Static Races

Lesson Plan: Activity

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| Subject | Grade Level | Time |
| Science | **Elementary and up** | **10 minutes** |

**Overview**

In this experiment we are going to gain a better understanding of Static Electricity, how to generate it, and what it can do.

**Standards**

Next Generation Science Standards

3-PS2-3 Ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other.

MS-PS2-S Conduct an investigation and evaluate the experimental design to provide evidence that fields exist between objects exerting forces on each other even though the objects are not in contact.

**Materials**

* Balloon[[1]](#footnote-1)
* Pop Can
* Long flat surface
* [My Experiment Worksheet](My%20Experiment%20work%20sheet.pdf)

**Lesson Body**

1. Intro Video: Understanding Static
   1. [Understanding Static Grade 2-6](https://www.youtube.com/watch?v=5TAIUCYMlIQ)
   2. [Understanding Static Grades 7-12](https://www.youtube.com/watch?v=gJhu9mH-RTM&list=PL2WYyvvd22FxhKuOCZLDrJLW-z5pFplGC&index=5)
2. Experiment
   1. Place pop can on its side. Rub the balloon on your head and hold it near the popcan. The pop can should move! Set up a race track and see who can get to the end first!
   2. Optional: Fill out the My experiment worksheet as you go.
   3. Why This works:
3. Expand
   1. Want to do more with static Electricity? Try some of these [experiments!](https://www.youtube.com/watch?v=ViZNgU-Yt-Y)

**Extended Learning:**

* **Discussion Questions:**
  + Research the history of Static Electricity. Who discovered it?
  + Which famous American did a famous experiment with Static? What was the experiment?
  + Where do we see static electricity in nature?
  + What could we use static electricity for?
* **Definition Detectives:** Have students come up with definitions for these vocabulary words based on what you’ve learned so far, then look up the words in a dictionary and see if you were right!
  + Static Electricity
  + Conductors
  + Electrons
  + Charge

1. You can also use a PVC Pipe and a cloth, or the bottom part of a plastic coat hanger. Experiment with different materials around your house! [↑](#footnote-ref-1)