Low-Cost Experiments in STEM Education



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MAKE "OZONE DETECTOR" IN THE SCHOOL LABORATORY

I found an interesting method of making indicators in the form of strips that would measure the concentration of "bad" ozone. I decided to try to make strips with the students.

With strips the students measured ozone in the places where they live.

HOW TO PREPARE "OZONE DETECTOR,, STRIPS

- ☐ Preparation of indicator solution.☐ Preparation of
- ☐ Preparation of strips.



HOW TO MEASURE OZONE

- ☐ Moisten the strip with deionized water.
- ☐ Expose strip for 8 hours in a shaded place.
- ☐ Measure the relative humidity of the air.
- ☐ For data accuracy, the measurement is repeated seven days.

HOW TO DISPLAY RESULTS

- ☐ Enter the results in the table
- ☐ Make a table of the whole group
- ☐ Make a graph of the mean values of the ozone amount.
- ☐ Compare the results.

DATA & TIME % HUMIDITY DATA & TIME % HUMIDITY 1 2 3 4 5 6 7 8 9 10 Schönbein Number (after 8 hours exposure) MEAN VALUE

Figure 2. determination ozone concentration

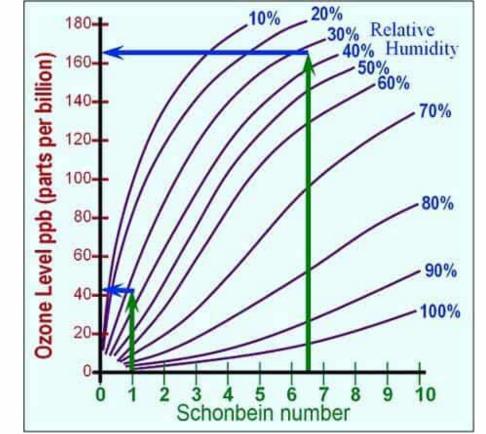


Figure 3. display of results

SMALL CALCULUS

	OUR STRIPS		OZONE TEST STRIPS		
PRICE SOURCE	https://www.dem.hr/laboratorijski potrosni materijal html		https://www.mn-net.com/semi-quantitative- test-strips-ozone-test-for-ozone-in-air		
PRICE	The second section of the second seco	0.93 € 0.80 € 0.13 € 0.66 €	1Test Strips 300 strips	2,29 € 687,00 €	
TOTAL		2,52€			687,00€

Figure 4. cost sheet

We wish to show that with a little good will and with minimal funds, an "ozone detector" can be prepared in every school, which can then be used to monitor the amount of ozone in the air.

In this way,

students are provided with a research approach to understanding the importance of knowing air quality, which is a problem of global proportions today.

Scanning the QR code you can watch the movie

