



TEACHER RESOURCE GUIDE

EPISODE 6: CLIMATE CHANGE IN THE AMERICAN WEST

Brief Description

Rapid climate change isn't something that will happen in the future. It's a problem that started when your grandparents were young. That means that today some of the early effects are happening all around us. In the mountains of the American West, warming temperatures are already having a big effect on the delicate balance of life.

Keywords/Key Concepts

Atmosphere	The air that surrounds the Earth.
Celcius	A temperature scale on which the freezing point of water is 0 degrees and the boiling point of water is 100 degrees (also known historically as centigrade).
Fahrenheit	A scale of temperature on which water freezes at 32° and boils at 212°
Habitat	The natural home or environment of an animal, plant, or other organism.
Oxygen	A colorless, odorless gas. Oxygen forms about 20 percent of the earth's atmosphere.
Species	A group of living organisms consisting of similar individuals.
Snowpack	A mass of snow on the ground that is compressed and hardened by its own weight.
Temperature	Degree of hotness or coldness measured on a definite scale.



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 6: Climate Change in the American West

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In the mountains of the American West, warming temperatures are already having a big effect on the delicate balance of life.

Take the case of the pika. These little guys are a relative of the rabbit, and they live on high alpine slopes in Utah and other western states. Pikas live there because they're very sensitive to heat; if the thermometer tops 25 degrees Celsius -- that's about 78 degrees Fahrenheit -- they can quickly overheat and die.

Scientists who study the pika have noticed that over the past 100 years or so, pikas have been disappearing from lower elevations. As their habitats have warmed, they've been forced to move higher up. The question is, if average temperatures continue to rise, how long before pikas can't move any higher and all of them are gone for good?

The story of the pika is an early warning, showing us how rapid climate change puts living things under stress. And more stress for one species means more stress for another. For example, fewer pikas means their predators -- eagles, hawks, bobcats, and foxes -- will have less to eat.

Like the pika, many people, farms, and livestock in the West depend on consistently cool temperatures in the mountains for one *very* important thing: water. If you live in, say, Salt Lake City, chances are your glass of water is filled with melted snowflakes. Every winter, thick snowpack forms in the mountains and then gradually melts over spring and summer, supplying water to rivers, lakes, and reservoirs.

But rapid climate change is making the West a drier, hotter place, and it's changing the normal water cycle that people in the region have known for thousands of years.

As temperatures rise, there's less snow, and the snow that does fall melts faster and earlier in the Spring. The result? Scientists have measured steadily shrinking snowpack across the mountain West. This leaves less water for the hottest, driest months of the year – July and August -- when cities, cattle, and farmer's fields are the thirstiest.

These are just some of the issues the West faces as the planet warms up. Next, we'll look at effects in other parts of the country and around the world.

Climate Science in a Nutshell

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