



# What is Global Warming?



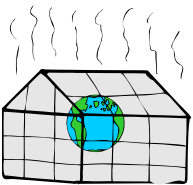
## Life on Earth



Planet Earth is spectacular! There is no other known planet in our solar system where huge trees, deep oceans and people and animals are found. Life on Earth continues to exist because

of the sun, which is a big star that gives us light, heat and energy. Without the sun, plants wouldn't grow and the earth would be too cold for living things to survive. When the sun shines, its heat gets trapped in our **atmosphere**. The atmosphere is an invisible layer of gas that surrounds the earth like a blanket of air. If the atmosphere didn't trap heat from the sun, then our entire planet would be covered in ice!

## Greenhouse Gases



Gases in our atmosphere that trap heat from the sun are sometimes called **greenhouse gases**. Greenhouses are small glass houses that are used to grow plants. The glass panes of the greenhouse let in sunlight but also keep heat from escaping. This causes the greenhouse to warm up much like the inside of a car heats up on a sunny day. The greenhouse gases in our atmosphere act like the glass panes in a greenhouse and absorb heat from the sun. Some of the sun's energy goes back into space, but much of it remains trapped in our atmosphere by the greenhouse gases. This is how our planet stays warm enough for life on Earth to survive.

## Too Much of a Good Thing

As with many things, too much of a good thing can become a problem. For example,

eating too much ice cream can make us sick. The same is true with greenhouse gases. Although they are needed to keep the planet warm, too many greenhouse gases in our atmosphere are now making the planet too warm. This is called **global warming**.

## Fossil Fuels and Global Warming



**Carbon dioxide** is one of the greenhouse gases on our planet.

While carbon dioxide is an important part of nature, we are putting too much of it into the atmosphere by burning **fossil fuels**. These fuels, like gasoline, oil and coal, come from the fossils of plants and dinosaurs that lived on Earth millions of years ago. We use fossil fuels to drive our cars, power our trucks and fly our planes. We also use mostly fossil fuels to heat our homes, create electricity and run factories. The pollution that is made by burning fossil fuels is creating too much carbon dioxide, and this is not healthy for our planet.

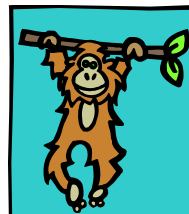
## Methane and Global Warming



Another gas that contributes to global warming is **methane**. Methane is produced when things break down, or **decompose** without oxygen.

Two major man-made sources of methane in the United States are landfills where we bury our garbage, and the large amounts of livestock raised for meat and dairy products.

## Rainforests and Global Warming



Another way that too much carbon dioxide gets put into the atmosphere is when rainforests get cut down or burned.

Rainforests are huge forests that are found around the world. They contain over half of all the world's animals and are home to some of the largest trees on the planet. They are also where many native tribes of people live. Trees contain a lot of carbon in their branches and leaves. When the rainforest is burned down, this carbon gets released into the air and becomes carbon dioxide, which contributes to global warming.

One way to help stop global warming is to protect the rainforests. When a rainforest's trees are left standing, all the carbon stays within the trees' leaves and branches and doesn't get released into the air as carbon dioxide. Not only that, when trees are left standing, they remove carbon dioxide from the atmosphere, which helps keep the planet cool.

### Climate Change



If the average temperature of the planet gets warmer and stays that way, it doesn't mean that coconut trees will start growing in Iceland!

Instead, it means our normal weather patterns will change. That's why global warming is also called **climate change**. Climate is the normal weather pattern of a particular area. For instance, the climate in Denver is normally colder in the winter and hot and dry in the summer. When the climate changes, it means that over time the weather patterns change. In the case of Denver, winters might get warmer and have less snowfall, and summers might get even dryer. In other parts of the world, global warming may bring about climate changes where hurricanes get stronger, droughts last longer, and tornadoes and floods become more frequent. Simply put, global warming brings about serious changes in the weather.

### Climate Justice

Climate change affects people all over the world. However, people living in poor and developing countries, especially small islands, will feel the biggest impacts. As sea levels rise due to ice sheets melting in places like Antarctica, island nations may disappear under water! Since rich and developed countries like the United States are responsible for putting most of the greenhouse gases in the air, it's unfair that some of the most undeveloped countries will suffer the biggest problems caused by global warming.

### What Can We Do to Help?

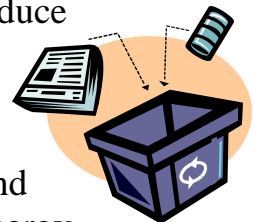
**1. Use less gasoline.** Instead of driving in a car to school or to our friend's house, we



can walk or ride a bike or take public transportation like buses and trains.

**2. Save energy.** Turn off the lights, TV and computer when you're not using them. Put on a sweater instead of turning up the heat.

**3. Recycle and compost.** Reduce the amount of methane gas you help create by sending less stuff to the landfill.



Recycle your paper, bottles and cans and help to reduce the energy needed to make new paper, bottles and cans.

**4. Eat less meat products.** Eating more plant-based foods is good for your health and it's good for our climate. The fewer animals raised for food, the less methane those animals will create and release into the atmosphere.

**5. Protect forests worldwide.** Use less paper and wood products, reuse what you can and recycle. In some small way, we can all help save the trees and forests that keep our planet cool.