

# Climate Science in a Nutshell

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## TEACHER RESOURCE GUIDE

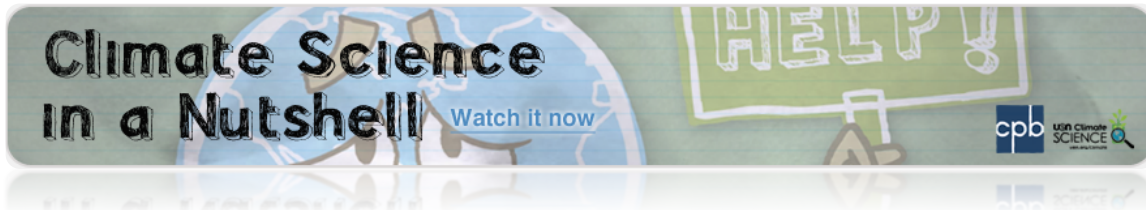
### EPISODE 11: YOU CAN MAKE A DIFFERENCE

#### Brief Description

Rapid Climate Change affects the whole planet. But you might be surprised to know that one person, meaning you, can make a big difference. Doing your part to help the planet cool down starts with understanding something called your "carbon footprint". Your carbon footprint is the amount of carbon dioxide created by the stuff you do in your daily life. If you're like most Americans, you consume energy for things like heat, light, surfing the web, watching TV, and getting from place to place in a car. Plus, the stuff you buy and use takes energy to make and deliver, so you're consuming energy when you, say, buy a hamburger, or a kiwi.

#### Keywords/Key Concepts

|                      |  |
|----------------------|--|
| Carbon Dioxide       | A gas that is produced by all animals and plants during respiration and used by plants during photosynthesis. Carbon dioxide is also the by-product of burning fossil fuels. |
| Carbon Emissions     | Carbon that is released into the air through the burning of fossil fuels such as coal, gas or oil.   |
| Carbon Footprint     | Amount of carbon dioxide created by the stuff you do in your daily life.   |
| Compact Fluorescents | Compact fluorescent lamp (CFL), also known as a compact fluorescent light.   |
| Thermostat           | A device that automatically regulates temperature.   |
| Recycling            | Convert (waste) into reusable material.  |



## TEACHING IDEAS WHEN USING VIDEO IN THE CLASSROOM

While watching television is often seen as a passive viewing experience, there are ways to turn it into a springboard for student interaction. Here are some general teaching strategies that enhance the use of video materials in your classroom by targeting specific skill sets.

- **Predicting**
- **Viewing Comprehension**
- **Listening Practice**
- **Speaking Practice**
- **Discussion**

### PREDICTING

*With picture and audio on:*

- Use the pause control to stop a scene and have students predict what will happen next.
- Use the pause control to stop after a particular line of dialogue and have students predict the next line.

*With audio off:*

- Have students predict the situation and characterizations based on viewing an entire scene without the sound.
- Have students predict lines of dialogue after viewing an entire scene without the sound.
- Have students predict individual lines of dialogue by using the pause button to stop the scene.

*With picture off:*

- Have students predict the situation and characterizations by listening to the soundtrack without watching the picture.

**VIEWING COMPREHENSION.** You can check students' understanding of the situation in the following ways:

*Before watching:*

- Give students specific things to look and listen for before they watch a scene.

*While watching:*

- Freeze-frame the scene by using the pause button and check students' understanding

*While watching or after watching:*

- Have students answer comprehension questions you devise.

*After watching:*

- Give students cloze scripts and have them fill in missing words in dialog lines.

**LISTENING PRACTICE.** Have students focus on the dialogue contained in a scene by listening for particular vocabulary words, structures, or functional expressions:

*TV Dictation:*

- Have students write dialogue lines as they view them, using the pause control to stop the scene after each line.

*Cloze Scripts:*

- As students view a scene, have them fill in missing words in a cloze script you have created.

## **SPEAKING PRACTICE**

*Role Plays:*

- Have students role play a scene, practicing the lines of dialogue for correct intonation and emphasis.

*On-Location Interviews:*

- Have students circulate around the classroom and interview each other using questions contained in the video segment. Students can then report to the class about their interviews.

*Information Gap:*

- Have half the class see a segment without audio and the other half hear it without the picture. Students from each half of the class then pair up, talk about the situation and characters, and act out the scene.

*Strip Dialogue Scenes:*

- Write dialogue lines on separate strips of paper, distribute them randomly, and have students recreate the scene by putting the lines together.

**DISCUSSION**

- Have students discuss the scene, plot and characters' actions, thoughts, and feelings.
- Have students think about what the characters in the scene are thinking but not saying. Students can create these interior monologues, present them to the class, and discuss any varying opinions about characters' inner thoughts during the scene.
- Have students tell which characters they identify with and explain why.

Adapted from *Side by Side TV Reference Guide*.



## Episode 11: You Can Make a Difference

Rapid Climate Change affects the whole planet. But you might be surprised to know that one person, meaning you, can make a big difference.

Doing your part to help the planet cool down starts with understanding something called your “carbon footprint”.

Your carbon footprint is the amount of carbon dioxide created by the stuff you do in your daily life. If you're like most Americans, you consume energy for things like heat, light, surfing the web, watching TV, and getting from place to place in a car. Plus, the stuff you buy and use takes energy to make and deliver, so you're consuming energy when you, say, buy a hamburger, or a kiwi.

As you already know, using energy is the biggest thing that makes planet-warming carbon dioxide.

So should you stop heating your house, turn off all the lights, and never buy anything? Of course not! But you can use less energy in your everyday life, making your carbon footprint smaller. This isn't just better for the planet, it can save a lot of money, too.

Easy, simple things can make a big difference. For instance, you can replace the bulbs in your house with energy-saving ones called compact fluorescents. These guys can reduce carbon dioxide by as much as 500 pounds a year, per bulb! And don't forget to turn off the lights when you leave a room!

You can also turn your thermostat down just a touch in winter and a little higher in summer. Every two-degree change saves another 500 pounds of carbon dioxide.

When you can, try walking, riding your bike, or taking public transportation, instead of going by car. This saves a lot of gas, and every gallon of gas you don't use reduces your carbon footprint by 20 pounds.

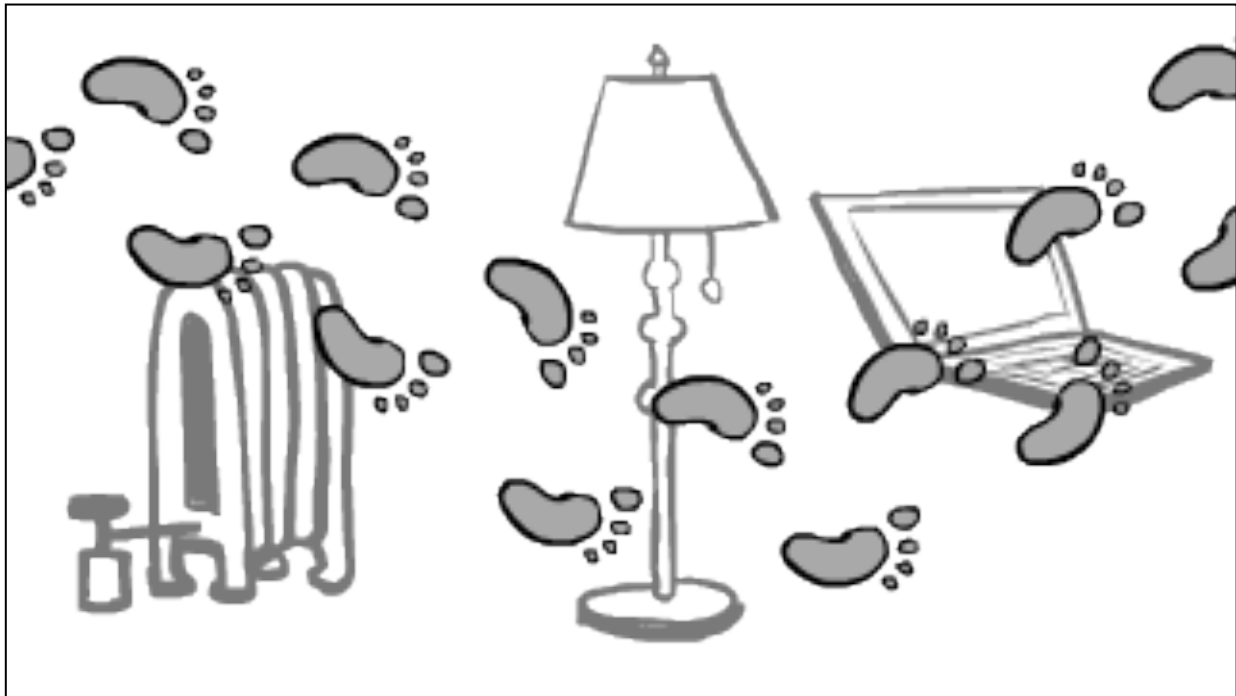
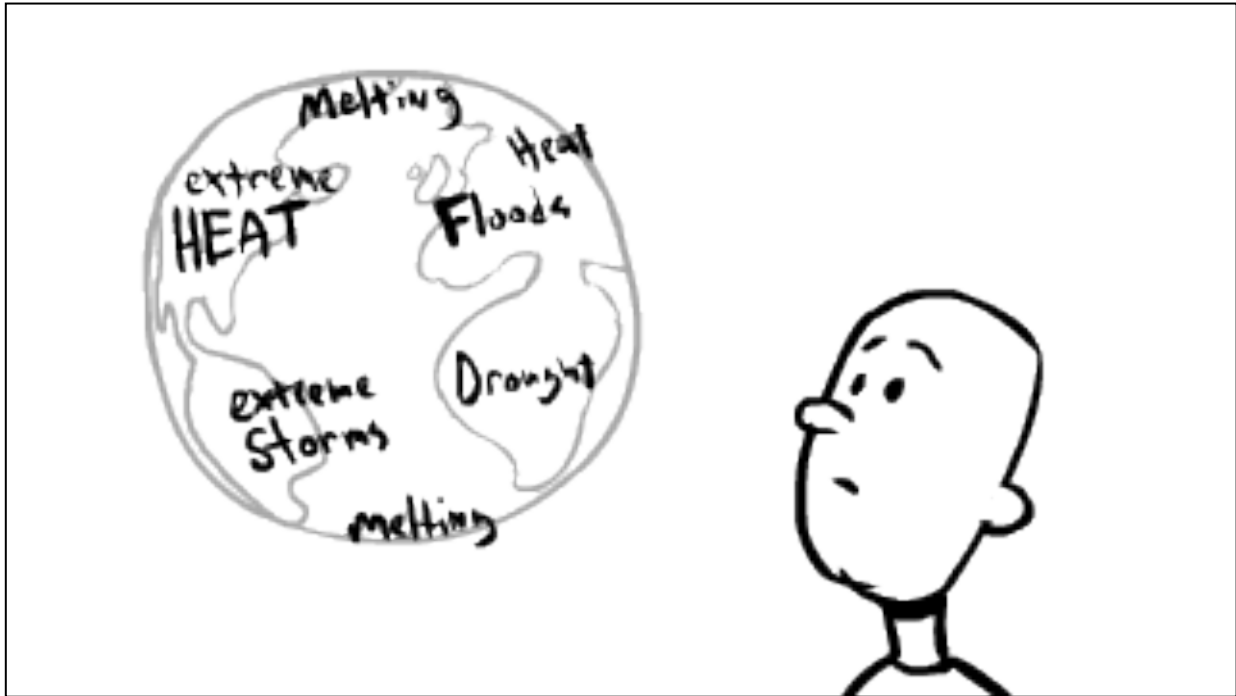
Also, consider recycling if it's offered where you live. Recycling is important because it reduces the amount of stuff that has to be made from scratch, and that means less

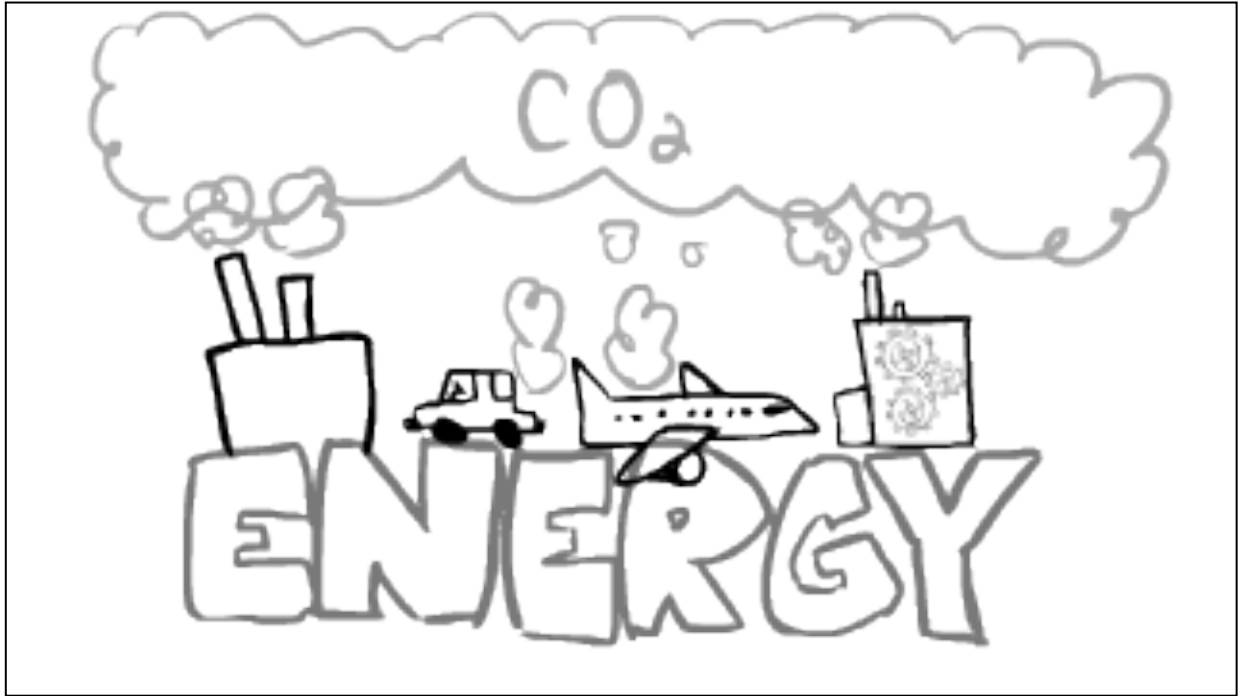
energy gets used up.

These tips are just a start. There are many more things you can do to shrink your carbon footprint from the size of an elephant's to the size of a child's. If everybody does their part, the savings really add up, making an entire country's carbon footprint smaller.

The point is, it's never a bad idea to think about the impact your daily life has on the planet. So get started!

## EPISODE 11: YOU CAN MAKE A DIFFERENCE





Compact fluorescents



= 500  
CO<sub>2</sub> lbs  
per year



