Revised 05/03/16
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JC Schools 7th Grade
Gateway to Technology Yearly Standards

Overarching Standards

DM1.3 T1 Use the techniques, skills, and modern engineering tools necessary to measure accurately and precisely

DM1.3-U2 Measuring accurately is important at school, home, work and when pursuing hobbies

DM1.3-U3 Explore how the correct use of measuring tools are needed for accuracy and precision

Units	Priority Standards	Supporting Standards
Unit 1 Magic of Electrons 6.1	**ME6.1 T1** Model safe practices and procedures when working with electronics **ME6.1 T2** Apply knowledge of mathematics, science, and engineering in exploring devices and concepts related to the field of electricity **ME6.1 T3** Apply the techniques, skills, and modern engineering tools necessary for working in electrical engineering	**ME6.1-U1** Discover how electron flow is created as electrons are transferred between atoms **ME6.1-U2** Design electrical systems while understanding a material's tendency toward being a conductor or insulator **ME6.1-U3** Measure current, voltage, and resistance to explain electron flow in an electrical system **ME6.1-U4** Explore how magnets play an important role in creating electromotive force which is used to generate electricity and convert electrical energy into mechanical energy **ME6.1-U5** Evaluate how generators are used to convert mechanical energy into electrical energy, while motors convert electrical energy into mechanical energy
Unit 2 Magic of Electrons	**ME6.2 T3** Calculate, identify, and accurately measure characteristics of electrical circuits such as voltage, current, and resistance	**ME6.2-U1** Design an electrical circuit made up of conductors and electrical components that form a complete path for electrical current

6.2		**ME6.2-U2** Create circuit diagrams to communicate components and functions of electrical circuits **ME6.2-U3** Explore how electronic components are incorporated into electrical circuits by engineers to achieve specific functions **ME6.2-U4** Analyze circuits through the measurement of voltage, current, and resistance **ME6.2-U5** Demonstrate that Ohm's Law explains the mathematical relationship between voltage, current, and resistance