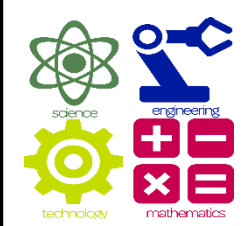


The Interdistrict
Science Magnet Schools
AT THE FAIRCHILD WHEELER CAMPUS



FAIRCHILD WHEELER Orientation 2015



The Interdistrict
Science Magnet Schools
AT THE FAIRCHILD WHEELER CAMPUS



Proposed Summer Orientation Program

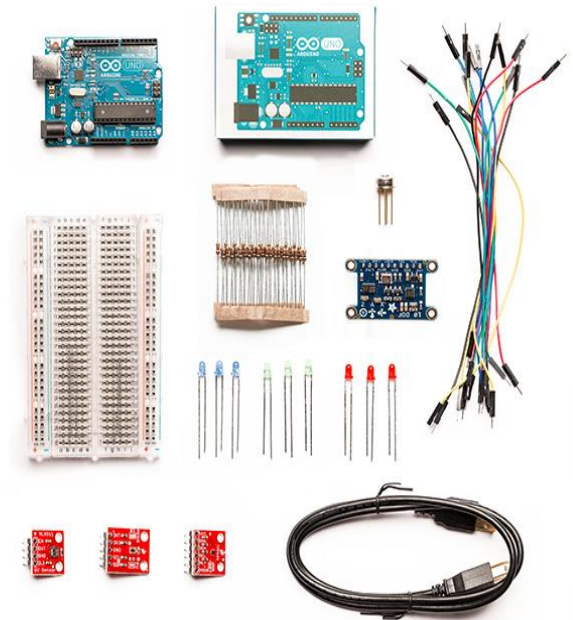
Fairchild Wheeler Magnet School
18 May 2015

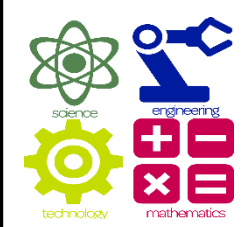




Outline

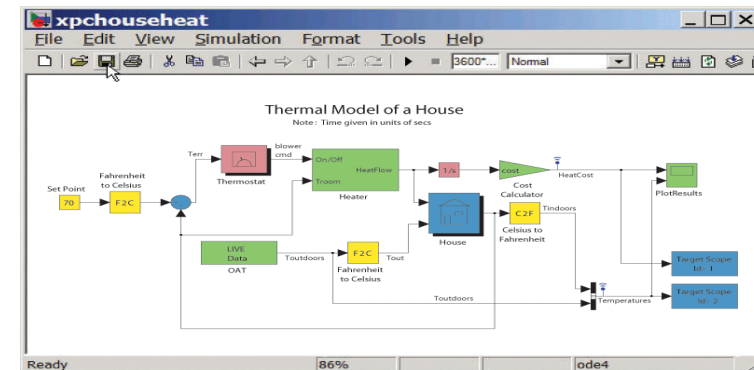
- Purpose
- Day One
- Day Two
- Day Three
- Next Steps

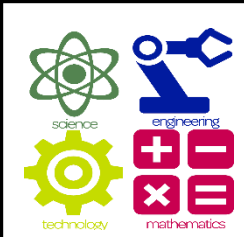




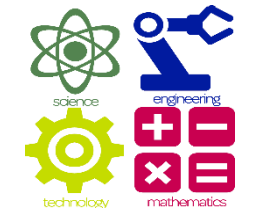
Purpose

- To introduce incoming students to Fairchild Wheeler
- To generate excitement about science and engineering
 - Biology
 - Information technology
 - Engineering
- To begin to introduce core ideas and technology to be used as a base
 - Computer technology: Arduino hardware, operating systems, languages
 - Communications technology: USB, WiFi, TCP/IP





Day One Introduction

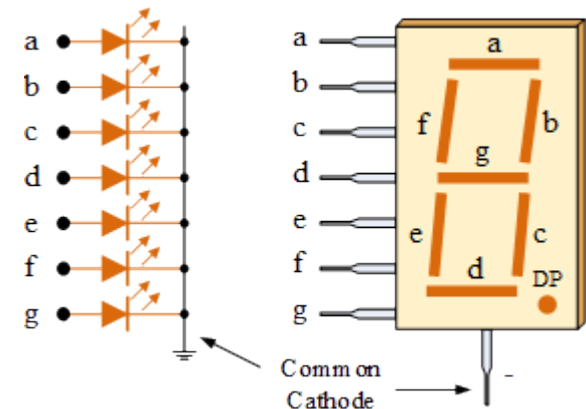


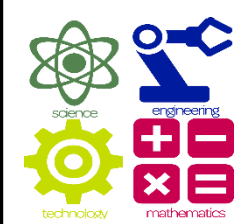
- Fairfield Wheeler Magnet School
- Student Orientation Summer of 2015 Duration in minutes
-
- Welcome to your new school 10
-
- Department Introductions
- Math 10
- Science 10
- Biology 10
- Management Information 10
-
- Introduction of Claire Gold
-
- *Every hour a video is presented to break up the flow of the class the recommended videos are in a list in Appendix A below.*
- *Each class room should have the appropriate equipment to present audio visual information.*
-
- Guest Speakers
-
- University of Bridgeport 10
-
- Discovery Museum 10
-
- Sikorsky 10
-
- Santanu 10



Day One: Getting to Work

- *Distributing of Lab Coats, Name Tags, Business Cards, Computers*
- Computer orientation, getting up and running, accessing the web.
- Computers are like cats they don't like water, don't eat or drink while using your computer.
- Arduino Introduction
- Handing out of Arduino Kits.
- *The Experiments will be broken into easy and get more difficult. The team leader will log in on a real time interactive data gathering collaboration system, that will display the teams progress at the front of the class room. **There will be enough experiments to last the most experienced student one hour. Students will be encouraged to work at home on any experiment that are not accomplished in class***
- Class breaks into lab setting 5 students to a table.
- Each table picks a team leader; team leader rotates for each experiment.
- Blinking LED
- Multi blinking LED
- **Binary Counter**
- **Seven Segment Display Counter**
- **Clock**
- **End of Day One**





Day Two

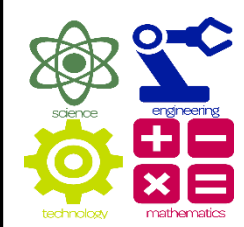
- **DAY TWO**
- Welcome Back
- Review progress of previous day
- Review progress at home
- Video presentation
- Data Library introduction, Books, Presentations

- Part 1
- Arduino experiment
- Temperature Monitoring
- Displaying Temperature
- Temperature Logging
- **Temperature Relay with Hysteresis**

- Part 2
- Video Presentation
- Experiment
- Motion Detection

- Part 3
- Video Presentation
- Experiment
- Motor Control





Day Three

- **DAY THREE**
- Video link with ARDUSAT
- Experiment
- Thanks for coming. Summer projects. how to collaborate during the summer.
- How to get help when needed



Android Device



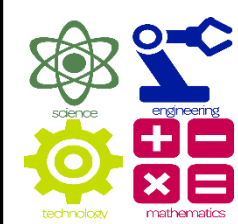
Bluetooth Module



Arduino Board



Servo Motor



Backup Resources

- Corning

https://www.youtube.com/watch?v=6Cf7IL_eZ38&noredirect=1

- Tesla

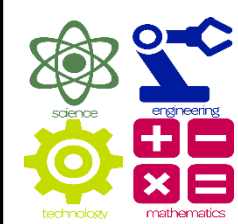
<http://www.theverge.com/2015/5/1/8527543/elon-musk-tesla-battery-feels>

- Drone Raffaello D'Andrea

http://www.ted.com/talks/raffaello_d_andrea_the_astounding_athletic_power_of_quadcopters?language=en

- Qubli

https://www.youtube.com/watch?v=n_6p-1J551Y



Additional Thoughts-1

Getting Started

School will hire trainers from University of Bridgeport and students from FWM the trainers will get paid for the time it takes to set up the curriculum and attend the classes.

Training

Training will take place on two consecutive Saturdays 5 hours each.

Training will take place at the School, Museum, Tony's House.

Each trainer will give given an Arduino kit to keep and they must supply their own lap top.

I would suggest all 15 teachers participate in the training session.

The trainers will work between the two Saturdays getting the more advanced experiments to work.

Each trainer will have assembled a working version of each of the experiments.

Class Room

Each student will receive a laptop they can keep over the summer.

Arduino kit to keep

Lab coat

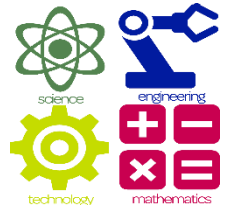
Pocket protector

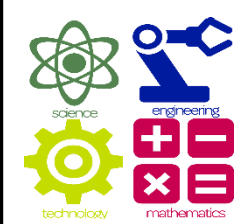
Name tag

Business Cards

Email address

Access to an interactive web interface.





Additional Thoughts-2

Arranged field trip to the Smithsonian and Kennedy Space Center for the summer

Each classroom will have a working model of each of the lab experiments and these will be donated to the Museum after the summer program

An infrastructure of support will be set up to help the students with their experiments over the summer

Hire a film crew to create a documentary of the Summer Orientation

Contact the local media and have a photographer on hand.

Planning

During the summer organize a committee to plan the upcoming semester

Prerequisites

Dates

Computers Ready

Arduino Kits Assembled

Email address

Name tags and business cards

Lab and lab equipment

