Bowler

Welcome to Ms. Bowler's Wiki Page!

Spring 2013

Fellows: Whitney Crooks and Laura Coughlin

1. Class 1 (1/30): NXT overview - powerpoint, videos, how to program on an NXT
    a. Silly Walks
2. Class 2 (2/6): continue Silly Walks
3. Class 3 (2/13): Lunar Rover
4. No class (2/20)
5. Class 4 (2/27: LEGO challenge 2: Dr. E's Global RoboZoo RoboZoo
6. Class 5 (3/6): LEGO challenge 2: Dr. E's Global RoboZoo RoboZoo
7. Class 6 (3/13): LEGO challenge 2: Dr. E's Global RoboZoo RoboZoo
8. No class (3/20)
9. Class 7 (3/27): Line follower
10. Class 8 (4/3): Line follower
11. Class 9 (4/10): Line follower
12. Class 10 (4/24): Final Challenge
    a. 5 level activity to challenge students at different levels of understanding
        i. Level One: Build a car.
        ii. Level Two: Program the car on the NXT brick to move forward, then backward.
        iii. Level Three: Rewrite the program using LEGO Mindstorms.
        iv. Level Four: Edit the program so the car beeps as it moves backwards.
        v. Level Five: Incorporate sensors so that the car stops when it runs into something or when it hears you clap.

Fall 2012

Fellows: Whitney Crooks and Jen Scinto

Semester Outline

- First day
    - What is an engineer?
    - What do you need to make a city?
    - Tallest building out of spaghetti and marshmallows
- Bridges (3 classes)
    - Toothpicks and glue
    - 1st class
        - Bridge info
        - Design
        - Start building
    - 2nd class
        - Build
        - Maybe test
        - Debrief
    - 3rd week
        - test or move onto something else
- Earthquakes (2 classes)
    - Legos and shake table
    - 1st class
        - Intro
        - Design
        - Build
    - 2nd class
        - finish building
        - test
            - tournament style
            - debrief
- Water filtration (1 class)
    - Materials
        - 2 liter bottles
        - Dirt, rocks, sand, gravel, coffee filters, cheese cloth, rubber bands, mesh/tool, charcoal
- Wind turbines (1 class)
    - Materials
        - Cups (plastic and paper), plates (plastic and paper), paper towel rolls, pencils, pipe cleaners, popsicle sticks, straws, glue, duct tape
- Mayan brick building (2 classes)
    - Materials
        - Red or brown air dry clay, sand, and water
        - Something to cut with
        - Wax paper

        - Bowls
        - Glue
    - 1st class
        - Into
        - Brick making and design
    - 2nd class
        - build

Spring 2012

Fellows: Amanda Rock and Emma Rubin

Semester Outline

Week 1:Paper bridges

Week 2: Animal Adaptations

Week 3: Intro to Robotics Unit 1 http://stompnetwork.org/tufts/images/pdf/intro_robotics_1_10.pdf

Build NXT Cars

Week 4: Going the distance (Lesson 2 from the Intro to Robotics Unit 1)

*Students programmed their cars to drive forward for a set amount of time and created graphs of distance vs. time. The challenge was to determine the amount of time they needed to program their cars to make them drive a specified distance.

Week 5: Platform 9 3/4

Week 6: Velociraptor

NXT Programming Presentation

Fall 2011

Fellows: Laney Siegner and Dulce Delgado

Semester Activities Outline

Week 1: September 30

- Introductions to STOMP, our goals/purpose for the semester
    - What do engineers do? Who are they? Give examples, bring in pictures, talk about EWB!
    - Bring in Photo release forms, due next week
    - Engineering Design Process- distribute 1 for everyone
    - Mini wind turbines

Week 2: October 7

- Paper towers activity
    - Images from Solar Decathalon and other architectural projects; civil engineering focus
    - What are strong shapes?
    - We're all being architects today, practical example of innovation: LEED buildings
    - Emphasize the "Re-design" part of the Engineering Design Process

Week 3: October 21

- Water filters activity
    - Design and build a water filter to create the cleanest water in a plastic cup
    - Themes of clean water and environmental engineering

Week 4: October 28

- Catapults
    - Basic intro to levers

Week 5: November 4

- Ramp Car Rolling Activity
    - Mechanical Engineering

Week 6: November 11

- Egg Drop!
    - Planning and materials list brainstorm
    - Emphasis on Engineering Design Process and open-ended projects; students generate their own list of materials to protect their eggs

Week 7: December 2

- Egg drop testing and final wrap-up of STOMP!