Lesson Plan - SPH3U
Unit – Electricity and Magnetism
Topic –
Day #

### Curriculum Expectation(s) and Learning Goal(s) for the Lesson

**a) Expectations:** *(List 1-3 specific expectations from the Ontario Curriculum. Be realistic about how much you can accomplish in one lesson.)*

- Analyze the efficiency and the environmental impact of one type of electrical energy production (e.g., from hydroelectric, fossil fuel–burning, wind, solar, geothermal, or nuclear sources), and propose ways to improve the sustainability of electrical energy production
- Describe and explain safety precautions (e.g., “call before you dig”, current-limiting outlets in bathrooms) related to electrical circuits and higher transmission voltages (e.g., with reference to transformer substations, buried cables, overhead power lines)

**b) Learning Goal(s):** *(In your own words, what do you want the students to have learned by the end of the lesson? How will you know what they have learned?)*

Students will:
- Discuss the environmental impact of using electrical energy
- Discuss safety implications with electrical devices in homes, schools and work places

### Learning Environment and Materials
 *(Describe the set up of the classroom, safety considerations, individual and/or group work considerations, facilitating smooth and safe transitions)*

Desks are set up in columns and in each column has 2 desks side by side. At the front there is a projector with white board, SMART board on the side of the class. Lab desks surround the columns of desks. J.B. is visually impaired and is seated closer to the front and there is a seating plan to enforce this and others that do not focus well with specific individuals. The seating plan is mostly alphabetical. Students will be encouraged to communicate in small groups to share ideas, as well as presenting their ideas with the class through discussion.

### Overview of the Lesson
 *(Write the information that you will provide to the students as the intro to the lesson. This may be written on chart paper, white/blackboard, Smart board. This information will inform the students/EAs about what to expect during the lesson.)*

**Intro:**
- Take up homework questions from previous day (student led)
- Electric Shocks – causes, common instances

**Body:**
- Lecture/discussion style
  - Fuse, circuit breaker, outlet covers, ground fault circuit interrupter (GFCI)
  - “Call before you dig”
  - Short circuits
  - Using Electrical Energy

**Consolidation:**
- Class Discussion Questions
  - Case studies (drilling near water supply, knife in a toaster, etc.)
  - Battery Warnings
  - Electrical energy compared to Oil
  - Safety Quiz

**Assessment/Evaluation:**
- Look for participation in class discussion
- Brief Safety Quiz