

TREES & CLIMATE CHANGE

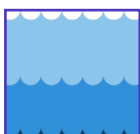
PRE-LESSON MATERIAL

A brief explanation of climate change:

Climate change is defined as a significant and long-lasting change in the Earth's climate and weather patterns. It is not synonymous with global warming, though global warming (the phenomenon of increasing average air temperatures near the surface of Earth over the past 100-200 years) is one type of climate change. In addition to temperature changes, climate change also includes changes in:



Rainfall



Sea levels



Wind patterns



Storms

COMPREHENSION QUESTIONS

How many years passed between Guy Callendar's discovery of rising temperatures and the first IPCC meeting about the climate?

The IPCC found evidence in 1995 for humans' role in climate change. Can you list two inventions from the timeline, and two others that you know of, that have contributed to climate change?

A brief history of climate change:

What causes the climate to change? Some climate change is natural, but a lot is driven by human behaviors. Below is a timeline of some of the most important historical events related to the causes and discovery of climate change.



1712

The steam engine is invented, paving the way for industrial scale use of coal.



1824

A French physicist identifies the "greenhouse effect," describing how gases heat the Earth.



1886

Karl Benz unveils the "Motorwagen," regarded by most as the first true automobile.



1938

British engineer Guy Callendar finds rising global temperatures, but is largely ignored.



1972

The first UN environmental conference is held, but climate change is barely mentioned.



1975

The term "global warming" is used for the first time, in a U.S. scientist's academic paper.



1988

The Intergovernmental Panel on Climate Change (IPCC) meets to assess climate evidence.



1995

The IPCC issues a report based on evidence they found proving humans' role in climate change.



1997

Developed nations (except U.S.) form the Kyoto Protocol, and pledge to reduce emissions.



2013

The IPCC's 5th report shows that that humans caused most of the global warming since the 1950s.

FEELINGS ABOUT CLIMATE CHANGE



Talking about climate change can bring up a lot of emotions. You have likely heard stories in the news of dire projections for our future, or seen photos of animals that are losing their habitats.

Everything that you are feeling is valid. Take some time now to recall stories that you have heard about climate change and describe how they have made you feel in the space below. Journaling can help you understand how you feel and can help you feel better even if the problem remains unsolved.

PHONE A FRIEND

When you have finished journaling, call a friend or classmate to share your reflections on climate change and to see how they feel.



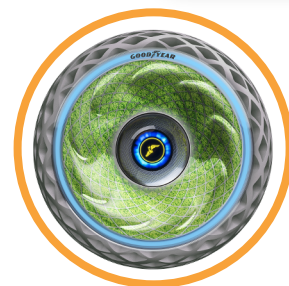
The news doesn't always do a good job of showing both sides of the story. Let's "flip the script" on climate change and look at a few positive stories of people planting, creating, inventing, and designing in the name of a more sustainable planet.



Planting trees since 1979, "India's Forest Man" Jadav Payeng has forested over 1,300 acres of land in a once barren area.



In Cairo, Egypt, a group called Schaduf builds rooftop gardens to clean the city air and generate food for families.



Goodyear developed a tire filled with living moss that absorbs moisture from the road and carbon dioxide from the air.

Continue on to the lesson to learn the incredible role that trees play in protecting our climate.