

Program for Younger Kids (to be used with Air Pollution slideshow)

Ask: What is air pollution? (Answer: Air pollution is when too much dirt, smoke, or gases get into the air.)

Ask: What are some ways that the air can get polluted/dirty? (Answers: cars, buses, factory smoke, smoke from wildfires)

Ask: Can you see air pollution? (Answer: yes, sometimes you can see black smoke coming from a car or truck. Also, in the air it will sometimes look hazy)

Possible Activity: Take 2 glasses of water; add 1 teaspoon of baking powder to one glass to show what air pollution can look like. It looks hazy.

Ask: Do you think the air that looks like the hazy glass is bad for people? Why? (Answer: It makes it more difficult to breathe, it is bad for your health/lungs, especially when you are more active)

Ask: Now we know that we can see air pollution, but can you smell air pollution? (Answer: yes! If you have ever walked by a car or bus that has been sitting while it's turned on, you could probably smell the fumes from its back pipe!)

Possible Activity: Let's see how being active affects our breathing! Have half of the class breathe normally for 30 seconds. Tell them to count each time they take a breath in until you say stop. After the 30 seconds, write down how many breaths each child took. Next, have the other half of the class jump up and down for 30 seconds. When you say stop, have them count how many breaths they take in 30 seconds and write it down.

Ask: Did the class breathe faster when they were sitting still or when they were active? (Answer: active)

Ask: What might happen if they were jumping up and down on a hazy day or while standing near smoke? (Answer: it might make them cough, it might be harder to breathe)

Ask: So we know that air pollution is bad for our bodies, but do you think air pollution is bad for the environment too? (Answer: Yes)

Ask: What are some ways the environment is affected by air pollution? (Answers: it can get into the water and hurt fish and wildlife, it can get into the soil and hurt trees and plants and even destroy farm crops, it can pollute our air and cause global warming)

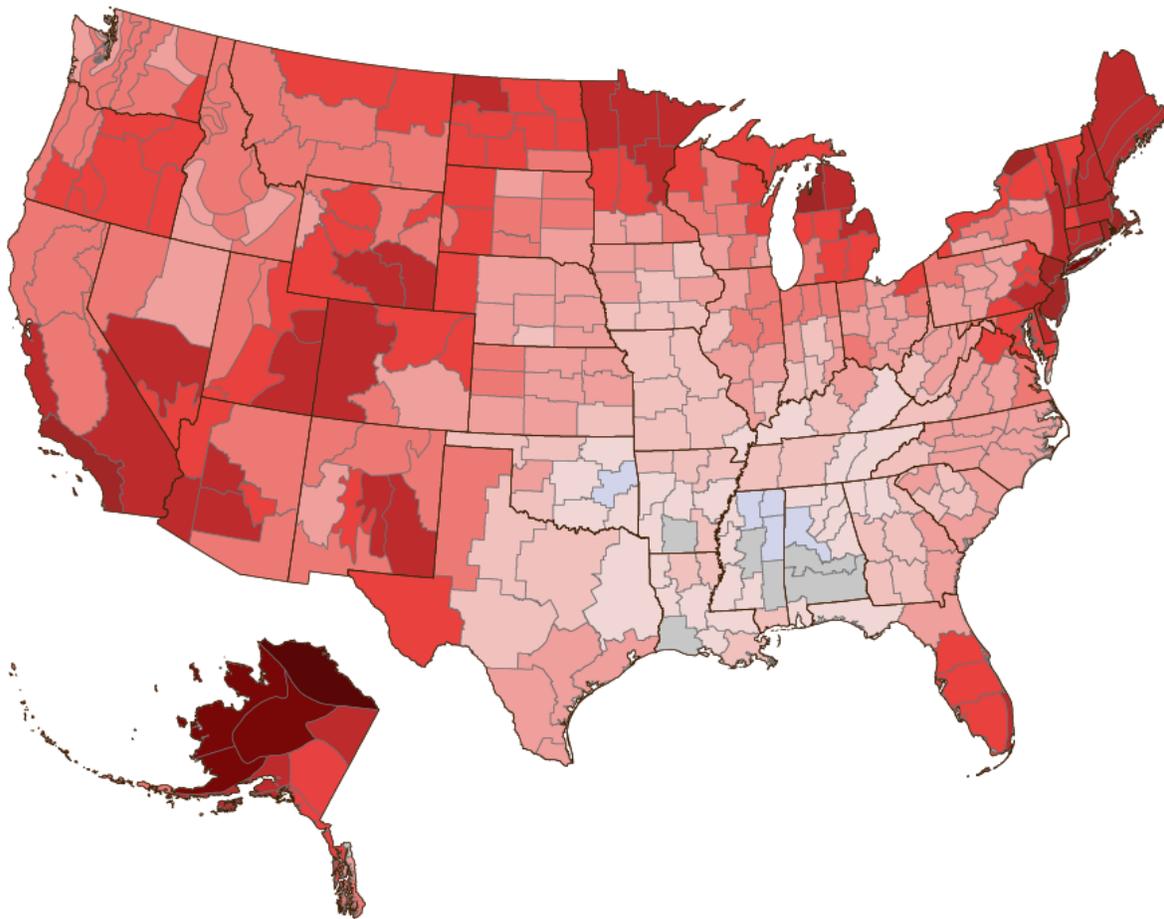
Ask: Has anyone heard of global warming?

Explain: Global warming is exactly what it sounds like: the "globe" or whole Earth gets warmer and warmer from this air pollution. Sometimes you will hear this called "climate change". Our climate just means the normal temperature outside. One of the biggest causes of global warming or climate change is something called the greenhouse effect.

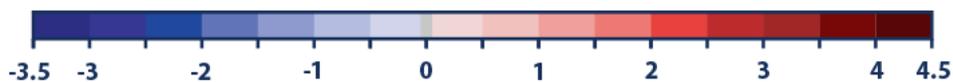
Ask: Does anyone know what a greenhouse is?(Answer: a glass building where plants are grown to keep them warm and safe from the weather)

Explain: The Earth's atmosphere is like a big greenhouse for all of us! It keeps the warmth of the sun trapped in so we stay comfortable. Without it, we would all be frozen! But there is one problem: pollution. All of that smoke that we create from factories and driving cars, trucks and buses has something called carbon dioxide in it, and all of that extra carbon dioxide gets trapped in our big Earth greenhouse and causes it to get hotter.

This map from the EPA (Environmental Protection Agency) shows how temperatures have risen in the United States:

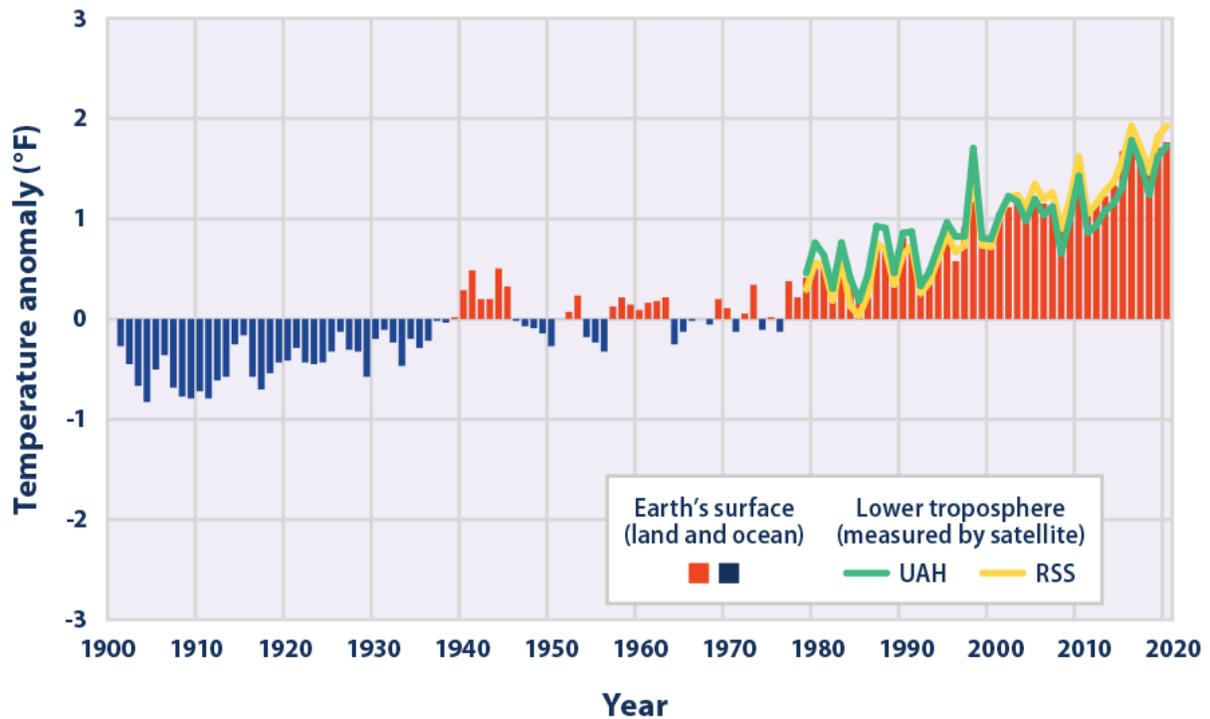


Rate of temperature change (°F per century):



Gray interval: -0.1 to 0.1°F

The chart from the EPA shows world temperatures:



Explain the charts and how temperatures continue to get higher each year.

Ask: Does anyone have allergies from going outside at certain times of year?

Explain: Studies are showing that pollen-producing plants—especially ragweed—grow larger and produce more pollen when you increase the amount of carbon dioxide that they grow in, and climate change also extends the pollen production season. Pollen allergies are worsening because of climate change. (source: NRDC)

Ask: Which car is worse for the environment? (Answer: The car on the left, which is idling, is worse for the environment. Idling is when the car is parked, but the engine is still running and wasting gas.)

Ask: What are some examples of when a car is idling? (Answer: Drive-through, stopped at a stop sign or traffic light, waiting to pick someone up)

Ask: So now that we know that the temperature is going up on the whole planet because too many gasses like carbon dioxide are getting trapped in our Earth greenhouse. We also know that

a lot of air pollution is caused by vehicles, what are some things we can do to help our planet?
(Answers: walk or ride a bike instead of driving, tell our parents what we learned about idling)