

Physics Technology projects 2014

- Students will complete at least two technology projects from May 2-May 7.
- Laptops will be provided each day so that students can complete these projects during class time
- Teacher will assist students when help is needed.

Possible projects to attempt:

- 1) Scratch programming
- 2) Spreadsheet calculations
- 3) Autocad room design
- 4) West point bridge designer: bridge redesign.
- 5) Dash (<https://dash.generalassemb.ly/>)
- 6) Codeacademy
- 7) Any other project approved by Mr. Clark/Ms. Frandsen is fine as well.

Descriptions of projects

1) Scratch programming

- Students will use scratch to develop a basic program.
- This program will use at least 4 keyboard inputs to perform different tasks
- Students will complete lesson 1.1

2) Spreadsheet calculations

- Students will design a spreadsheet that will take input value and solve for unknowns.
- This can either be done with circuit problems, kinematics problems, or another approved topic
- Spreadsheets should use at least one if statement
- Spread sheets should allow for different conditions to be chosen (ex. parallel and series)

3) Autocad room design

- Students will develop a to scale Autocad drawing of their room.
- This will require measurements outside of class time.
- Students should work in metric units
- Students should then work to rearrange their furniture to develop an alternative design

4) West point bridge designer

- Students will use westpoint bridge designer to redesign a bridge in order to decrease the cost of the bridge.
- Cost should be reduced a minimum of 10%.

5) Dash from general assembly

- teaches the basics of web design
- should complete one project

6) Code academy

- teaches a variety of coding languages
- should complete at least one lesson

7) Alternatives can include phet, Arduino, Raspberry pi,

Assessment: These project will be worth 60 points:

Work ethic: 20 pts

Successful completion of a project 20 points (x2)

Can complete an additional project for 5 EC points