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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 \( V = I R \) and Kirchhoff’s laws
- explain Ohm’s law, Kirchhoff’s laws, Oersted’s principle, the motor principle, Faraday’s law, and Lenz’s law in relation to electricity and magnetism

**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:**
- Analyze parallel and series circuits using Kirchhoff’s laws
- Infer the voltage and current at different junction points of series and parallel circuits using Kirchhoff’s laws

### 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: simple circuit set up (battery, light bulb, wires), an ammeter, and a voltmeter.

### 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)
- What governs the electric potential energy lost at each load of a circuit?
- When governs the path taken by charges when more than one option is available?

**Body:**
- Lecture/discussion style
  - Kirchhoff’s voltage law (both series and parallel circuits) + demonstration + examples
  - Kirchhoff’s current Law (both series and parallel circuits) + demonstration + examples

**Consolidation:**
- Practice problems to be complete as a class through student led approaches
- Homework questions (could possibly be completed in remaining class time)

**Assessment/Evaluation:**
- Time will be allotted throughout lecture for students to ask questions
- Issue will be addresses as homework is attempted
- Homework will be formally taken up as a class next day