

## West Side Science Club – Event #26 – “Fuel Cell Car Race”

### Original Presentation

Date: 15 March 2014  
Time: 10 am to 12 pm  
Site: West Side Science Club

### Big Questions

- These questions are meant to frame the day’s event and might be written on the chalkboard
  - (1) How do your fuel cell cars work?
  - (2) How can you make your car go faster?

### Concepts

- Concepts to cover from the “Work of CCI Solar” Mind Map: Storage- fuels, batteries; Social Aspects- CO<sub>2</sub>, greenhouse gases, climate change, global energy demand, fossil fuels, renewable vs. nonrenewable; Devices- design, cost-effectiveness

### Lesson Plan

#### *Student Objectives*

- Explain how Fuel Cell Cars work
- Explain their design to make a faster car

#### *Schedule/Agenda*

- Finish Building Cars (45 min.)
- Race (60 min.)
- Awards (15 min.)

## **Materials**

- Horizon Fuel Cell Car kits
- Various art supplies
- Power supply
- Timer
- Trophies/awards

## **Fuel Cell Car Race:**

1. Students charge their fuel cell car using the power supply to get a full tank of H<sub>2</sub>
2. Line the car along the starting line
3. When the fuel cell lead is connected, start the timer
4. When the front of the car reaches the finish line 10 ft away, stop the timer
5. Have the students calculate speed (ft/s)
6. Each student gets 3 runs will average the speeds together
7. Lastly, the student must explain how the fuel cell car works and the innovative design they came up with
8. Trophies will be given out in 4 categories: speed, innovation, understanding, style

## **Check for Understanding**

- Could the students correctly explain how the fuel cells work?
- Did their innovations improve upon the car design?

## **References**

(1): "Horizon Fuel Cell Car Science Kit"

<http://www.horizonfuelcellshop.com/americas/product/fuel-cell-car-science-kit/>