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# The artificial lake of John Paul II Public Park Pomigliano's lake

ISIS EUROPA from POMIGLIANO D'ARCO (Na)  
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Team Class II Cg 2023/2024

## THE ARTIFICIAL LAKE

The artificial lake of Pomigliano d'Arco is in the Public Park (40°54'16"N e 14°23'53"E) about 2 km from our school.

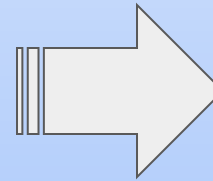
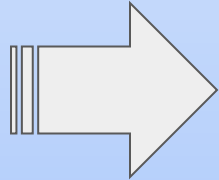
The lake is 38 m above sea level. Many plants and animal species live in the lake. After some time of degradation it has been cleaned up.



The question is:  
what are the  
current chemical  
conditions of the  
lake's water?



## OUR ACTIVITY



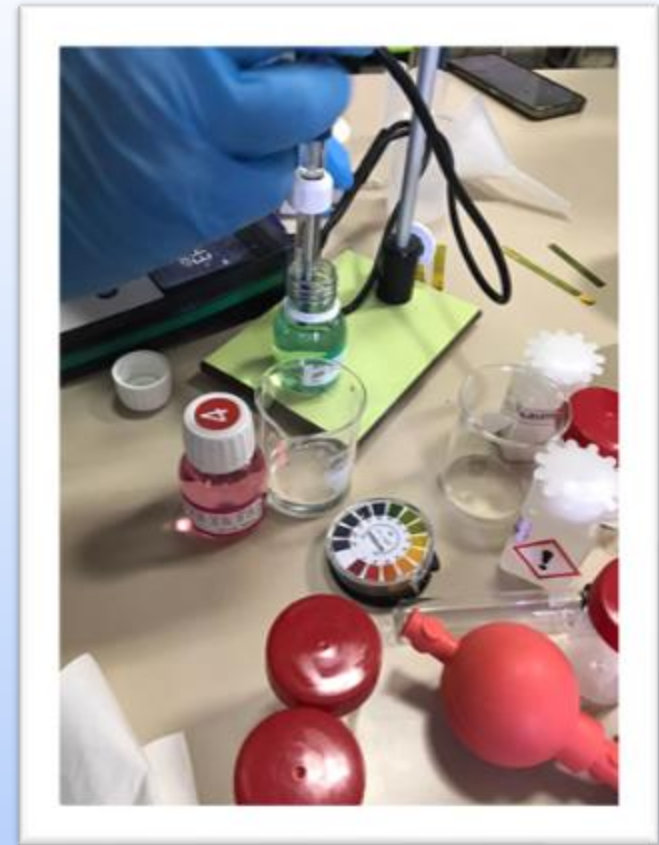
The water samples and the chemical testing were carried out on the same day.

# PH DETERMINATION

The pH measurements were carried out using both the litmus paper and the pH meter.



Generally the pH of lakes' water is usually between 6 and 8, depending on the substrate and surrounding soil.



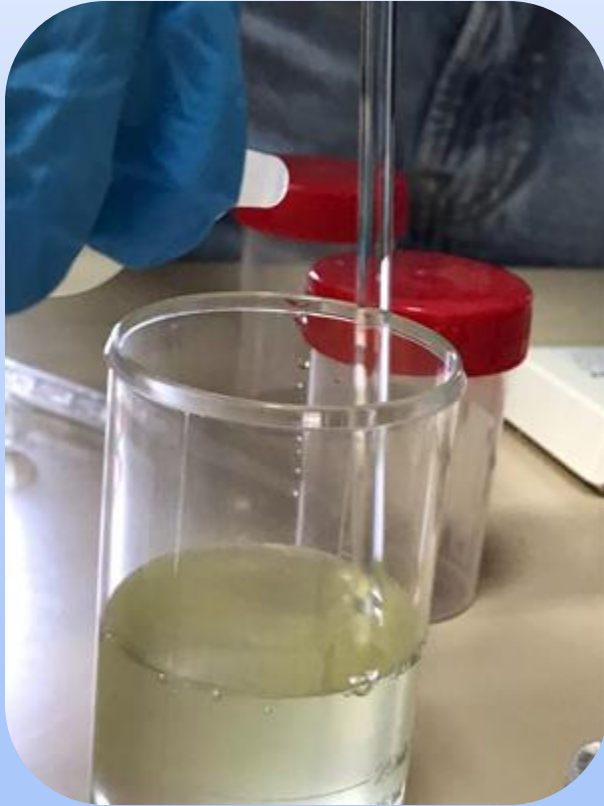
# RESULTS



The pH of lake is 7.3 that is an acceptable value.



# HARDNESS DETERMINATION



Water hardness is actually a quantitative measure of calcium and magnesium ions in the water sample.

# HARDNESS DETERMINATION

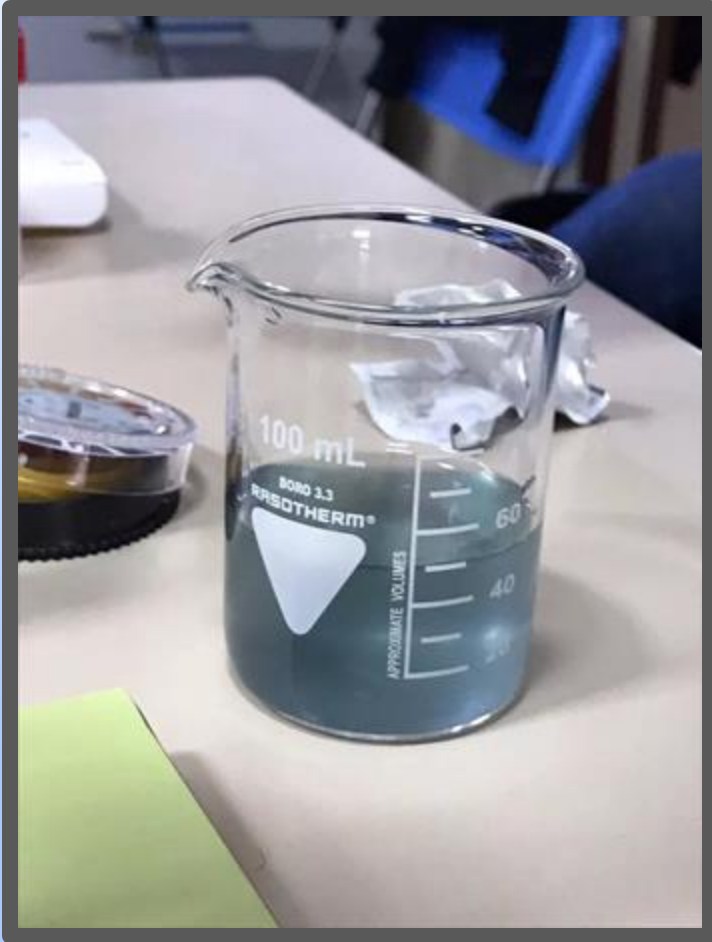


The measure and subsequent control of water hardness is essential to prevent scaling and clogging in water pipes.



# RESULTS

The water's hardness is 13°F (french degrees). This value is compatible with the life of the fauna and flora present in the lake!



# DETERMINATION OF NITRITES

Nitrites react with chromotropic acid reagent to form a pink tint in the sample.



# RESULTS

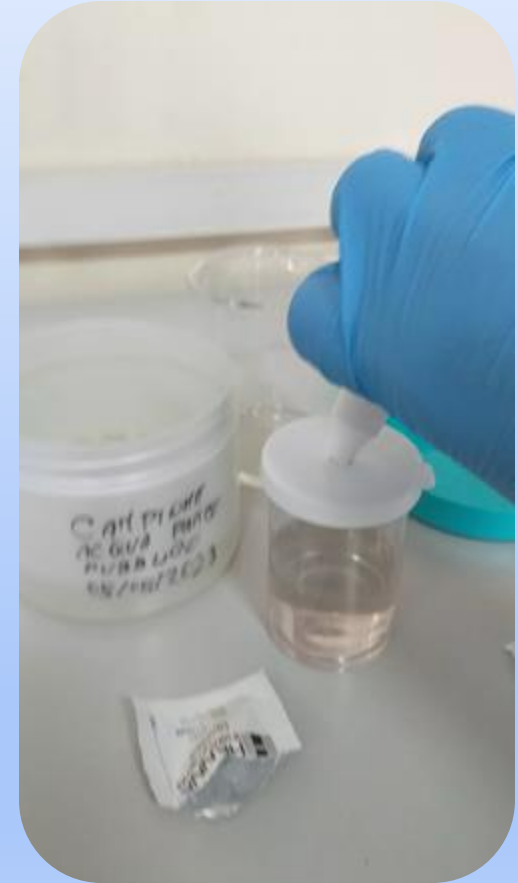
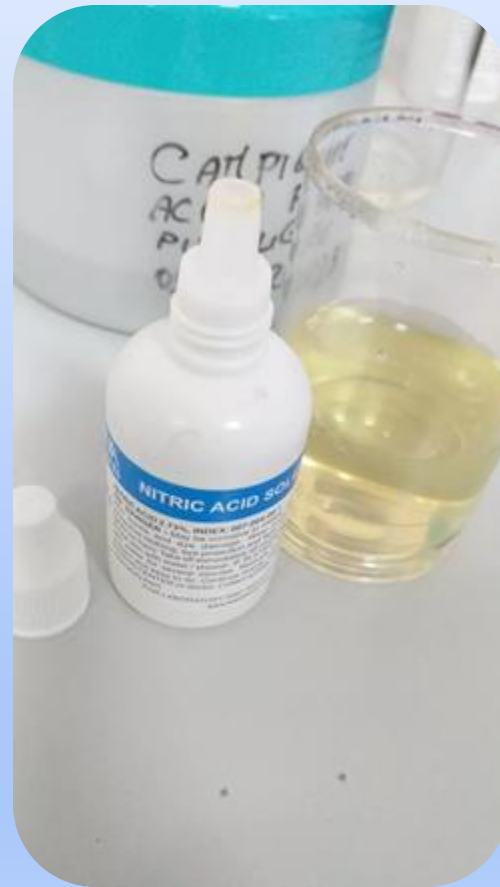
Nitrites are extremely toxic to fish and shellfish. The nitrites concentration of the sample is 0.23 mg/l.

The value is compatible with the life of the lake's flora and fauna.



# DETERMINATION OF CHLORIDES

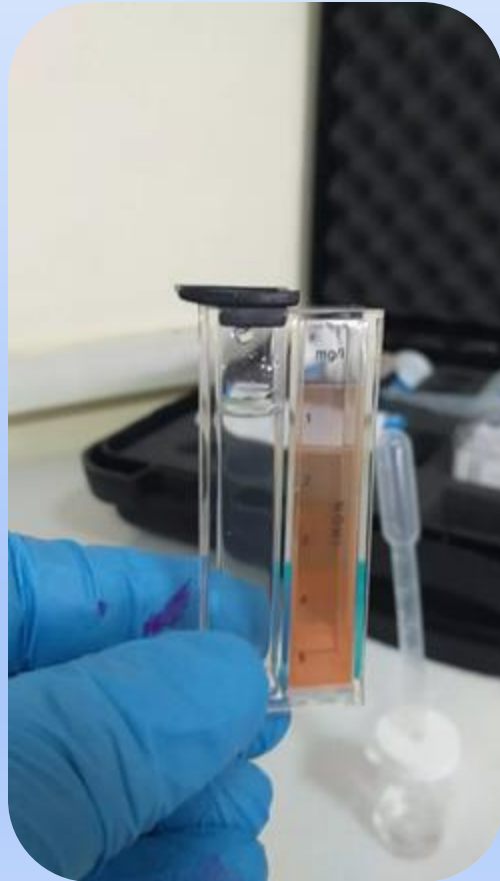
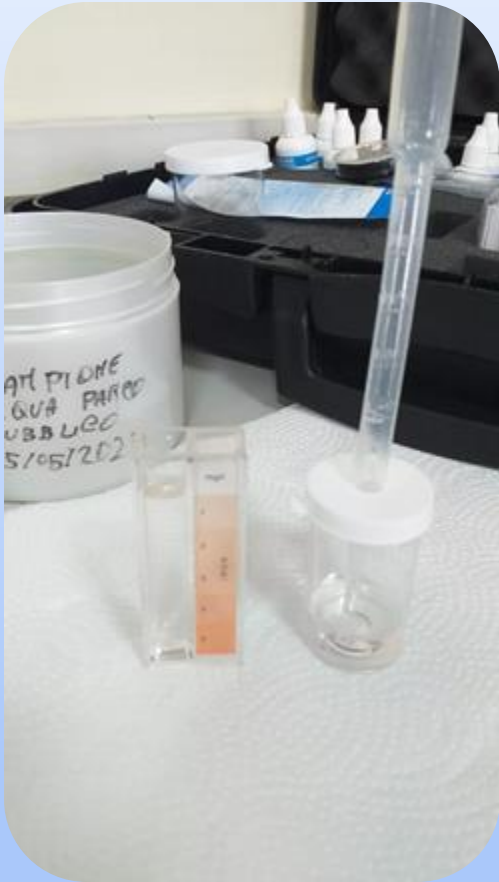
The chloride level is determined by a mercuric nitrate titration.



# RESULTS

- In high levels, chloride can be toxic to plant life.
- Chlorides in the water sample are 100 mg/l
- This value is compatible with the life.





## RESULTS

We determine iron levels using a colorimetric method.

Iron is absent in the examined sample.



## **Conclusion**

The data shows that the water body is suitable for the fauna and flora it hosts!

