

UNIT 3: THE ATMOSPHERE

ATMOSPHERIC POLLUTION

Dear language assistant,

This is going to be our first class about atmospheric pollution. We can start reading “Pollution in cities” from the Students Book, page 42.. Most of the ideas in this first paragraph are very popular; the students have listened about it but not in English, so you will have to explain many English words: source, pollution, power stations, heating, disease, lack...

Then we will start to complete the chart that students have on their book. You can draw it on the board, just the shaty cells. You can ask the students what we should write in each cell of the first arrow. It’s not necessary to write so much as I’ve done here. You can help them whith questions, hints and if that’s not enough you can give them the righth answers.

After that we we’ll do the same about global warming and about ozone layer but I think it isn’t necessary to read the text; perhaps, looking at the graphs, talking, asking and answering can be enough. Smog and global warming could seem similar but smog is a local problem and warming is a world problem. Causes and solutions of global warming are similar to the ones of smog, so I’m especially interested in global warming consequences.

If we have some time left the students can work on global warming using the internet. They should visit the website of this subject and look for a link called “survey about global warming” (it’s near to the end of the page).

Thank you

6. ATMOSPHERIC POLLUTION.

6.1. Pollution in cities.

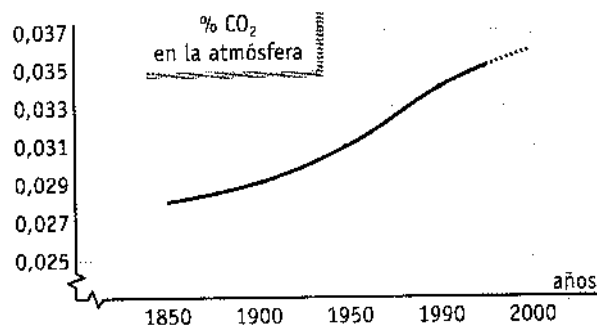
All cities, especially the biggest ones, are a source of pollution for the atmosphere. Pollution comes from cars, industries, power stations, central heating systems, etc. The result is that in the sky of a big city there is an accumulation of contaminating substances which can cause respiratory diseases and lack of visibility. This problem is called smog (smoke + fog = smog).

6.2. Global warming.

It has been discovered that, over the last one hundred years, the average temperature of the planet has risen 0.5 °C. This phenomenon is known as global warming and it's a result of the increase in the greenhouse effect.

The greenhouse effect is a natural phenomenon and it is essential for keeping the Earth warm enough for living beings. However, certain polluting gases increase this effect and the temperatures increase too much. One of the main greenhouse gases is carbon dioxide (CO₂). This gas is released by the burning of coal and oil in our cars and power stations. Furthermore, the deforestation also increases the CO₂ levels

Global warming has many harmful consequences: temperatures rise, ice at the North and South Poles melts, sea level rises and many coastal cities may be flooded. We should save energy, stop using oil, gas and petrol and we should change to green energy (wind power, solar power, hydroelectricity...) and, of course, stop cutting down trees.



6.3. The deterioration of the ozone layer

Some years ago it was discovered that there is an area where the ozone layer is getting thinner. This area is known as the hole in the ozone layer. It was located over Antarctica but it is getting bigger and bigger; nowadays it affects South America and Australia, too. Harmful radiation affects our health causing skin diseases.

The disappearance of ozone from the atmosphere is caused by contaminating substances called CFCs. These gases were used in refrigerators and aerosols but they have been substituted by other gases which do not damage the ozone layer.

PROBLEMS	CAUSES	CONSEQUENCES	SOLUTIONS
SMOG	Cars. Central heating systems (they burn gas, diesel oil). Industries.	Affects respiratory system Lack of visibility	Use the car less (on foot, by bicycle...) Use public transport Sharing your car with your colleagues Close windows and doors to save energy
GLOBAL WARMING	Release carbon dioxide from burning coal and petrol: cars, power stations (we get usually electricity from fuels and very little from green powers). Cutting down forests (remember plants take carbon dioxide and release oxygen).	1. Temperatures rise 2. There would be more droughts making hard to grow crops. 3. Lakes and rivers will dry up 4. Climate change (and perhaps wild weather) 5. The ice on the poles will melt. 6. <i>Sea level will rise</i> 7. <i>Cities on coasts will be flooded.</i>	Stop using oil, coal and gas. Use green power such as solar power, wind power, water power (hydro electricity) Stop cutting down forests. Save energy using less your car. Re-cycle glass bottles, newspapers, cans. Use paper on both sides. Re-use plastic shopping bags. Buy products that don't use much packaging. Switch lights off when you're not in the room.
HOLE IN THE OZONE LAYER	CFC gases (used in fridge and aerosols) destroy the ozone layer	Ultraviolet rays which can burn our skin and cause diseases such as skin-cancer	Stop using CFCs