

Additional problems for Science Fight 4

8th IYNT 2020

Released on November 1, 2020

21. Reaction time

Measure your reaction time by asking a colleague to drop an object between two almost closed fingers or hands and trying to grab it. Is it possible to detect differences in the reaction time between members of your team?

22. Blinking

Ask several members of your team to volunteer for three tests: blink normally; blink as frequently as they can; do not blink for the longest possible time until they feel uncomfortable or blink involuntarily. Measure each frequency and analyze the results.

23. Time goes backwards

Produce a video showing a natural phenomenon in reverse motion. Select such a phenomenon that your video looks the same if played forward or backward.

24. Oscillations in water

Take a vial, a tall glass, or a bottle and load it with heavy objects. Make it float vertically on the water surface. If displaced up or down, the vial will oscillate. Calculate theoretically and measure experimentally the period of its oscillations.

25. Piles of powder

A powder of your choice is poured onto a table, e.g. through a tube or a funnel. Investigate how the height of the pile depends on time. Investigate how the shape of the pile depends on time.

26. Steamed up mirror

When one blows air on a mirror or a window pane, it gets foggy. Investigate this effect.