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<th>Lesson Plan - SPH3U</th>
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<td><strong>Unit</strong> – Electricity and Magnetism</td>
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<td><strong>Topic</strong> – Circuit Analysis</td>
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### 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 diagrams of series, parallel, and mixed circuits with reference to Ohm’s law \( V = IR \) and Kirchhoff’s laws
- design and build real or computer-simulated mixed direct current (DC) circuits, and explain the circuits with reference to direct current, potential difference, and resistance

**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 the information?)*

Students will:
- simplify circuits to solve for all unknown voltages, resistances, and currents using Ohm’s laws and Kirchhoff’s Laws (done both theoretically and experimentally)

### 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.

Materials: Circuit construction kit (either electronic through PHET DC Kit or physical)

### 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)
- Review Current, Voltage, and Resistance in series and parallel circuits

**Body:**
- Lecture/discussion style
  - Simplifying circuits – equivalent loads
  - Proper use of subscripts
  - Examples
- Investigation
  - Circuit lab analysis – verifying currents, voltages, and resistances using Ohm’s law with the circuits we theoretically solved. (could use electronic of physical circuits depending on availability)

**Consolidation:**
- Practice problems at end of lecture
- Write up from investigation
- Homework problems

**Assessment/Evaluation:**
- Write up from investigation will be submitted for marking as well as participation marks during the investigation in class
- Homework will be formally taken up as a class next day