Experimental Design C - Experimental Design C 2020 - Camas C-Invite - 12-12-2020

Welcome to Experimental Design! Here are the instructions for our MiniSO version of the competition:

1. Teams will be asked to follow the traditional rules of Experimental Design. Once you start the time block and receive the prompt, you have 20 minutes to complete Part-I on this platfo and conductor experiment at home
2. We recommend designate one person with hands-on experiments who should have access to all the *potentially* required materials (see list below).
3. Team can choose to conduct experiments individually.
4. The event supervisor will provide a template at 20 minutes past the start time. Student can download and make a local copy, titled "[TEAM NUMBER] - [TEAM NAME] CamasInvite Experimental Design C"
5. This template includes Part-II sections: Statistics, Analysis, Errors, Conclusion, Applications, and Abstract, which competitions need to follow in its sequence and sections length.
6. Students can include any Part-I diagram or description that does not get captured in the scilympiad.com platform format. Sample data include but not limited to

- Picture(s) of procedure diagram(s) (from part I)
- Data Table pictures (from part I)
- Data Graph (picture or Google sheet plots)

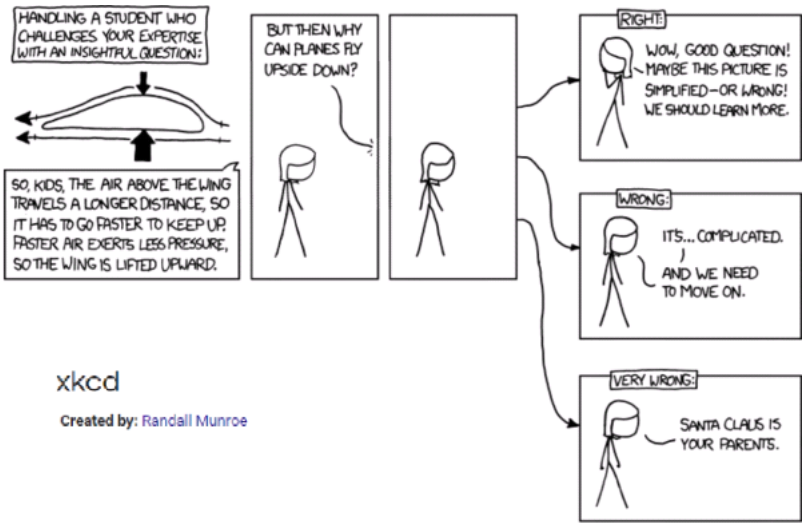
At end of 50 minutes, the team shall submit the link to write up of experiments to event supervisor using this form https://forms.gle/EQnARtvBkCHdH4sz7 (https://forms.gle/EQnARtvBkCHdH4sz7) (Be sure to save this for your uploading).

Submissions received by the supervisor 5 minutes past the time block will get penalized at her/his discretion. If you cannot use Google Doc, make sure your document is less than 10 M in size, preferably in PDF format or .docx, and use the upload function in the form.

Email leijianghome@gmail.com if you have any issues with submission.

Potentially required materials: 5 cups, 10+ pennies, 10+ paper clips, 5 balloons, salt, sugar, water source, index cards, paper, rubber bands, string, roll masking tape, linear measurin device, timer. (not all will be needed during experiments).

Part I: Experimental Design



Topic area: Aerodynamics

/ˌerōˌdīˈnamiks/

noun

> the study of the properties of moving air and the interaction between the air and solid bodies moving through it.

Materials

- Must use: Papers (any kind), paper clips
- Optional: pennies, balloons, salt, sugar, water, index cards, rubber bands, string, masking tape, cups
- You may use timepiece and linear measurement device
- You may use any types of calculator

1. (4.00 pts) Statement of Problem

2. (6.00 pts) Hypothesis

3. (6.00 pts) Variables - Independent

4. (4.00 pts) Variables - Dependent

5. (8.00 pts) Variables - Controlled variables and Constants

6. (4.00 pts) Experimental Control

7. (4.00 pts) Materials

8. (14.00 pts) Procedure and Set-up (may include description of diagram)

9. (6.00 pts) Qualitative Observations

10. (10.00 pts) Quantitative Data (may include description of data table)

Link to Part-II template in Google Doc format --> **LINK** (https://docs.google.com/document/d/1wOvZkpd0gRHBAYkNSQrCBECAI0s5Z-jqXu37jJP1r74/edit?usp=sharing)

The template in Word doc format can be download **here. (https://scilympiad.com/data/org/wa-camas/public/ExpDesign-C-2020-Camas-Invitational.docx)**

(This will only be available for download at the 20 minute mark).

Congratulations. Don't forget to submit Experimental Design document in Google form https://forms.gle/EQnARtvBkCHdH4sz7 (https://forms.gle/EQnARtvBkCHdH4sz7)
Email leijianghome@gmail.com if you have any issues with submission.