Climate Science & FOOD SYSTEMS

climate kids traveling trunk

art • storytelling • science
climate kids

CLIMATE SCIENCE ALLIANCE

The Climate Science & Food Systems Traveling Trunk contains the resources and lessons needed for educators to help students gain a better understanding of how climate change is impacting the food system on a regional level, how climate-smart agricultural practices can help offset the impacts of climate change, and the role we play at the intersection of climate, food, and agriculture. The hands-on science activities, storytelling, and art materials in this trunk specifically target students from lower Elementary through High School based on Next Generation Science Standards, and can be adapted for most K-12 classroom settings and grade compositions. Using real data that is regionally-specific, the activities in this trunk will bring to life the importance of the carbon cycle and photosynthesis, help students investigate the role climate change plays in plant cultivation, and help them understand the suite of climate-smart agricultural practices that help sequester carbon in the soil and offset the impacts of climate change. Most importantly, students will work to develop their own solutions to help reduce impacts of climate change in their communities and help support a thriving food system.

overview

Grade Level: Lower Elementary, Upper Elementary, Middle School, High School

Subject Areas: Science, Public Health, Fine Arts, Language Arts

Components and Duration:

- Components: Part I (Science); Part II (Storytelling); Part III (Art)
- Duration: Preparation and activity times for the Food Systems Module depend on chosen activities, age level, and classroom size. Curriculum can be adjusted to meet educator's needs.

Setting: Classroom, Local Garden, Field Trip Sites (reach out to info@climatesciencealliance for our list of recommended field trips!)

Vocabulary: Agriculture, Aquaculture, Biodiversity, Carbon, Carbon Cycle, Carbon Dioxide (CO_2), Carbon Sequestration, Climate, Climate Change, Compost, Composting, Ecosystem, Food System, Fossil Fuel, Greenhouse Gases, Local Food, Methane (CH_4), Nitrogen (N_2), Nutrient,

Organic Matter, Oxygen (O2), Pesticides, Photosynthesis, Soil, Soil Erosion, Sustainable, U.S. Department of Agriculture (USDA), U.S. Food and Drug Administration (FDA)

Essential Question: How does our changing climate impact the food system?

Summary: While participating in the Climate Kids activities of art, science and storytelling, students will gain an understanding of how climate change is impacting the food system on a regional level, how climate-smart agricultural practices can help offset the impacts of climate change, and the role we play at the intersection of climate, food, and agriculture.

Learning Objectives:

After completing this module students will:

- Understand the importance of the carbon cycle, how we have altered it, and what this means for our changing climate.
- Explain the basic tenets of photosynthesis and the role plants play in the carbon cycle.
- Understand the regional climate impacts on our food system and what this means for agriculture and aquaculture.
- Perform a class experiment to demonstrate the impacts of changes in temperature and precipitation on plants.
- Understand the suite of climate-smart agricultural practices that help sequester carbon in the soil and offset the impacts of climate change.
- Develop solutions to reduce impacts of climate change in our community and help support a thriving food system.
- Create and design community artwork to portray solutions and tell the story.
- Understand how climate change impacts the food on our plate.

what's inside

Climate Change Primer:

- Heat Trapping Blanket Demonstration
- The Incredible Carbon Cycle Game
- Greenhouse Gas Game
- Climate Kids "10 Things" Poster

Regional Climate Impacts Module:

- Regional Climate Impact Pocket Guide
- Regional Climate Impacts Activity

- Climate Kids “10 Things to Help Give Wildlife a Break” Poster

***Food Systems Module**:*

- Understanding the Carbon Cycle
- Plant Inquiry
- The “Roll” of Climate Impacts on the Food System
- Growing Seeds Experiment
- Be Water Aware
- Shell Building Game
- Carbonate in Acidic Conditions
- Carbon Cafe Demo
- Climate Smart Practices
- Monitor Your Climate FoodPrint
- Create A Climate Smart Cook Book
- GreenEarth Catch

***Science**:*

- Food System Posters
- Observation Sheets and Worksheets
- Thermometer
- Carbon Cafe Cubes
- Cups
- pH Test Strips
- OA Blocks and Shells
- Magnifying Glasses
- GreenEarth Ball

Storytelling Books:

- Diet for a Changing Climate
- The Omnivore’s Dilemma
- Medicinal Plants Used by Native American Tribes in S. Cal
- Cooking the Native Way
- Plate Full of Color
- Tricky Treats
- Buried Sunlight
- The Wondrous Workings of Planet Earth
- The Problem of the Hot World
- Fry Bread: A Native American Family Story
- We are the Gardeners

- Before We Eat: From Farm to Table
- Here Now, Gone Tomorrow
- Resilient Roots Climate Cookbook

Art Ideas:

- Craft Examples
- Climate Kids Coloring Book

Activities, Resources & Worksheets:

- Teacher Curriculum Binder

Tribal Perspectives:

- Tribal Climate Educational Repository
- Tribal Perspectives Children's Books
- Kumeyaay Curriculum and Teacher Guide

Regional Impacts:

- San Diego Ecosystems Assessment
- Pocket Guide
- Regional Impacts Game Cards
- 10 Things for Wildlife Poster

Beyond the Classroom Activities:

- Field Trip Opportunities
- Class Projects Ideas
- Climate Kids Ambassador Information
- Volunteer Opportunities