

**Electricity/Electronics** **Grades 9-12**

Standards	Benchmarks		Activities/Examples
12. Students will develop the abilities to use and maintain technological products and systems.	I	Use tools, materials, and machines safely to diagnose, adjust, and repair systems.	Explore the availability of employment opportunity in Electricity/Electronics fields.
	J	Use computers and calculators in various applications.	Explore the availability of employment opportunity in Electricity/Electronics fields.
	L	Document processes and procedures and communicate them to different audiences using appropriate oral and written techniques.	Understand the importance of safety in using electricity.
			Know the six known ways electricity is produced.
			Operate electrical measurement equipment.
			Distinguish between series, parallel, and combination series/parallel circuits.
			Identify common electronic components.
			Demonstrate basic residential wiring techniques.
			Demonstrate the use of Ohm’s Law and Watt’s Law in electronic circuit analysis.
			Assemble various electronic devices in lab.
			Identify and operate digital components.
	Maintain a technical journal.		
	M	Diagnose a system that is malfunctioning and use tools, materials, machines, and knowledge to repair it.	Operate electrical measurement equipment.
			Demonstrate basic residential wiring techniques.
			Demonstrate the use of Ohm’s Law and Watt’s Law in electronic circuit analysis.
			Assemble various electronic devices in lab.
	N	Troubleshoot, analyze, and maintain systems to ensure safe and proper function and precision.	Operate electrical measurement equipment.
			Demonstrate basic residential wiring techniques.
Demonstrate the use of Ohm’s Law and Watt’s Law in electronic circuit analysis.			
Assemble various electronic devices in lab.			
Identify and operate digital components.			

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<b>Standards</b>	<b>Benchmarks</b>	<b>Activities/Examples</b>
	O Operate systems so that they function in the way they were designed.	Operate electrical measurement equipment.
		Demonstrate basic residential wiring techniques.
		Demonstrate the use of Ohm’s Law and Watt’s Law in electronic circuit analysis.
		Assemble various electronic devices in lab.
	P Use computers and calculators to access, retrieve, organize, process, maintain, interpret, and evaluate data and information in order to communicate.	Identify and operate digital components.
		Understand the structure of matter and electron flow as related to electricity/electronics.
		Operate electrical measurement equipment.
		Demonstrate basic residential wiring techniques.
		Demonstrate the use of Ohm’s Law and Watt’s Law in electronic circuit analysis.
		Assemble various electronic devices in lab.
Identify and operate digital components.		