

10th IYNT 2022; Tskneti, Georgia

Problem 16. Flying seeds

Opponent: Mihnea Grigore
Team Romania - Limitless 3.0

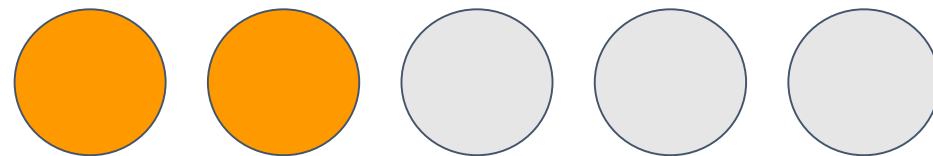
21-28 August 2022

Proposed problem statement:

Investigate and describe **characteristics and movements of helicopter seeds.**

Theoretical Part

Strong points	Weak points
<ol style="list-style-type: none">1. Mentioned a lot of types of flying seeds (however, did not explain mechanism)2. Explained the differences between types of seeds	<ol style="list-style-type: none">1. Long introduction(non relevant)2. Did not mention what type of seeds they used3. No comparison between mentioned types; did not relate them to helicopter seeds4. No explanation of the phenomenon: only an inventory of types of flying seeds5. Non relevant theory(not tied with the experiment)6. No theoretical proof for the landing position (claiming it's appx. the same)

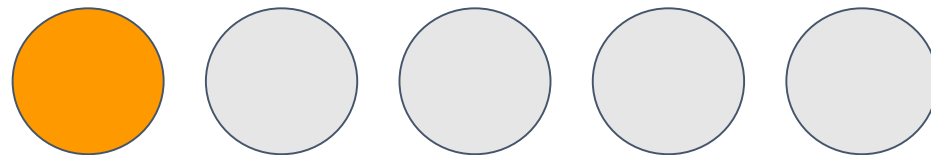


Experimental Part

Strong points	Weak points
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1. Had visual aids for experimental results (technical difficulty for videos)
2. Repeated measurements (however, no quantification, ***only qualitative results***)

1. No given quantified parameters for the experiment
2. Used keywords to describe characteristics. No quantification for velocity (meaning of 'quicker')
3. Did not explain why the experimental results are true or how they relate experimentally
4. ***No experimental hypothesis***
5. ***No calculation of errors***
6. Brief enumeration of parameters (Poor time management)
7. **Did not have any data from the flight of the seed to analyze**



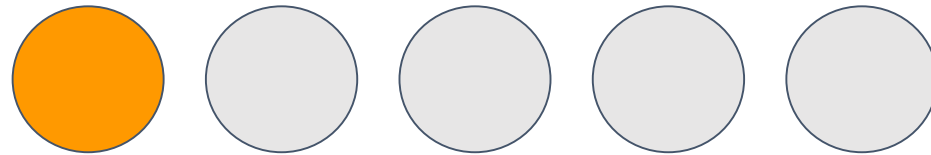
Conclusion

Strong points

1. Showed the phenomenon in various experiments as a conclusion

Weak points

1. Did not relate experiment with theory
2. Did not go over the phenomenon (no explanation for physics or biology)
3. ***Barely any conclusion shown***



Discussion topics

1. Do you think that dropping the samara using your hand could involve human error(different angles, initial velocity etc)?
2. Why does it start to spin?
3. How did you analyze the data on the flight of the seed?
4. How did you make sure that the environment is enclosed and that there aren't any disturbances when varying the experiments?
5. When you varied the seeds, didn't other parameters also vary(imperfections, veins etc)?
6. What happens when the seed starts to spin?
7. How many times did you perform the experiment?

Discussion