

Science Fair / Bridge Deadlines

Biology Ms. Barge 2009

Monday	Tuesday	Wednesday	Thursday	Friday
3/23	3/24 5 st period 1 st Bridge	3/25 6 th period 1 st Bridge	3/26	3/27 No School - Inservice
3/30 5 th & 6 th periods - Sci Fair Idea / Procedure Due	3/31	4/1	4/2 Report Card Pickup	4/3
Spring Break 4/6-10				
4/13	4/14 5 st period 2 nd Bridge -	4/15 6 th period 2 nd Bridge -	4/16 Seminar	4/17
4/20 5 ^t & 6 th periods - Sci Fair Check-in Due	4/21	4/22 PASE - Only Jr in school	4/23 PASE - Only Jr in school	4/25
4/27	4/28	4/29	4/30	5/1 Seminar Cubby Walk
5/4 5 ^t & 6 th periods - Sci Fair Papers Due	5/5 3 rd Bridge - 5 st period	5/6 3 rd Bridge -6 th period	5/7 Seminar	5/8
5/11 5 th & 6 th periods - Bridge Papers Due;	5/12	5/13	5/14 Seminar Freshman Science Fair	5/15

Bridge Guidelines:

http://www.iit.edu/~hsbridge/database/search.cgi:/public/international/2009/international_rules

Helpful websites:

- <http://iit.edu/~hsbridge/database/search.cgi:/public/index>

- <http://www.brantacan.co.uk/bridges.htm>

- <http://www.balsabridge.com>

Bridge Building Hints/ Things to Consider:

1. Materials – What materials are you using -- Glue? Wood?
2. Construction – What are the guidelines for structure?
 - Height, weight, length, etc.
 - What does the base of the bridge look like?
3. Loading – How will the judge load the weight onto your bridge?
4. Make sure that you are building in your “loading plate” and that it follows the guidelines.
5. Testing – The bridge will be centered on the support surfaces.
 - The loading plate will be placed at the specified loading location.
 - The load will be placed from below.
 - Bridge failure is defined as the inability of the bridge to carry additional load, or a load deflection of 25.4 mm under the loading point, whichever occurs first.
 - The bridge with the highest structural efficiency, E, will be the winner. Bridges failing above 50kg will be considered to have held 50kg for efficiency calculation.
 - Efficiency – (Load supported in grams)/(Mass of bridge in grams)

Bridge Blueprint (turned in with paper, of 3rd bridge) must include all measurements.

Bridge Paper Hints (for bridge description):

1. What type of bridge are you building?
2. Why did you choose this structure?
3. Why are support systems needed?
4. What are the physics principles involved in your bridge building?
5. What are the forces on a bridge?

Paper Guidelines:

1. The paper may not exceed 1500 words in length.
2. The paper must be typed, 12 pt. font, double-spaced, on only one side of each sheet.
3. There must be a margin of 1 ½ inches on the sides and 1 inch at the top and bottom.

The Paper should:

1. Summarize the research that was conducted in order to learn how to build an effective bridge.
2. Include all information relevant to your bridge design and site all of your sources
3. The website at the Illinois Institute of Technology provides specific guidelines such as length, width, height and weight (www.itt.edu/~hsbridge).
4. The type of glue and amount used must also be carefully considered.
5. Explore the different types of bridges that exist and determine which are the most efficient.
6. Which ones meet the qualifications of the bridge contest?
7. What geometric shapes are most efficient? Why?

Sci Fair Paper Biology Ms. Barge 2009

The following should be included in the paper:

- Title Page
- Table of Contents
- Acknowledgements
- Purpose & Hypothesis
- Review of Literature - the research you do about your topic
- Materials & Methods of Procedure
- Results
- Conclusions
- Reference List

The paper should follow the format specified by the Chicago Public Schools Science Fair Committee. You can find more detailed information at their web site.

<http://www.chicagostudentsciencefair.org/>

The handbook is online at the following web site:

http://www.iit.edu/~hsbridge/database/search.cgi:/public/international/2009/international_rules

On the title page you must put the category your projects falls under.

If you are working with animals or humans you must have the proper endorsement. See me if this involves your project.

If you are working with microorganisms, they must be on the approved list. See me if this involves your project.

Even though we are not in the city competition at this point, you must follow those guidelines.