



Humanities and the Sunshine State

What Sustains Us?

Florida Ecosystems in an Era of Rapid Change

University of Florida 20-24 June, 2016

ACTION PLAN TEMPLATE

Teacher(s):

John Dickinson

Grade(s):

9-12

Subject(s):

Honors Biology (9); AP Biology (10-12); Honors Anatomy/physiology (11-12);

Title of Lesson:

AP Env. Science (11-12)

Carbon Neutralization and You

Learning Objectives:

To correlate our personal standards of living to CO₂ emissions (our carbon "footprint") and then to compare that to the C sequestration of another organism (a forest tree)

Standards Addressed:

I don't know - we pay no attention to standards in our school

Lesson Outline:

I would use 2 activities in the SFCC workbook we received at the systems workshop at Austin Cury Forest. This would involve 1 activity (p. 157) where a student would go to a website (nature.org/greenliving) to generate a personal carbon "footprint" based on responses to questions about their homes, diets, vehicles, travel, utilities, etc (= standard of living index). The second activity would involve calculating the carbon stored in a long-leaf pine (the activity involving DBH of the tree and angles to its top and bottom from some distance from the tree. This would allow some appreciation for

what is necessary from the environment to balance our carbon emissions, i.e. how many big pines need to balance my annual C production

Systems thinking connection (learning habits and/or tools used):

what inputs contribute to each of
our carbon "footprints"? Diagram a systems model for a
forest to assess impacts of ~~both~~ both human &
environmental influences

Learning Strategies:

Science Concept(s):

Some math applications in the tree activity
Quantification of personal carbon
Recognition of cause and effect related to lifestyle & carbon
footprint

Humanities Concept(s):

Ecosystem modeling

Standard of living as a factor in climate change (= consumerism)

Anthropogenic contributions to climate

Role of population ($N \times \text{carbon footprint} = \text{total C}$; deforestation;
etc)

Student Assessment Strategies:

Tree C sequestration activity

Individual C "footprint" - score for thoroughness

Benefit to my students:

Have each student reflect on personal changes that
would reduce ~~their~~ their C emissions

Resources and Materials (supplies needed for activities):

recommended
website

National Tree
Benefit Calculator