


Physics Curriculum Bundle # 11

Title		Suggested Dates
Circuits		4/19 – 5/7 (12 days)

Big Idea/Enduring Understanding	Guiding Questions
<p>The configuration of conductive paths in an electric circuit determines its behavior.</p> <p>The behavior of an electric circuit can be characterized through the use of measurable quantities such as current, resistance, and potential difference.</p>	<p>What affects the flow of charge through a circuit?</p>

The resources included here provide teaching examples and/or meaningful learning experiences to address the District Curriculum. In order to address the TEKS to the proper depth and complexity, teachers are encouraged to use resources to the degree that they are congruent with the TEKS and research-based best practices. Teaching using only the suggested resources does not guarantee student mastery of all standards. Teachers must use professional judgment to select among these and/or other resources to teach the district curriculum.

Knowledge & Skills with Student Expectations	Specificity & Examples	Suggested Resources (Read the note above)
<p>3 Uses critical thinking and scientific problem solving to make informed decisions.</p> <p>3E Research and describe the history of physics and contributions of scientists.</p>	<p>Including:</p> <ul style="list-style-type: none"> • Electricity/Magnetism (Franklin, Coulomb, Faraday, Ohm, Ampere, Oersted) 	<p>History of Physics Website – http://web.mit.edu/redingtn/www/netadv/hist.html</p>
<p>6 The student knows forces in nature.</p> <p>6E Design and analyze electric circuits.</p>	<p>Including</p> <ul style="list-style-type: none"> • Build and diagram series and parallel circuits • Define electric current and resistance • Use Ohm’s law to solve and simplify (reduce) circuits 	<p>Ohm’s Law Lab – graph voltage vs. current for different resistors to calculate resistance. (phys_10_Ohm)</p> <p>Series Circuits – measure voltage and current, comparing to theoretical values. (phys_10_SeriesCircuitLab)</p> <p>Parallel Circuits – measure voltage and current, comparing to theoretical values. (phys_10_ParallelCircuitLab)</p> <p>Combination Circuits – compare brightness of bulbs in different combinations. (phys_10_CombCircuitBulbLab)</p> <p>Circuit Applet – http://www.mhhe.com/physsci/physical/giambattista/circuits/circuits.html</p> <p>Electric Power website –</p>

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		<p>http://www.glenbrook.k12.il.us/gbssci/phys/Class/circuits/u912d.html</p> <p>Electricity Simulations – http://phet.colorado.edu/new/simulations/index.php?cat=Electricity Magnets and Circuits</p> <p>Suggested Equipment – power supply, batteries, wires w/ alligator clips, bulbs, resistors, digital multimeter, knife switch.</p>
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