

# ELECTRICITY - FROM SNC1D TO SPH3U

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**Inquiry: Phone on Fire**

**Purpose:** The purpose of our activity is to bridge the gap from the grade 9 science electricity unit (specifically current electricity) and the grade 11 physics electricity unit.

**SNC1D/F:**

We are primarily focusing on the students' understanding of the 3 main concepts: current, voltage and resistance. In this activity, we are hoping students will gain a better understanding of what these concepts mean and how it applies to everyday situations.

**SPH3U:**

We are focusing not only on reminding students of what they learned in Grade 9 by giving them a practical example (eventually reminding them of the project they did in Grade 9), but will also expand to examine the concepts of induced current, alternating current, energy, power and transformers.

The activity will be bilingual.

Statics (Scaffolding in grade 9)

**Task 1:**  
**Peardeck**

Students use their cellphones to interact with a presentation to decide whether the warning sign at a gas station is credible.

At this time, they would be given 4 answers to choose from on a sliding scale. They would also be looking at the warning sign stating that if static electricity is created and not discharged, a gasoline fire could start.

**Task 2: Think  
Pair Share on  
white boards**

Students will be prompted to formulate questions that they have related to this question.

These will be the information they will need to know before they can accurately answer the main question. They will do this on whiteboards in groups. The questions they formulate will be shared with the class. The teacher will guide students so the three questions are included:

1. Can a "static discharge" really cause gasoline vapours to explode? Why does it only happen when the phone is plugged in?
2. How would a static charge actually build up on the car driver when they slid across the seat?
3. Why would touching the metal of the car prevent this from happening?

**Task 3: Learn  
content and  
revisit question**

**Task 4: Final  
answer to the  
question**

Students answer the questions they formulated with their knowledge of current electricity.

Answers can be formulated in groups on whiteboards, group discussion, video of real event

This becomes an evaluation question.

How likely is it that a cellphone could catch fire?

What about other portable devices (laptops/tablets/etc)?

**Task 1:  
Peardeck**

Students use their cellphones to interact with a presentation to decide whether they believe it is likely that a cellphone could catch fire.

At this time, they would be given 4 answers to choose from on a sliding scale. They would also be looking at a news bulletin about the Samsung Note 7 phone that actually caught fire when charging.



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