

Murphy-Pacino Spring 2013 Outline

1. Static Electricity Intro

-powerpoint of basics: https://docs.google.com/presentation/d/19q_4mnZJp3yC-uBRxm3JQvwNopygVbC7tZB5dwTGCoM/edit?usp=sharing

-demos: pvc pipe, wool/felt, and paper, paperclips

-Comment: We had planned on the kids all trying to make static electricity each with a plastic ruler. The plastic rulers did not pick up anything.

2. Squishy Circuits

-powerpoint of circuit basics

<https://docs.google.com/presentation/d/1T-p5pOAGi-hcP1cxoq0BkhJe0pQJLhXQcywRkfWAWCQ/edit?usp=sharing>

3. Valentine's Day Electrical Greeting Cards

-craft activity that reviewed simple circuits. They built a card that incorporated a circuit with a battery and a light or a motor.

P1020607.JPG example with motor

P1020614.JPG example with light

4. Build A Flashlight

http://www.teachengineering.org/view_activity.php?url=collection/cub_/activities/cub_electricity/cub_electricity_lesson05_activity2.xml

-application of circuits in everyday life

-making the circuits more compact for a device

-switches

Power Point: https://docs.google.com/presentation/d/18zSbO_11YSnT0uT4h_ZHQhe9cIHHdI7XZphsCUCmD2M/edit?usp=sharing

We tried to make the circuit building easier by using christmas lights and cutting them up and exposing the wires like this <http://www.stevespanglerscience.com/experiment/light-circuit-sick-science>. We went through a lot of bulbs because they would burn out often using 9V batteries so it was useful to have a whole string of lights available and we could just strip more as we needed.

We also bought 6 of these switches <https://www.sparkfun.com/products/9414> later in the semester which would have been good for this project so they are available in the supply closet now, check for them with the light bulbs.

5. Parallel circuits

-discovery experiment, how to keep one light on while turning one off

Powerpoints: Parallel circuits https://docs.google.com/presentation/d/1sn3coOqPsIKPVqWZntIFqB_s6oL7Mf3BlmbnTk3vws/edit?usp=sharing

"Will this circuit work?" review <https://docs.google.com/presentation/d/15wuVU2suXNHob99nINiqtpK3u2xd4MvrgB3MHL65ziU/edit?usp=sharing>

6. Electromagnets

-building

-picking up paper clips

-talk about the connection between electricity and magnetism

Power Point: https://docs.google.com/presentation/d/1lus-FQM13woiM_0fQl8qatLTfT1iJaCupTqeXCJ9Nw/edit?usp=sharing

7. Superhero final project-using circuits and electromagnets to build a superhero device

Power Point: https://docs.google.com/presentation/d/1VGMxUeLu9hEkg9qw8sjRmN_qnwySulXZEDkxv4RHWm4/edit?usp=sharing

Individual Design Worksheet: https://docs.google.com/document/d/1rBQKJo6uvAHjBAX2c1FmD7h8cXF_QiBdUP7kyUdQ8Ks/edit?usp=sharing

Group Design Worksheet: https://docs.google.com/document/d/1uJp_qTVTgyViyov2-VUzgyf3AJQVLgqfcEKmY2728Yg/edit?usp=sharing