класс 10-11

Тема урока: **GLOBAL WARMING & 10 THINGS YOU CAN DO TO REDUCE IT.**

Цель урока: Практиковать учащихся в чтении с полным пониманием прочитанного, развивать умение предугадывать и анализировать прочитанное; активизировать и расширить лексику по теме «Человек и природа»; развивать монологическую речь, память и мышление; расширить экологическую осведомлённость; прививать любовь к природе; усилить интерес к изучаемому языку.

Оборудование: дидактический материал, компьютерная презентация, мячик

Ход урока:

1. Organizing moment

Teacher: Nice to see you. Sit down, please. Today we are going to read and to talk about a very complicated but urgent issue related to the topic "Man & Nature" i.e. – Global Warming & Greenhouse Effect (слайд 1). We will try to find out what causes Global Warming. Whether it is a natural process or caused by us, people. And if it is, then are there any ways to cope or reduce Global Warming? In order to proceed to more complicated things, let's start with brain storming. You have to catch the ball and give the translation of the word, I will say.

2. Brain-storming. (a ball, words on the topic) **T⇒S⇒T**

1. flood
2. earthquake
3. forest fire
4. drought
5. hurricane
6. volcanic eruption
7. famine
8. desertification
9. deforestation
10. shortage of drinking water

1. In which parts of the world do these events take place?
2. Which of them occur in Russia? Where?
3. What are they caused by?
4. What are their consequences?
5. Can they be prevented? How?
6. How can people defend themselves if these disasters occur?

3. Home task checking

4. Developing reading skills. Working with hand-outs.

Pre-reading task

Teacher: You are going to read an article about the Greenhouse Effect. Let me ask you: what facts do you know about it? What are the reasons of the Greenhouse Effect? What are the possible consequences (impacts) of Global Warming?

Reading

WHAT CAUSES THE GREENHOUSE EFFECT? (слайд 2)

Life on earth depends on energy from the sun. About 30 percent of the sunlight that goes toward Earth is reflected by the atmosphere and scattered back into space. The rest reaches the planet's surface and is reflected upward again as a type of slow-moving energy called solar radiation.

The heat caused by solar radiation is absorbed by "greenhouse gases" such as water vapor, carbon dioxide, ozone and methane, which slow its escape from the atmosphere.

Although greenhouse gases make up only about 1 percent of the Earth's atmosphere, they regulate our climate by trapping heat and holding it in a kind of warm-air blanket that surrounds the planet.

This phenomenon is what scientists call the "greenhouse effect." Without it, scientists estimate that the average temperature on Earth would be colder by approximately 30 degrees Celsius (54 degrees Fahrenheit), far too cold to sustain our current ecosystem.

HOW DO HUMANS CONTRIBUTE TO THE GREENHOUSE EFFECT? (слайд 3)

While the greenhouse effect is an essential environmental prerequisite for life on Earth, there really can be too much of a good thing.

The problems begin when human activities distort and accelerate the natural process by creating *more* greenhouse gases in the atmosphere than are necessary to warm the planet to an ideal temperature.

- **Burning natural gas, coal and oil (fossil fuels)** (слайд 4) including gasoline for automobile engines (слайд 5) raises the level of carbon dioxide in the atmosphere.
- **Some farming practices** (слайд 6) **and land-use changes** increase the levels of methane and nitrous oxide.
- **Many factories produce long-lasting industrial gases** (слайд 7) that do not occur naturally, yet contribute significantly to greenhouse effect and "global warming" that is currently under way.
- **Deforestation** (слайд 8) also contributes to global warming. Trees use carbon dioxide and give off oxygen in its place, which helps to create the optimal balance of gases in the atmosphere. As more forests are logged for timber (слайд 10) or cut down to make way for farming (слайд 9), however, there are fewer trees to perform this critical function.

- **Population growth** & **urbanization** (слайд 11) is another factor in global warming, because as more people use fossil fuels for heat, transportation and manufacturing the level of greenhouse gases continues to increase. As more farming occurs to feed millions of new people, more greenhouse gases enter the atmosphere.

Besides there are some natural sources (слайд 12) of CO_2 contribution into the atmosphere such as **volcano eruptions** and **forest fires**.

Ultimately, more greenhouse gases means more radiation trapped and held, which gradually increases the temperature of the Earth's surface and the air in the lower atmosphere.

THE IMPACTS OF GLOBAL WARMING (слайд 13)

Scientists agree that even a small increase in the global temperature would lead to significant climate and weather changes (слайд 14), affecting cloud cover, precipitation, wind patterns, the frequency and severity of storms, and the duration of seasons.

Rising temperatures would lead to melting glaciers (слайд 15) and raise sea levels as well, reducing supplies of fresh water (слайд 16) as flooding occurs along coastlines (слайд 17) worldwide and salt water reaches inland. Many of the world's endangered species would become extinct (слайд 18) as rising temperatures changed their habitat.

Millions of people also would be affected, especially poor people (слайд 19) who live in precarious locations or depend on the land for a subsistence living. Certain vector-borne diseases carried by animals or insects (слайд 20), such as malaria, would become more widespread as warmer conditions expanded their range.

Post-reading task (5мин)

Use all the information from the article to fill in the three columns of the table; try to find interlinks between facts, reasons and impacts of Global Warming. Speak out.

Facts about GW	Reasons of GW	Possible impacts

5. Developing Speaking Skills

Using the scheme "Impacts of Global Warming" (слайд 21) try to speak about the possible impacts of Global Warming. Try to describe each branch of the scheme in as much detail as possible.

6. Thinking skills development, nature concern attitude

Teacher: you can help to reduce global warming! Think of 10 simple things or actions you can take to help reduce global warming (слайд 22). How do you think, what can you do?

Students' answers.

Teacher: Now look through the actions suggested by Larry West, compare them with yours and say which of them you consider the most essential. Speak out.

TOP 10 THINGS YOU CAN DO TO REDUCE GLOBAL WARMING

1. Reduce/ Reuse/ Recycle (слайд 23)
Choose reusable products instead of disposables. Buying products with minimal packaging will help to reduce waste. And whenever you can, recycle paper, plastic, newspaper, glass and aluminum cans. If there isn't a recycling program at your workplace, school, or in your community, ask about starting one. By recycling half of your household waste, you can save 2,400 pounds of carbon dioxide annually.

2. Use Less Heat and Air Conditioning (слайд 24)
Add insulation to your walls and attic, doors and windows – it can lower your heating costs more than 25 percent, by reducing the amount of energy you need to heat and cool your home. Turn down the heat while you're sleeping at night or away during the day. It can save about 2,000 pounds of CO_2 each year.

3. Change a Light Bulb (слайд 25)
Be practical; replace *regular light* bulbs with *compact fluorescent light* bulbs. CFLs last 10 times longer than regular bulbs, use two-thirds less energy, and give off 70 percent less heat. If every U.S. family replaced one regular light bulb with a CFL, it would eliminate 90 billion pounds of greenhouse gases, the same as taking 7.5 million cars off the road.

4. Drive Less and Drive Smart (слайд 26)
Less driving means fewer emissions. Besides saving gasoline, walking and biking are great forms of exercise. Check out options for carpooling to work or school. Every gallon of gas you save keeps 20 pounds of CO_2 out of the atmosphere.

5. Buy Energy-Efficient Products (слайд 27)
When it's time to buy a new car, choose one that offers good gas mileage. Avoid products that come with excess packaging, especially molded plastic and other packaging that can't be recycled. If you reduce your household garbage by 10 percent, you can save 1,200 pounds of CO_2 annually.

6. Use Less Hot Water (слайд 28)
Buy low-flow showerheads to save hot water. Wash your clothes in warm or cold water to reduce your use of hot water and the energy required to produce it. That change alone can save at least 500 pounds of CO_2 annually. Use the energy-saving settings on your dishwasher and let the dishes air-dry.

7. Use the "Off" Switch (слайд 29)
Save electricity and reduce global warming by turning off lights when you leave a room, turn off your TV, video player, stereo and computer when you're not using them. While brushing your teeth, shampooing the dog or washing your car, turn off the water until you actually need. You'll also reduce your water bill.

8. Plant a Tree (слайд 30)
If you have the means to plant a tree, start digging. During photosynthesis, trees and other plants absorb CO_2 and give off oxygen. They are an integral part of the natural atmospheric exchange cycle here on Earth, but there are too few of them. A single tree will absorb approximately one ton of CO_2 during its lifetime.

9. Get a Report Card from Your Utility Company (слайд 31)

Many utility companies provide free home energy audits to help consumers identify areas in their homes that may not be energy efficient.

10. Encourage Others to Conserve (слайд 32)

Share information about recycling and energy conservation with your friends, neighbors and co-workers, and take opportunities to encourage public officials to establish programs and policies that are good for the environment.

7. **Revising material.**

   Teacher: So, now you know the reasons, the consequences of global warming and some possible steps to reduce it. Which of them to your mind are the most useful? Why? Which of them will you use in your everyday life? Give your ideas.

8. **Summarizing**

9. **Home task setting**