

# PROBLEM 11

## COLORFUL BOUQUET



Opponent: Victoria Hristova  
Team: Bulgaria - Sofia

# Main Problem

---

## 11. Colorful bouquet

It is known that the color of a carnation flower can be changed if the plant is watered with an ink solution. Can the color of the flowers be changed by other methods? Explain the principle of your method. To what flowers is it applicable?



# Theoretical Part

---

---

<b>(+) characteristics</b>	<b>(-) characteristics</b>
<ul style="list-style-type: none"><li>• The main problem was presented in an understandable way</li></ul>	<ul style="list-style-type: none"><li>• Left many unanswered questions</li></ul>
<ul style="list-style-type: none"><li>• The general points of color-change in carnations were marked clearly</li></ul>	<ul style="list-style-type: none"><li>• Didn't explain the principle of water absorption.</li></ul>
	<ul style="list-style-type: none"><li>• The conclusion was very</li></ul>



# Experimental Part

---

---

<b>(+) characteristics</b>	<b>(-) characteristics</b>
Different types of flowers used.	The mechanism of anthocyanins is not clearly explained
Interesting methods.	



# Questions and Topics

---

How does the time period in which the flower has been sitting in the colored water affect the intensity of the color?

Why is the change in color visibly more intense in certain parts of the flower and not in the entire petal?

What is the nature of xylem tubes?

What will happen if you put the carnation in a colored salt solution?



# Questions and Topics

---

What would happen if you put the carnation stem into soda instead of water?

What would happen if you changed the way you colored the water?

What will happen if you took out the carnations out of the colored water and left them to dry? Would there be any fading in the color?



# Questions and Topics

---

Can sunlight affect the saturation of the color of a flower?

If you split the carnation and put one side of it in water and the other side in colored water? Would the flower be all one color would only half of it absorb the color?



# Conclusions

---

Overall, the presentation was good, but basic principles of water absorption were not clearly explained



**Thank you for  
your attention!**

