

EVERY ACTION MATTERS

CLASSROOMS TAKE CHARGE

Service-Learning Lesson Plan

Project: Klamath Falls Take Charge!

Author: Mark Ferrara at EagleRidge High in Klamath Falls, OR

Project Overview: The focus of our project was helping Earth, on days other than Earth Day. The students did parts of the Carbon Time Unit then made posters urging Klamath Falls residents to visit the Take Charge website.

Learning Objectives

Students should learn to answer the Carbon Pools Question, the Carbon Fluxes Question, and the Energy Question in three important contexts:

1. At the macroscopic scale, they relate our economic activities and lifestyle choices to carbon-transforming processes, especially combustion of fossil fuels. Students should understand both activities that directly use fossil fuels (e.g., driving a car) and activities that indirectly use fossil fuels (e.g., using electrical appliances or buying products that require fossil fuels for manufacture and transportation).
2. Relating local systems, actions, and choices to global effects and outcomes, particularly increasing concentrations of carbon dioxide in the atmosphere.
3. Relating changes in global carbon pools (the atmosphere, biomass, soil organic carbon, and organic carbon in fossil fuels) to the balance of fluxes of carbon between these pools.

Subject Areas: Earth Science

Grade Levels: 10th

Materials Needed:

- Computers, printing supplies, and digital cameras.

Key Partners:

- Klamath Sustainable Communities: The President of KSC emailed their list of members with the request to visit the Communities Take Charge website
- Oregon Institute for Technology: The head of the Civil Engineering department at OIT emailed request to visit the Communities Take Charge

Time Required to Complete Project:

- Five weeks

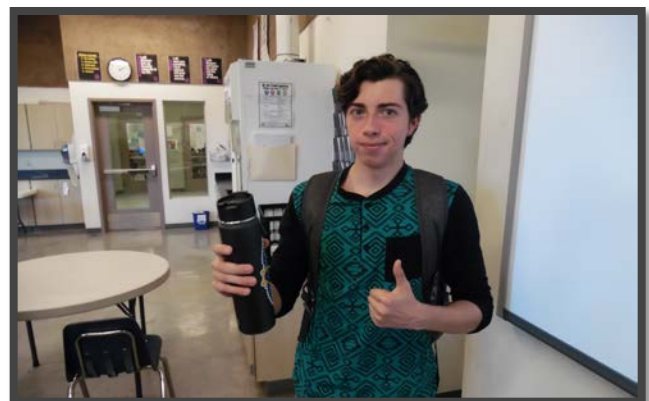


Photo: Jon Leon is showing how easy it is to use a reusable mug.

How were the learning objectives evaluated?

We used the Carbon TIME materials and focused our efforts on the questions and material in the post-test.

Service Objectives

1. Encourage each student to make at least one change in their own behavior that will reduce their carbon emissions.
2. Have the student convince their friends and family to make a change in their behavior that will reduce their carbon emissions.

How were the service objectives evaluated?

Through participation in the project and in-class discussions.

Human Energy Systems Units Used (For lesson plans visit: carbontime.bsccs.org)

Activity 1.1 Human Energy Systems Unit Pretest

Activity 1.2: Graphing Arctic Sea Ice

Activity 3.1 Millions of Flasks of Air

Activity 3.2 The CO₂ Trend: Your Ideas about the Keeling Curve

Activity 4.1 Finding the Carbon

Activity 4.2 The Organic/Inorganic Swap

Activity 5.3 The Upward Trend

Activity 6.2 Extreme Makeover: Lifestyle Edition

Lessons & Activities (See below.)

- Take Charge Project Rubric – Did You Know?
- Sample “Did You Know” Posters
- Take Charge Project Rubric – Earth Day 2016
- Sample “Do Something” Posters

Project Milestones

- We brainstormed as a class on the most effective ways to reach a large number of people in our community (Late March and Early April)
- Earth Science Class made posters urging people to join the Communities Take Charge website (mid April)
- Earth Day - sent out mass emails and post website on our homepage and Facebook page (April 22)



Photo: Melissa McGuire is demonstrating turning off the lights as she leaves the room.

Rubric: Klamath Take Charge - Did you know?

DQ: How can the resident of Klamath Falls reduce their carbon dioxide emissions?

Did You Know? Poster

Criteria	%	Proficient	Advanced	Exemplary
Scientific Content and Requirements	80%	<p>Poster contains a large "Did You Know?" at or near the top of the poster</p> <p>One behavior from the Communities Take Charge website with annual, (monthly savings X 12) carbon dioxide savings. Examples:</p> <ul style="list-style-type: none"> Installing low flow faucets can prevent 72 pounds per year of carbon dioxide from being emitted into the atmosphere. Composting yard debris can save 84 pounds of CO₂ from entering the atmosphere every year Properly inflating your tires can reduce your annual carbon emissions by 336 pounds. <p>A call to action to go to the Communities Take Charge Website, like:</p> <ul style="list-style-type: none"> Learn more this and other carbon saving actions by going to the Communities Take Charge Website: communitiestakecharge.org Make a difference here in Klamath Falls today by going to the Communities Take Charge Website: communitiestakecharge.org Reduce your carbon footprint by going to the Communities Take Charge Website: communitiestakecharge.org If you care about climate change, make a change for the better by going to: communitiestakecharge.org <p>A picture of the action</p> <p>Contains text: Made by Students and EagleRidge High and an EagleRidge logo</p>	<p>Poster is easy to read and eye catching</p> <p>Poster has a behavior that most people can do</p> <p>Poster is free from all grammatical errors</p> <p>Images are of high quality and correct image ratios</p> <p>Background does not distract from the content</p> <p>All text is easy to read (think contrast)</p>	<p>Poster is professional quality in all aspects</p>
			56.....60.....63	64.....68.....71
File Details	20%	<ul style="list-style-type: none"> 8.5 X 11 paper size Save and submitted as a PDF File size is less than 5MB 	<ul style="list-style-type: none"> Same is proficient 	<ul style="list-style-type: none"> Same is proficient
		14.....15	16.....17	18.....20

DID YOU KNOW THAT...

If you use curtains and blinds to keep heat in you can save 1848 pounds of Carbon Dioxide per year



Make a difference here in Klamath Falls today by going to the Communities Take Charge Website: communitiestakecharge.org



Made by the students of EagleRidge High School

EagleRidge High School

Earth Day 2016 Poster

Criteria	%	Proficient	Advanced	Exemplary
Scientific Content and Requirements	80%	<p>An original image that represents Earth Day 2016</p> <ul style="list-style-type: none"> Hint - think of the Pi Day shirts as examples - be original <p>Date of Earth Day - April 22, 2016</p> <p>Call to Action this Earth Day:</p> <p>Examples:</p> <ul style="list-style-type: none"> Doing something to help the Earth! Go to the website: communitiestakecharge.org Do your part this Earth Day learning simple ways to reduce your carbon footprint at Communitestake Charge: communitiestakecharge.org Help Klamath Falls to Help the Earth by going the Comminites Take Charge Movement at: communitiestakecharge.org Stop thinking about doing something. Make a lasting habit that will make the Earth a better place by visiting the Comminites Take Charge website at communitiestakecharge.org <p>Contains text: Made by Students and EagleRidge High and an EagleRidge logo</p>	<p>Poster is easy to read and eye catching</p> <p>Poster has a behavior that most people can do</p> <p>Poster is free from all grammatical errors</p> <p>Images are of high quality and correct image ratios</p> <p>Background does not distract from the content</p> <p>All text is easy to read (think contrast)</p>	<p>Poster is professional quality in all aspects</p>
		56.....60.....63	64.....68.....71	72.....75.....80
File Details	20%	<ul style="list-style-type: none"> 8.5 X 11 paper size Save and submitted as a PDF File size is less than 5MB 	<ul style="list-style-type: none"> Same is proficient 	<ul style="list-style-type: none"> Same is proficient
		14.....15	16.....17	18.....20



GET UP!



**Do something to help the earth
this Earth Day**

Go to communitiesstkecharge.org



EagleRidge High School

Made by Students at EHS