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**GRAB N' GO ACTIVITY:**  
**Climate Change**

### OVERVIEW:

Students will learn a basic understanding of the Earth's climate and the effects of Global Warming on the planet, society, and our future

### MATERIALS:

- Worksheet and Information

### ARE WE EXPERIENCING CLIMATE CHANGE:

Though the temperature changes throughout the year, overall the Earth's temperatures are very stable. This is because we are surrounded by an atmosphere that lets just the right amount of sunlight in to warm the earth. It then blankets the Earth to keep the warmth from bouncing back out into space. This keeps us not too hot in the summer and not too cold in the winter. Scientists call this the greenhouse effect because the atmosphere acts a bit like a greenhouse by keeping the right temperature for life to thrive on the planet.

are now producing many greenhouse gases of our own (like carbon dioxide, methane, nitrous oxide, and ozone) by burning fossil fuels in our cars, homes and industry. Scientists have begun to worry that too many greenhouse gases are building up in our atmosphere. This could blanket the earth in an ever thicker atmosphere, blocking even more heat from escaping into space. Like a greenhouse with its windows shut on a hot, sunny day, it could make it get a lot hotter in here! This is called global warming.

### HOW DOES IT AFFECT US:

Global warming may warm the Earth by just a couple of degrees a decade, but over time this will add up. There is concern that this will melt the polar ice caps and raise the sea levels. Scientists at NASA can look at the Earth from space via satellites. They have noted that indeed the year-round ice pack in the Arctic is shrinking. In the past quarter century it has shrunk

**Ages:** 8 - 13

**Time:** 30 minutes

10%. The largest ice shelf in the Arctic that had been in place for 3,000 years, broke up into the ocean in 2003. Climate does change naturally over time, but very sudden changes are unusual. These may be a sign of global warming.

If the ice caps do melt several things will happen. For one thing, the bright, white ice caps reflect a lot of the sun's energy back to space. As they disappear, more sunlight will be soaked up by the Earth. This will warm things up even more. Melting ice caps could change the ocean's saltiness (salinity) around the poles. This would affect the fish in the ocean.

The melting ice caps would evaporate more easily adding more water to the water cycle. This could change weather patterns. New weather could change habitats around the world and all the animals that live in them. Already polar bears are struggling to survive when they need ice shelf off which they can hunt prey and they have all but melted. The result is polar bears starving and drowning.

### WHAT HAS BEEN DONE TO FIX IT:

Countries around the world are attempting to lower their carbon emissions to slow the build up of greenhouse gases and onset of global warming.

### WHAT CAN YOU DO TO HELP:

Drive less. If you can walk or ride your bike somewhere instead of driving, it would be worth doing. Use public transportation when you can. Don't waste energy. A lot of electricity in this country comes from coal fired plants and they are big carbon emission producers.



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## GLOBAL WARMING - READ AND REACT

1. HOW DOES OUR ATMOSPHERE PROTECT THE EARTH AND WHAT DO WE CALL THIS "EFFECT"?

2. HOW ARE WE CREATING GREENHOUSE GASES OF OUR OWN?

3. WHAT HAPPENS TO THE ATMOSPHERE TO CAUSE GLOBAL WARMING?

4. NAME THREE THINGS THAT COULD HAPPEN TO THE EARTH IF OUR ICE CAPS MELT?

Submit your work to the Get to Know Contest  
for a chance to win wild prizes & go to

**GETTOKNOW.CA**

to find more free resources and activities

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