AP Physics
Ms. Zimmer

Lesson Title:	**Resistance in a Wire Simulation Activity**
AP Objective(s):	• Describe how the resistance of a resistor depends upon its length and cross-sectional area.

AGENDA	KEY POINTS
1. PhET Simulation	• *resistivity; resistance* $R = \frac{\rho l}{A}$*; the Ohm (Ω) is 1 V/Amp*

Time	**Learning Activity**
60	Students will receive the "Resistance in a Wire Simulation" activity. Pass out laptops 1 per pair. They should complete the activity in their lab notebooks. Any graphs they can create in Excel can be sketched in their lab notebooks. For each graph, there should be a title, and axes should be properly labeled with units. ***Essential Question****: What factors cause resistance to vary?* Guiding Questions 1. What does resistance depend on? 2. Why does area increasing allow more electrons to flow? 3. Create an your own analogy for resistance. 4. Why does length influence resistivity?