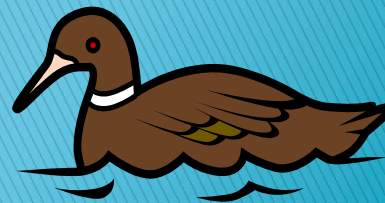
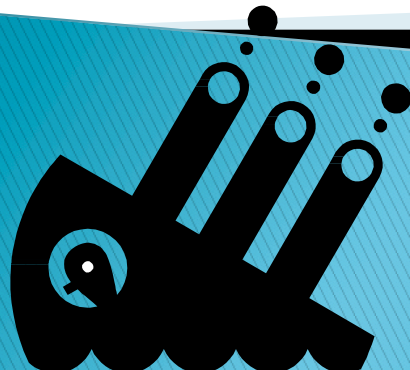
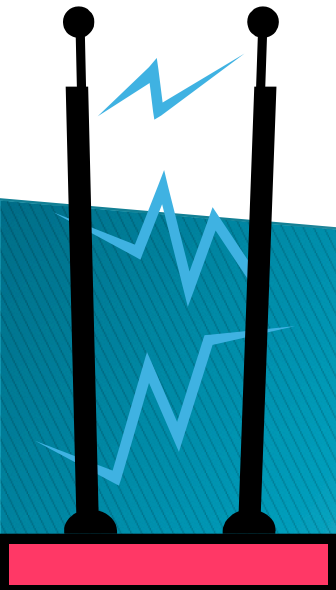


Physics Outreach at Campus International School

Presented by the Cleveland State University
Department of Physics



After School Physics Club

- ▶ **Who?** Members of the Cleveland State University chapter of the Society of Physics Students and after-school students at Campus International School, a public school in Cleveland, OH
 - ▶ **What?** Fun and interactive activities with a different physics theme each month
 - ▶ **Where?** Campus International School (K-4), a local public school following the International Baccalaureate Primary Years Program
 - ▶ **When?** After school once every month (since January 2011) during the academic year
 - ▶ **Why?** To get young students excited about science and higher education by nurturing relationships through learning
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2012–2013 Physics Themes

- ▶ Lesson 1: An Adventure to the MOON
 - Walking on the Moon, Your Weight on the Moon, Space Helmets, Phases of the Moon (illustrated with Oreos), and Moon Craters!
- ▶ Lesson 2: Shocking! Learning about Electricity
 - Shocking Demos, Creating Static Electricity, Building Circuits, Conductive Clay
- ▶ Lesson 3: The Physics of Superheroes
 - REAL Spider Silk (and a pet Tarantula!), non-Newtonian fluids, Supersonic Hearing, Invisibility, and Super-Strength

2012–2013 Physics Themes

- ▶ Lesson 4: The Impressive Power of Air
 - Shooting an Air Cannon, Using Air Pressure to Break a Stick, Holding Air Under Water, Magdeburg Spheres, and a Vacuum Chamber
- ▶ Lesson 5: Sink or Float?
 - Cartesian Divers, Building Boats from Foil/Popsicle Sticks/Straws, and Investigating Buoyancy



Adventure to the Moon!





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Lessons in Electricity!



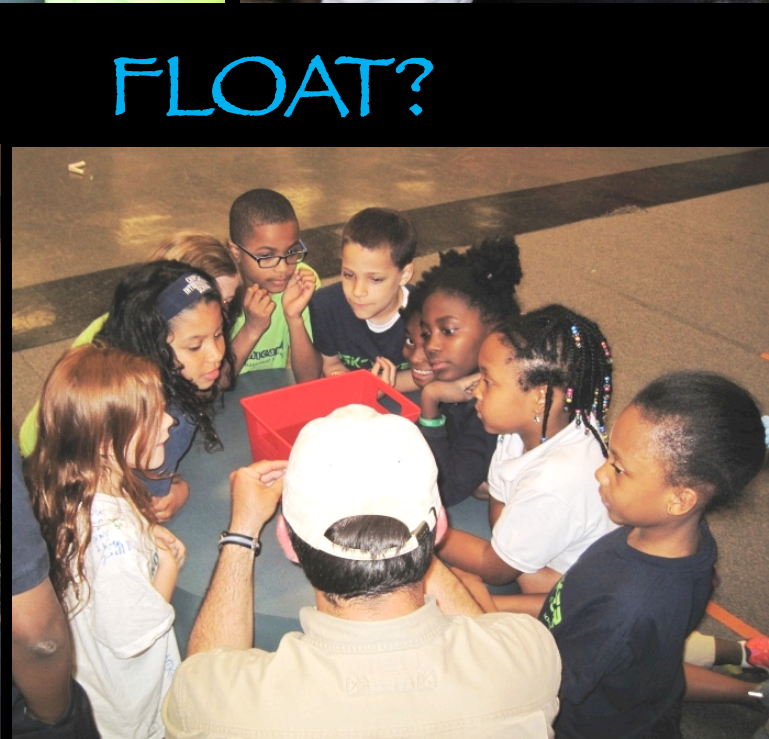


**The Physics of
SUPERHEROES!**



The
Surprising
Force of
AIR





SINK OR FLOAT?

2012–2013 Participants

- ▶ Dr. Kiril Streletzky (SPS/Outreach faculty advisor)
- ▶ Chris Mentrek (Outreach Coordinator)
- ▶ Jim Pitchford
- ▶ Liz Brouchu
- ▶ Richard Holk
- ▶ Sarah Watkins
- ▶ Skye Poss
- ▶ Zachary Kordeleski
- ▶ Jana Mino
- ▶ Justin Flaherty
- ▶ Krista Freeman

List of expenditures:

- ▶ Adventure to the Moon: flour, cocoa powder, car washing sponges, construction paper, markers, poster board, Oreo cookies (~50)
 - ▶ Shocking Electricity: air balloons, circuit kit, electrostatics kit, modeling clay (~80)
 - ▶ The Physics of Superheroes: toy spiders, ingredients for non-Newtonian fluid (~\$50)
 - ▶ Surprising Force of Air: yardsticks, hand held pump, Air wave gun (~\$80)
 - ▶ Sink or Float: Water bottles, pipettes, set of nuts, foil, popsicle sticks (~\$40)
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