

Physics

Delprov A2

engelsk version

Årskurs

9

Elevens namn och klass/grupp

13. The human population needs to contribute to a reduced dependence on fossil fuels.

Your task is to:

Argue about why it is important to reduce the dependence on fossil fuels.

Start from your knowledge about fossil fuels and reason in two steps about two different scientific perspectives.



14. Mobile phones

The text is about the use of mobile phones possibly affecting humans.

Source: Metro (web paper). Published 2015-08-24.

The danger of the radiation from mobile phones – really

A common piece of advice is to close the phone during night or to actually minimize the use of mobile phones. But research shows that there are no big risks with mobile phone use.

Since mobile phones have become a possession nearly everybody has, alarmist statements about risks with the device have emerged. Sometimes it is said that you should avoid sleeping with the mobile phone close to your bed and that you should avoid talking in the phone without a headset. But what does reality look like?

Mona Nilsson is the chair of the fundraising foundation Swedish Radiation Protection Foundation focusing on reducing the existence of, for example, electromagnetic radiation. To Metro, she says that there are big risks with radiation from mobile phones.

“There are both risks of getting brain cancer and other cancer types. But we also have other health risks like headache, sleeping difficulties and degraded memory.”

According to Mona Nilsson, people who claim no risks with mobile phone radiation have connections to the mobile phone industry, a reason why the Swedish Radiation Protection Foundation has been so criticized.

But the opinions differ. In 2011 the World Health Organization (WHO) and the International agency for research on cancer (IARC) decided to classify electromagnetic radiation from, for example, mobile phones as “possibly carcinogenic to humans”, which is the lowest suspicion level. That position was repeated by the WHO during October 2014 and they referred to, for instance, a 10-year longitudinal study which found no enhanced risk of brain tumours after 10 years of mobile phone use.

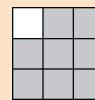
“Mobile phones send out radio waves and some of them will go through the body or head. There was, and still is, a suspicion that this might lead to tumours in the cochlear nerve, even though this suspicion is quite weak. The suspicion is also weaker for every passing year where we do not see any increase of this specific cancer type,” Jimmy Estenberg, government specialist on electromagnetic fields at the Swedish Radiation Protection Foundation claims.

So you should not be very worried?

“Since 2004, we recommend the use of headsets and that is a clear precaution. It is especially important for children to follow this recommendation since the research is not as clear in this case. “

Your task is to:

- a)** Find scientific information in the text and state one example of how the use of mobile phones might affect humans.



- b)** Start from the text. Reason about the text's credibility from two different perspectives.



a)

b)

15. Nuclear power or hydroelectric power?

A country needs to increase its production of electricity and chooses between building more nuclear power plants or more hydroelectric power plants.

The choice of more nuclear power plants or more hydroelectric power plants can give both positive and negative consequences to the environment.

Facts about nuclear power

A nuclear power plant produces approximately 25 000 000 000 kWh of energy every year.

The natural resource used is uranium mined in, for example, Canada. The Earth's sources of uranium are estimated to last for 2500 years.

A nuclear power plant generates 30-50 ton of radioactive waste/year.

During the last 40 years, three nuclear disasters have occurred in the world

Facts about hydroelectric power

A water power plant produces approximately 80 000 000 kWh of energy every year.

The natural resource used is flowing water like rivers.

Water is collected in storage spaces called reservoirs. The level of water in the reservoirs varies throughout the year.

During some parts of the year, large areas of land are under water.

Use the facts to write a text with the following parts:

- **A stance**

Taka a stance for more nuclear power plants or more hydroelectric power plants.



- **Scientific reasoning**

Formulate two arguments in two steps discussing the energy source you have chosen and formulate one argument in two steps against one of the two energy sources.



- **Scientific language**

Be objective and use scientific concepts in your reasoning.



Take a stance:

Whrite your text:

