



Seventh Grade Science

7th Grade Science: Activity 4

How Does Human Activity Impact Global Climate?



Page 1

Directions: This handout goes with a KCS Teacher Video. If you have access to the video, watch the video before doing this activity. You can find the videos here <https://www.knoxschools.org/Page/21816>

The Greenhouse Effect:

- 1) Write down a few things that we now know about **greenhouse gases**.
 - a. Give an example of a greenhouse gas.
 - b. Why are they called “greenhouse” gases?

- 2) Write down a few things that we now know about **fossil fuels**.
 - a. How are they formed?
 - b. Where are they found?
 - c. What are they used for?
 - d. Give some examples of fossil fuels.

- 3) What does “**global warming**” mean? What are some problems caused by global warming?

- 4) What are some effects of global warming?
 - a)
 - b)
 - c)

5) What does this graph show us?

a. Which country produced the greatest amount of carbon emission worldwide?

b. Which country produced the least?

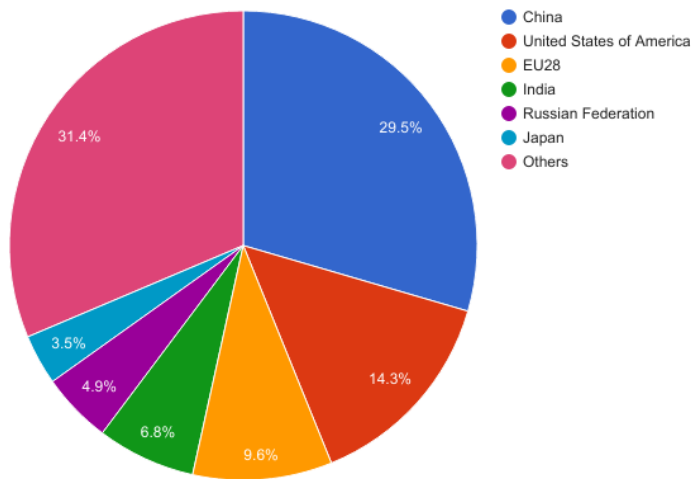
China: 29.5%

US: 14,3 %

EU (European Union)
9.6%

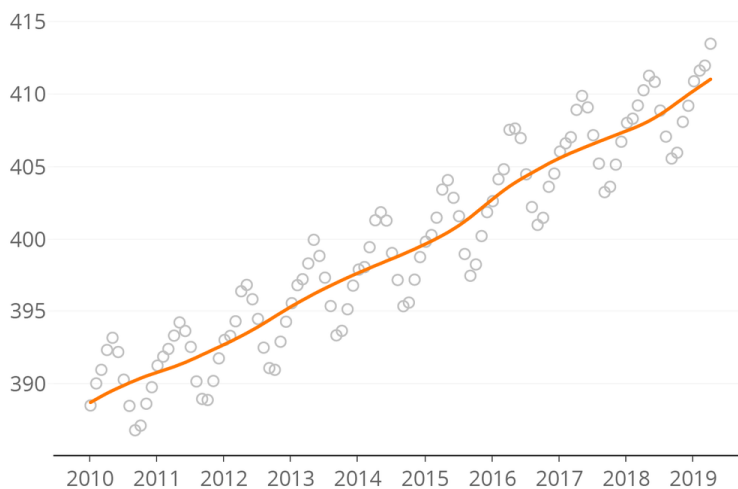
India: 6.8%

Total Carbon Emissions By Country



Keeling to the ceiling

Atmospheric carbon dioxide, parts per million



Source: Scripps CO2 Program

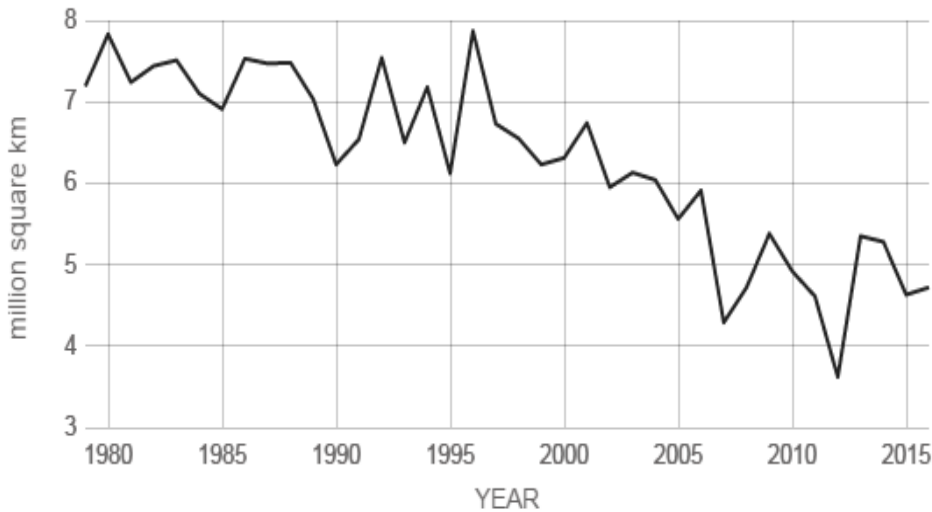
grist

You will use this graph to answer question 6 on the next page.

6) Use the Keeling to the Ceiling graph to answer the questions below:

- a) What is the level of atmospheric CO₂ in 2010: _____ppm (parts per million)
- b) What is the level of atmospheric CO₂ in 2019: _____ppm
- c) What is the rate of change over 10 years? _____ppm per year
- d) Estimate the rate of atmospheric CO₂ in 2024: _____ppm

7) During which 5-year period was there the highest amount of Arctic ice? During which 5-year period was there the least?



Most:
Least:

Based on other graphs and information in this presentation, what could be the cause of these changes in the amount of sea ice as shown in the graph above?

8) Complete the following chart:

What evidence would you use to argue that humans need to reduce their consumption of fossil fuels as soon as possible?

What evidence would you use to argue that human impact on the environment is overstated and that climate change is the result of natural, and not human, factors?
