

Collaboration in STEM Education

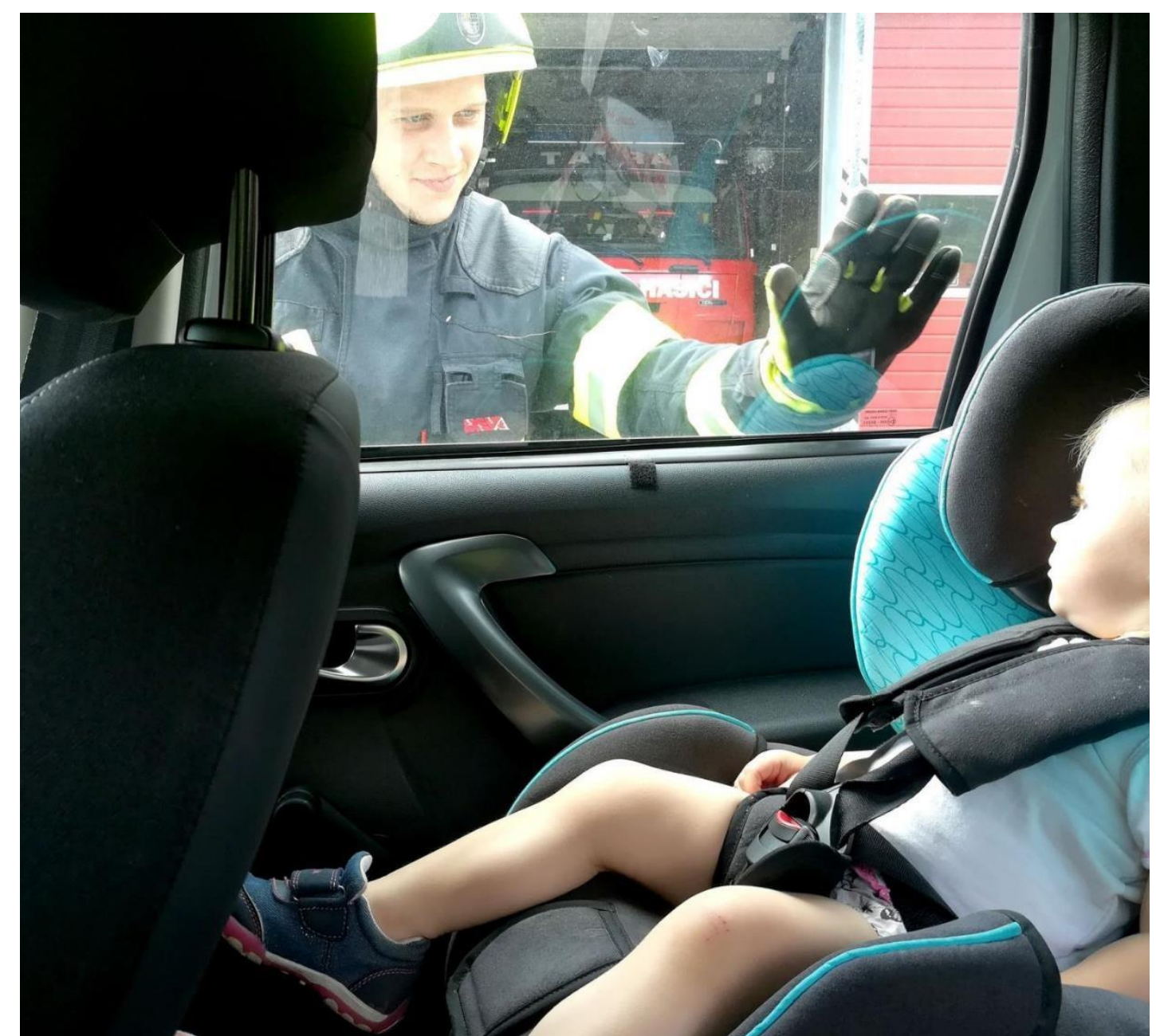
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How long does it take to "cook yourself" in a closed car

Objective: measure the rate of temperature rise inside a car

- elementary-school measurement based on a real situation
- surprising results (!) to children
- high-quality relevant data can be obtained with the age group at the primary school level
- very attractive regarding the tools used and the topic of the problem
- linking the physical problem with the use of IT
- link between the physical problem and critical thinking
- use of knowledge of biology

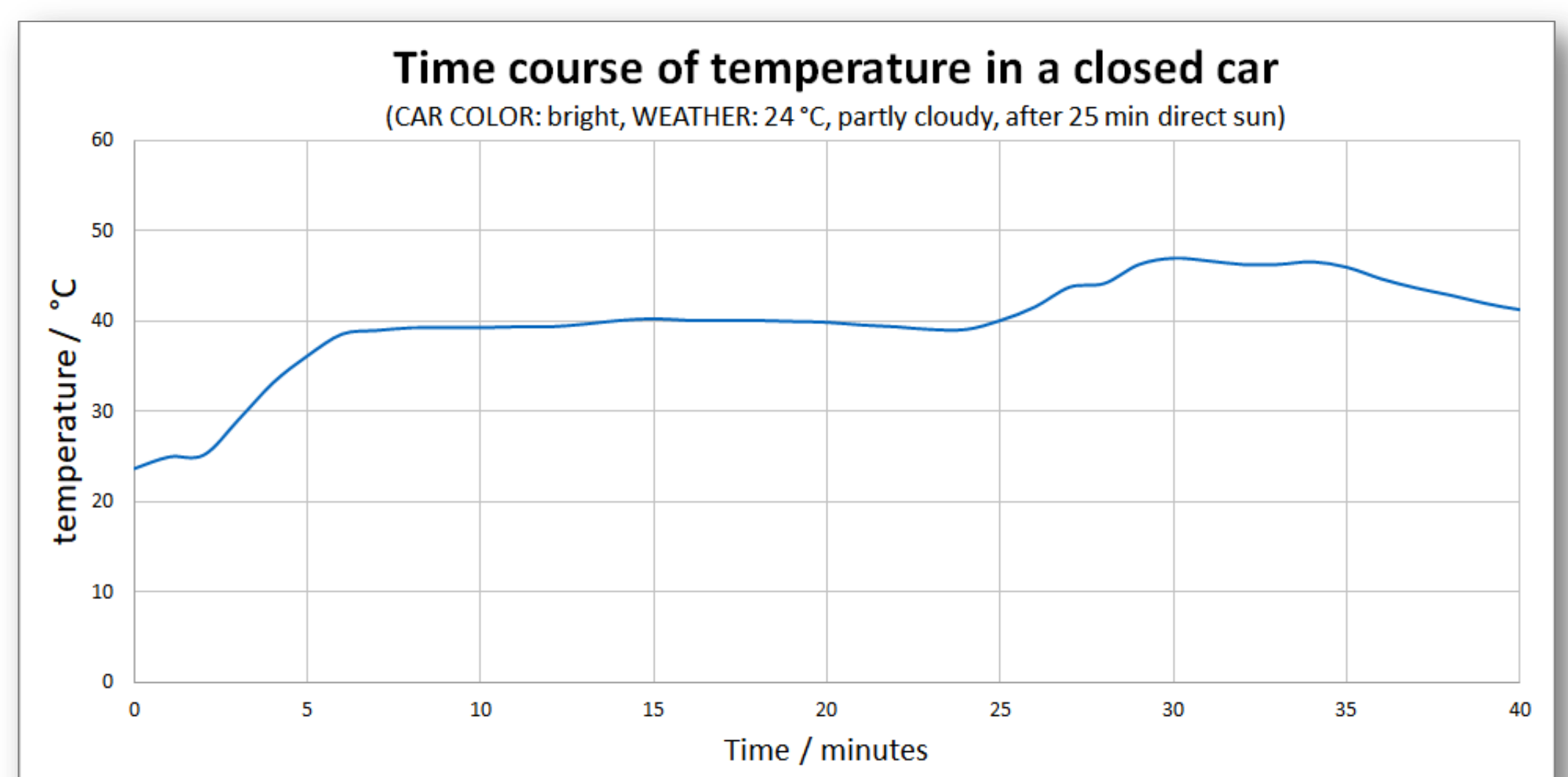
Easily gradable: it is easy to adjust the difficulty and breadth of the assignment as well as the options and techniques according to the age and abilities of the children.



There are a number of seasonal media reports related to the danger of overheating of children / animals in a closed car.



This project was implemented last summer as a part of "the research week" holiday program for gifted children in our town. The youngest children firstly tried measuring with an alcohol and digital thermometer, then chose a digital thermometer to carry out the experiment measurement.



The most capable children have built their own wireless temperature sensor. They used a single-chip ESP32 microcontroller, which (with a connected temperature sensor) made it possible to measure the temperature and immediately send it via Wi-Fi to a nearby PC.