

The scenario

Subject	Thermal properties of matter / Thermal conductivity
Length	2:53
Main goals	Get familiar with the thermal conductivity
Detailed goals	To understand that we can feel „warm” and „cold” when touching different materials with the same temperature.
Structure and description of experiments:	
1. Introduction	Touch wooden desk with one of your hand and metal leg of a desk with the other. What is warmer?
2. Main subject	Thermal conductivity
Experiments	First we show that the temperature of each of discs, wooden and aluminium, are the same. Then we put an ice cube on each disc and ask which one will melt first? Temperature is the same in both cases but thermal conductivity is not. Ice will melt very quickly on aluminium and will not melt at all on wood.
3. Summary, evaluation and remarks	Aluminium has many free electrons, which conducts heat easily. Wood is an insulator so it has no free electrons. The same reason is why wooden desk feels warm but metal leg cold – the last one „steals” our warm more rapidly, having the same temperature difference (body-surroundings). Level: primary school