing: about 3 minutes for discussion of what climate justice is and how to recognize issues.

Climate Action slides

Timing: about 4 minutes to introduce and discuss the regional strategies and plan, some solutions, and progress to date.

Identifying emissions slide

Timing: about 3 minutes for students to identify sources of emissions in a school or neighborhood.

Identifying solutions slides

Timing: About 15 minutes, including time for students to respond to their topic and present to the reconvened class. (This activity can also be done by the entire class, addressing only one or two of the five solution areas.)

Students divide into 5 breakout groups to explore ways to reduce emissions or respond to climate change in (1) the built environment and energy, (2) transportation, (3) consumption, (4) food and agriculture, and (5) tree canopies and natural systems. Students will discuss their answers with peers and record them on their Student Response Sheet. When the whole class reconvenes, students have a chance to share their responses.

The following slide sections are resources for each group or they can be used by the presenter to recap some solutions.

- School Buildings and Energy
- Transportation
- Consumption and waste
- Food and Agriculture
- School grounds

Wrap-up Slides

Timing: About 5 minutes for review and discussion of the steps involved in the life of a piece of cotton clothing, from cotton field to garbage dump, and which parts of the climate plan are affected.

Project invitation

Students can suggest which projects to tackle at their school, and the presenter can also share examples of service-learning projects in the toolkit (website under development) that would be appropriate for students to implement in their schools.

Takeaway slide (if needed)

Timing: about 3 minutes for the presenter to recap key points, and get a sense for what students learned. Presenters can do so by asking students to share out loud some things they learned from the lesson

SAGE Slide

How this lesson came to be.

ABOUT VISION 2030:

The SAGE Vision 2030 Team offers a local, placed-based approach to educate middle and high school students about the Portland metropolitan region's efforts to reduce greenhouse gas emissions 50 percent from 1990 levels by the year 2030. The Team develops locally relevant lessons on climate

solutions, service-learning offerings, and information about workforce opportunities.

Learn more about the Team at
www.WeAreSage.org/vision2030