



UNA-SA Global Climate Change

Activities: Activities are planned consecutively: an optional precursory DVD on effects of climate change, a main lesson presented in a PowerPoint with Q & A session with students receiving a 30 page Student Handbook that elaborates on the main lesson. Classroom follow up activities include a lab experiment on Green House Effects, a Portrait Carbon Footprint Calculator for middle school students, and a Panoramic Carbon Footprint Calculator for High School students. Carbon calculators can be assigned as out of classroom homework as well.

Timeframe: DVD: 23 minutes, PowerPoint with Q & A: 1 hr, lab: 2-6 hrs, and calculators: 1.5 hrs.

Performance / Learning Objectives:

1. Name the major source of and timeframe of occurrence for global warming.
2. Distinguish global climate change as from natural climate change and name three sources of evidence.
3. Identify changes in three natural systems: glaciers, the hydrological system, and the ecological cycle.
4. Identify two types of greenhouse gases that have grown as a result of human activities.
5. Identify three possible risks of extreme weather events related to the impacts of climate change.

Standards: This presentation meets the Arizona State Academic Standards for High School students. The standards include: Earth and Space Science, Inquiry process, History and Nature of Science, and Science in Personal and Social Perspectives

Climate Change Curriculum

Lesson I: Global Climate Change

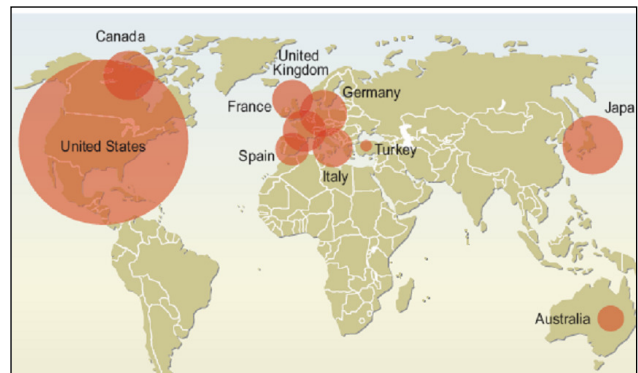
I. Observed Changes in Climate and Their Effects

II. Causes of Change

III. Adaptation and Mitigation Options

IV. The Long Term Perspective

United Nations Association of Southern Arizona,
a Chapter of the United Nations Association of the United States of America



Panoramic Carbon Footprint Calculator High School

Berkley Institute of the Environment: www.bie.berkeley.edu/calculator_swf

6. Emissions Summary (tons CO2/yr)				
	World Average	U.S. Average	Similar U.S. Households	Your Household
Transportation	3	14	17	17
Housing	3	14	15	15
Food	1	7	7	7
Goods	1	4	5	5
Services	1	3	5	5
Total	8	42	49	49

Your Footprint: 49 tons CO2/yr

metric tons CO2

■ direct ■ indirect

How do you compare to other households?
Sorry, you emit 116% of similar US households, and 580% of the global average.

Your emissions are equivalent to:
113 barrels of oil planting & managing 9 acres of forest
More equivalencies

save & load scenarios on your computer More info

How do you compare to the averages?

Your Household
Similar U.S. Households
U.S. Average
World Average

■ Transportation
■ Housing
■ Food
■ Goods
■ Services