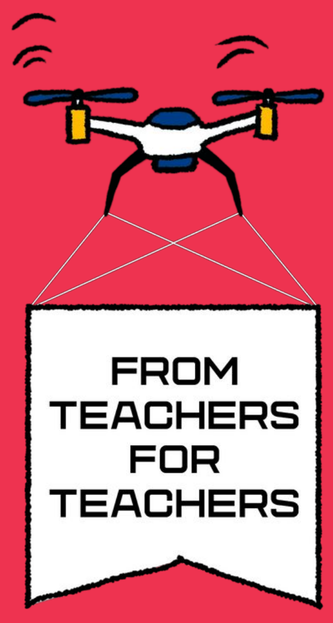

Sustainable Development Goals in Education

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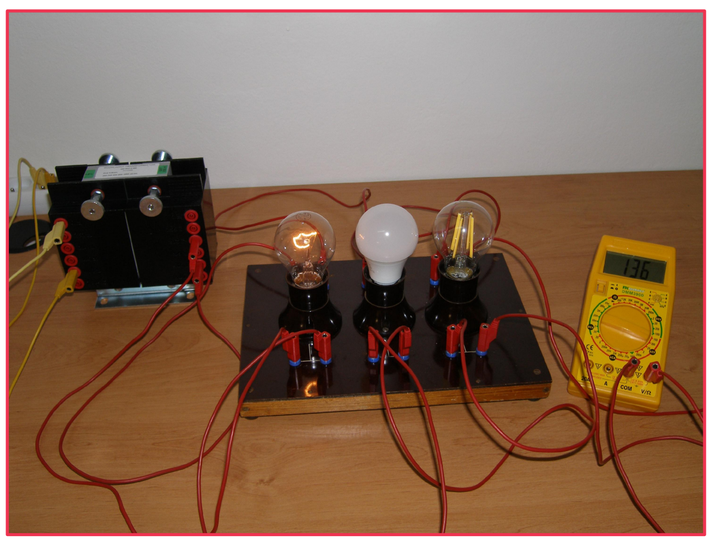
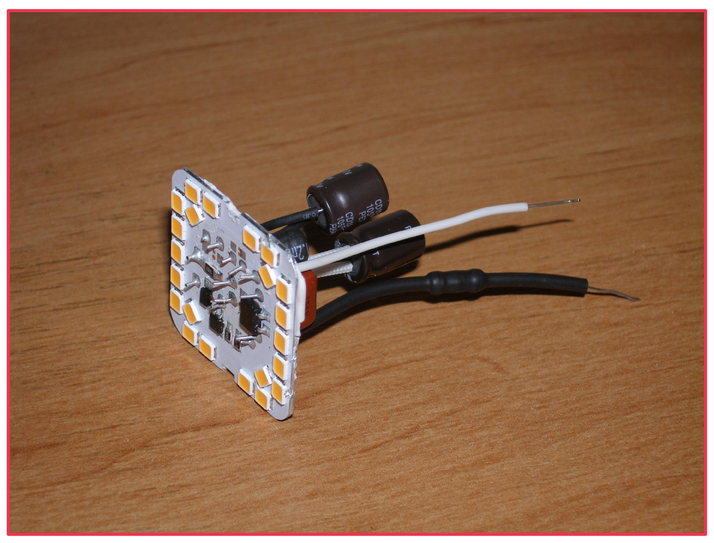
How things work

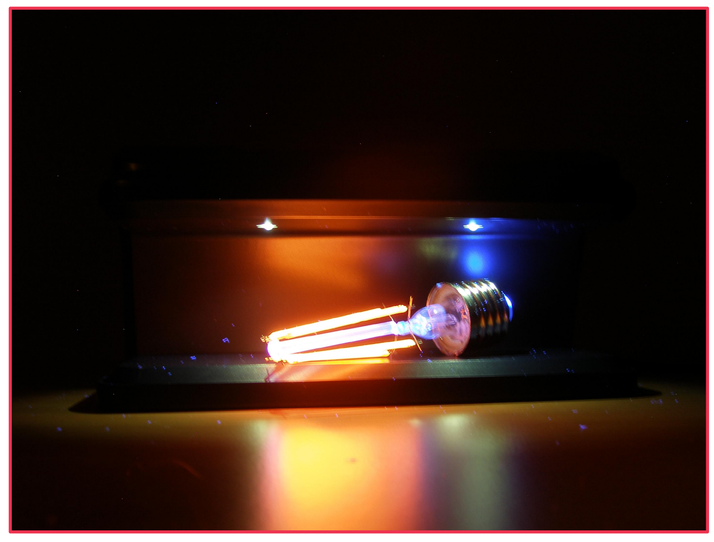
A number of technical devices are a part of our daily life. The demand for the greatest possible perfection, speed and, on the other hand, also for ecology, safety and economy, means that things around us become more and more complex. They become "black boxes" that we do not understand.

The topic of the project are experiments with small electronics, various electrical appliances or components of electrical installations, which allow insight into the principles of their operation, as well as experiments using this technique to understand the basic laws of physics.

Journey inside the LED light bulb – disassembly, measuring and discovery activity

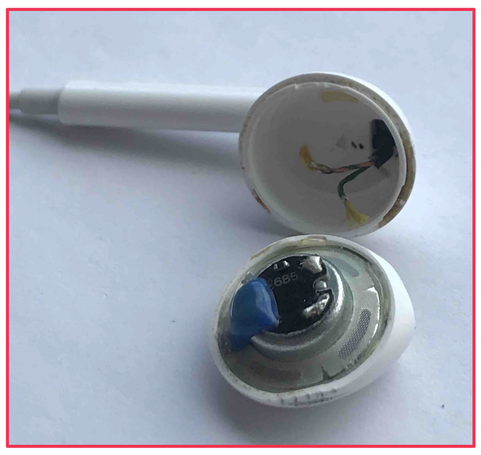


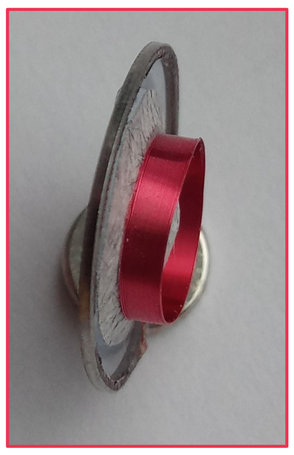




What types of LED bulbs do we have? Can you draw (describe) what's inside? What is the difference in the light intensity of a classic and LED light bulb with the same wattage? Can we dim the LED bulb?
How to measure the power consumption of an LED bulb or the current flowing through it. What actually glows in the LED chip? Disassembling the LED bulb. "Detective investigation" - identification of components. Can we draw and describe the scheme?

Journey into the centre of headphones – disassembly, measuring, discovery and sometimes literary activity





The object of interest of this activity are ordinary headphones for a mobile phone. Non-functional ones are intended directly for disassembly, identification of components and explanation of the principles of activity by means of basic physical laws. The "disassembly" activity together with the "measuring" activity on the functional headphones will provide a surprisingly simple explanation of their operation.