Conclusions

The teams take turns to present their results. How did these parameters change after doing physical exercise? Draw conclusions.

What influence does physical effort have on body temperature?

You can use an analogy, e.g. a light bulb that heats up after being switched on, to explain why the temperature of the body rises after physical effort. A rise in body temperature during physical exercise is a result of increased energy consumption. A human body can be compared to an electronic device in operation. When energy is generated some of it is always wasted and lost in the form of heat. Hence, a television, telephone or lightbulb heats up when it is working. Just as electronic devices consume electricity so our bodies convert food into energy. During physical activity we consume more energy, i.e. more is also "wasted" in the form of heat and our temperature rises.

Internal body temperature (e.g. inside the stomach, the head) must be carefully regulated. Hence, excess heat produced during physical activity is directed (together with the blood) primarily to the limbs and the surface of the skin (hence, e.g., our complexion reddens and our cheeks get warmer).

How does physical effort affect breathing frequency?

Give a small demonstration: light a candle and then cover it with a jar. What happened? What does this have to do with breathing frequency and tiredness? A person breathes in order to supply the body with oxygen, which is needed to "burn off" food particles, i.e. convert them into energy. Our body derives energy from burning nutrients, which we provide it with when we eat food. Although this burning does not involve "fire", the process is very similar and requires – just like a candle for burning a wick – the presence of oxygen. When more physical effort is expended we need more oxygen.

What effect does physical effort have on blood pressure?

The faster the heart beats, the faster the blood flows in the blood vessels (blood pressure increases). During physical effort, increased blood flow makes it possible to supply the working muscle with a larger amount of sugar (nutrients, energy substrate) and oxygen.

Get ready for Qs

Video/ Slide show

You will see a short film about how muscles work.

See more

Clicking play will redirect you to YouTube website.

You can also show this video to your students.