

## Washington Township School District

### STEM/Makerspace Curriculum

<b>Grade:</b>	4	<b>Mystery Science Unit/Project Title:</b>	Energizing Everything
<b>NJ Learning Standard(s):</b>	4-PS-3-2, 4-PS3-4 PS3.B, 4-ETS1.A		
<b>Objective:</b>	SWBAT: <ul style="list-style-type: none"> <li>• Create a paper circuit that lights up an LED and is powered by a battery</li> <li>• Identify parts of a simple circuit</li> <li>• Explain the path that electric current takes power an appliance</li> </ul>		
<b>STEM/ Unit Activities</b>	Paper Circuits		
<b>Suggested Assessments:</b>	<ul style="list-style-type: none"> <li>• Exit Ticket / Project Success</li> </ul>		
<b>Supplies Needed:</b>	<ul style="list-style-type: none"> <li>• LED Origami (p. 45): origami paper, assorted 5-mm LEDs, 2032 coin cell batteries, electrical or duct tape, clear tape</li> <li>• Simple Circuit Card (p. 50): simple circuit template (template file p. 1-2), copper tape or copper tape adhesive conductive, Chibitronics LED stickers, 2032 coin cell battery</li> <li>• Flip the Switch Card (p. 54): flip the switch circuit template (template file p. 3-4), copper tape or copper tape adhesive conductive, Chibitronics LED stickers, 2032 coin cell battery</li> <li>• Parallel Circuit Card (p. 57): parallel circuit template (template file p. 5-6), copper tape or copper tape adhesive conductive, Chibitronics LED stickers, 2032 coin cell battery</li> <li>• Disco Branched Circuit Card (p.60): disco branched circuit template (template file p. 7-8), copper tape or copper tape adhesive conductive, Chibitronics LED stickers, 2032 coin cell battery</li> <li>• battery</li> <li>• Pull-Tab Switch (p. 64): cardstock paper, assorted 5-mm LEDs, copper tape or copper tape adhesive conductive, Chibitronics LED stickers, 2032 coin cell battery</li> <li>• Tiered Pull-Tab Trick (p.69): cardstock paper, assorted 5-mm LEDs, copper tape or copper tape adhesive conductive, Chibitronics LED stickers, 2032 coin cell battery</li> </ul>		
<b>Resources to Support Unit:</b>	<p><a href="https://learn.sparkfun.com/tutorials/the-great-big-guide-to-paper-circuits">https://learn.sparkfun.com/tutorials/the-great-big-guide-to-paper-circuits</a> - This site has tutorials as well as additional project links.</p> <p>Circuit Templates &amp; Paper Circuit documents (see Sharepoint)</p> <p><a href="https://www.sciencebuddies.org/science-activitiess/paper-circuit">https://www.sciencebuddies.org/science-activitiess/paper-circuit</a></p>		

