

Co-funded by the
Erasmus+ Programme
of the European Union



CLEAN AIR CURRICULUM AS A BASE FOR CLEAN ENVIRONMENT



Impact of air pollution on human health



What's something that you do all
day, every day, every minute no
matter where you are?

a) Think

b) Blink

c) Breath



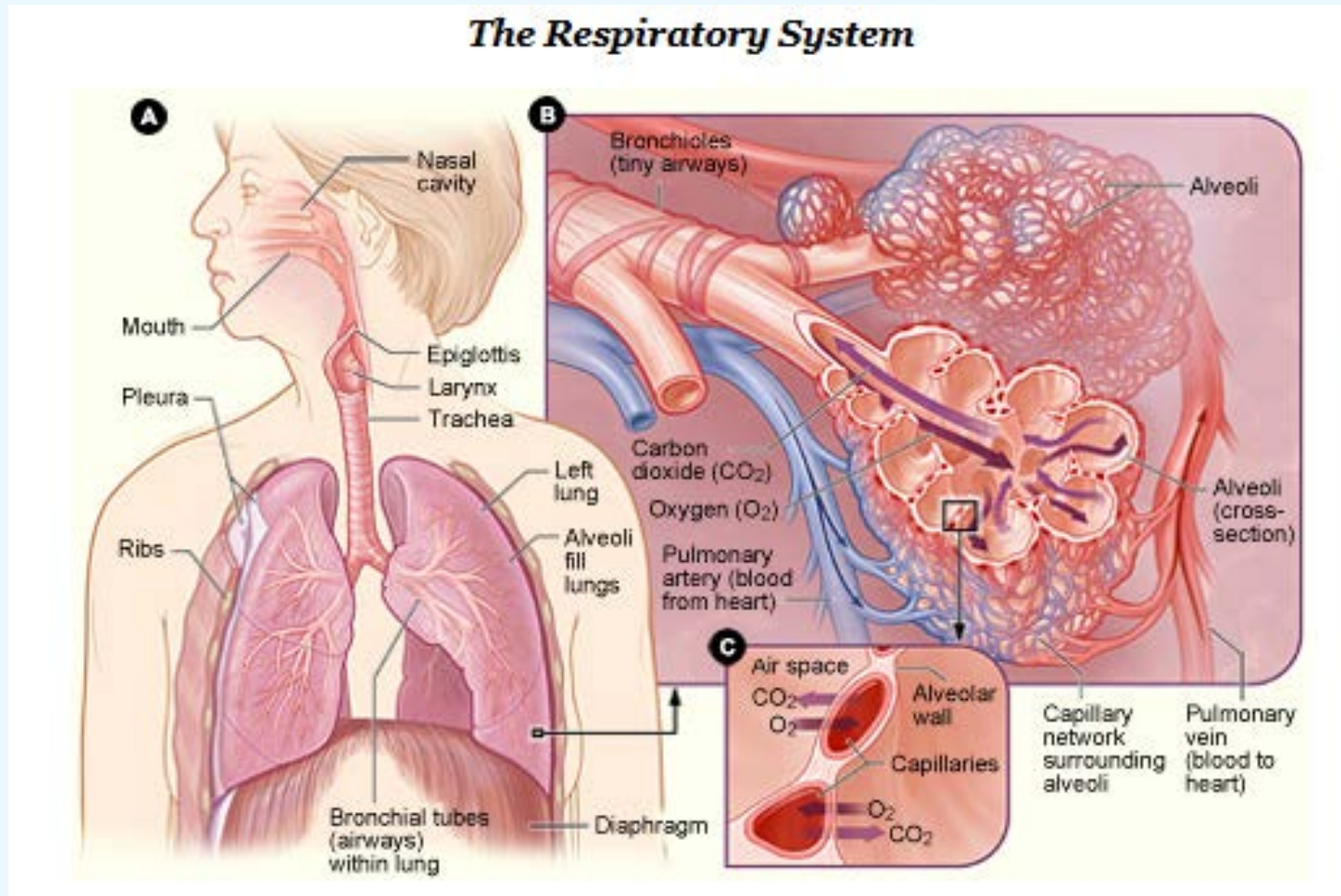
Respiratory system



We have about 600 million alveoli and we can cover a tennis court if we could extend all our alveoli



- We need breathing air to be alive
- The air contains oxygen, and this is essential for our organism the way that the oxygen is introduced in the organism is through the lungs, through the respiratory system
- We breathe nearly 25,000 times per day, taking in nearly 10,000 liters of air





Apart from breathing, what's something
that you do all day, every day, every
minute no matter where you are?

**Yes, it is pump blood all over your
body thanks to a muscle which is
called HEART**



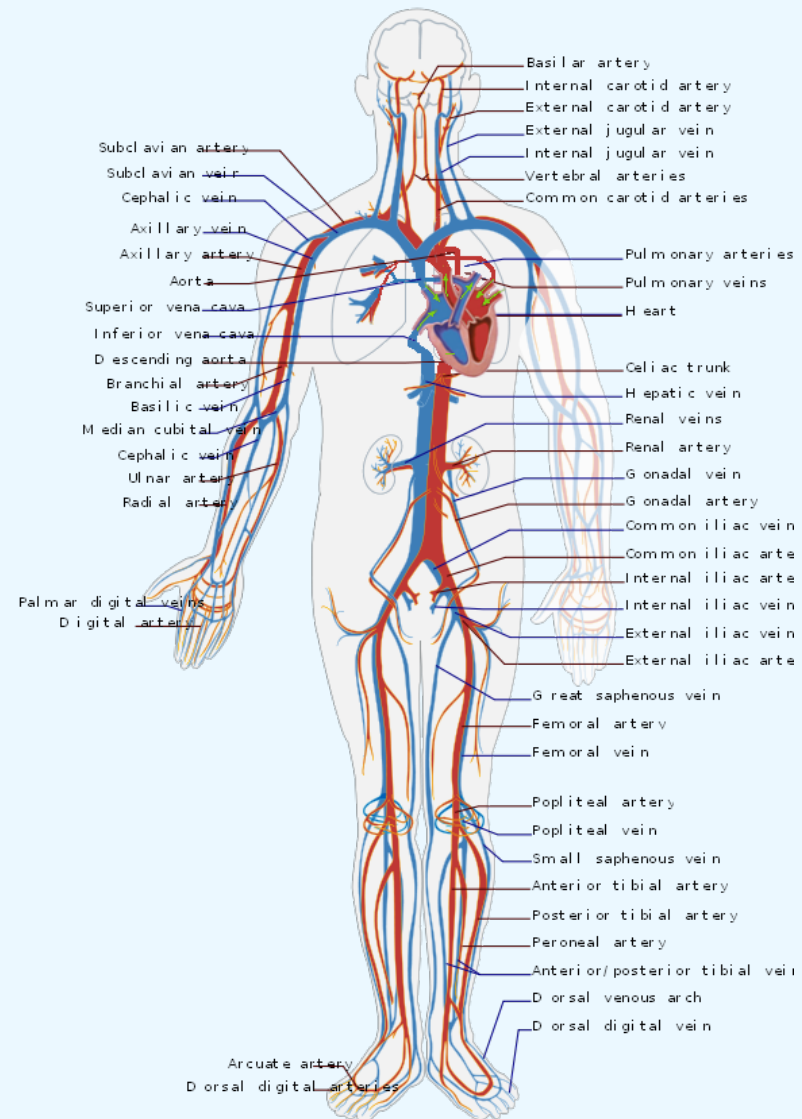
Cardiovascular system



If you were to lay out all of the arteries, capillaries and veins in one adult, end-to-end, they would stretch about 100,000 kilometres!



- The heart is responsible for pumping blood to the cells carrying oxygen and collecting waste through the arteries and veins
- The heart takes less than 60 seconds to pump blood to every cell in your body
- The heart beats about 3 billion times during an average lifetime.



Co-funded by the
Erasmus+ Programme
of the European Union



Clean Air

Clean air curriculum as a base
for clean environment



Health effects of air pollution

<https://www.youtube.com/watch?v=GVBey1jSG9Y&t=17s>



Health effects of air pollution



Breathing problems, eye irritation, runny nose and sore throat, cough, sinusitis



Alzheimer's, anxiety, memory and concentration problems, depression, faster aging of the nervous system, stroke



Asthma, frequent respiratory infections, chronic obstructive pulmonary disease, lung cancer



Infertility, premature delivery, disturbed development of children, fetal death



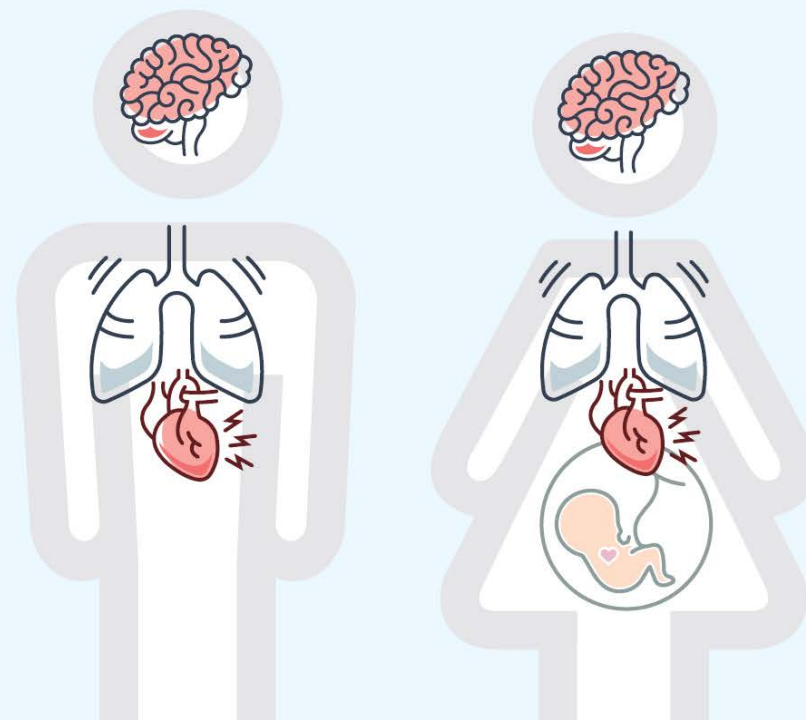
Myocardial infarction, ischemic heart disease, arrhythmia, failure, hypertension

... and the economic consequences resulting, inter alia, from absenteeism at work (due to diseases caused by air pollution) or reduction of revenues from tourism in polluted places.



Who is most at risk?

- People with asthma
- People with lung disease
- People with cardiovascular (heart) disease
- Unborn babies (pregnant women)
- Children
- Older adults





AQI (Air Quality Index)

It can help you plan activities that protect your health, such as:

- Avoid polluted areas reducing the exposure
- Walkers, runners, and bikers can reduce their exposure by planning times and routes that avoid busy roads
- Check the AIQ before do exercise, hard work or other strenuous activities

How can I check it?

<http://airindex.eea.europa.eu/>



Air Quality Index

Pollutant	Index level (based on pollutant concentrations in $\mu\text{g}/\text{m}^3$)				
	Good	Fair	Moderate	Poor	Very poor
Particles less than 2.5 μm ($\text{PM}_{2.5}$)	0-10	10-20	20-25	25-50	50-800
Particles less than 10 μm (PM_{10})	0-20	20-35	35-50	50-100	100-1200
Nitrogen dioxide (NO_2)	0-40	40-100	100-200	200-400	400-1000
Ozone (O_3)	0-80	80-120	120-180	180-240	240-600
Sulphur dioxide (SO_2)	0-100	100-200	200-350	350-500	500-1250

Source: <https://climate.copernicus.eu/>



8 Tips to Protect Yourself from Unhealthy Air

1. Limit the exposure to smog trying to avoid the most air polluted areas
2. Make an effort to stay indoors if your research shows that air pollution is high in your area
3. Do not ventilate your house when air is heavily polluted
4. Consider buying an air cleaner
5. Have a supply of professional dust proof masks on hand
6. Drivers can reduce exposure to particle pollution by keeping the vehicle ventilation setting on "recirculate" when driving on busy roads
7. Avoid smoking or going places where people are smoking or having campfires
8. Don't burn wood or trash. Burning firewood and trash are among the major sources of particle pollution in many parts of the countries

Co-funded by the
Erasmus+ Programme
of the European Union



Clean Air

Clean air curriculum as a base
for clean environment



THANK YOU FOR COOPERATION!

The European Commission's support for the production of this publication does not constitute an endorsement of the contents, which reflect the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein