



The Fairchild Challenge 2009-2010
How to Guide For Students
Option 8B: Research Project
LEED Certified Science Classroom

I. Overview

Creating environmentally sustainable buildings has become very popular in the past couple of years and is an important part of the green movement. LEED (Leadership in Energy and Environmental Design) certification is a building rating system designed by the [U.S. Green Building Council](http://www.usgbc.org) which assigns ratings for buildings that have reached specified standards of sustainable designs.

II. Approaching the Option

1. Research the LEED Green Building Rating System. Refer to this website to get you started:
<http://www.usgbc.org/DisplayPage.aspx?CategoryID=19>
LEED Certification has various levels. Try to aim for the highest one!
2. Design requirements for the Fairchild Challenge LEED Certified Science Lab/Classroom has to include the following:
 - 30 seats
 - 1,800 square feet
 - Living, natural, botanical component. For example: building around a tree, including plants, classroom greenhouse, etc.
 - Classroom furniture: teacher demonstration table, long-term project area and prep and storage space, deep sinks and rinse-away station. Check out these websites for help with the furniture design:
 1. http://classroomfurniture.com/itemlist.wvs?Category=Science+Lab+Furniture&CPK=5611&gclid=CLLw_dmZxpsCFQJvswodh2rKBA
 2. https://www.schooloutfitters.com/catalog/default/cPath/CAT530?s_kwcid=TC|6210|science%20classroom%20furniture||S||2773253627
 - Gas, power, ventilation, and attention to safety features
 - Means of egress
 - ADA accessibility
3. After designing your building, create a model using a scale of 1 inch: 4ft.; not to exceed 3' x 4'.
4. Compose a one page narrative explaining the design choices and why the design qualifies as a "green lab/science classroom"
5. Entry Form is due to Fairchild by 5:00 pm, Wednesday, March 17th

6. Bring the design, the model, and the narrative to the Research Projects Showcase on Saturday, April 10. **Check in for the event is at 1:00 pm** and the event will be from 1:30 pm to 3:30 pm.

CHECKLIST

- 30 seats
- 1,800 sq ft
- Living, natural, botanical component
- Classroom furniture (teacher demonstration table, long-term project area and prep and storage space, deep sinks and rinse-away station)
- Gas, power, ventilation, safety features
- Means of egress
- ADA accessibility
- Model with scale of 1 in: 4 ft. (not exceeding 3' x 4')
- 1 page typed narrative – bring extra copies for the judges
- 2 - minute presentation for the judges
- I have prepared for any questions the judges might ask.