

Technology Education/ Science Equivalency Crosswalk Template
Crosswalk Between: Wisconsin’s Model Academic Standards for Science and
Wisconsin’s Model Academic Standards for Technology Education

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A. SCIENCE CONNECTIONS	Technology Education Standards	Crosswalk of Local School Curriculum
Performance Standards	Performance Standards	Electronics
<i>By the end of Grade 12 students will:</i>	<i>By the end of Grade 12 students will:</i>	<i>Badger High School. Lake Geneva</i>
A.12.1 Apply the underlying themes of science to develop defensible visions of the future	A.12.6 Use accepted methods of forecasting and projecting to develop scenarios of future B.12.1 Identify and explain the ways technological systems have evolved and will continue to evolve to satisfy human needs and desires D.12.5 Describe the current challenges and project the future challenges of governing a technology once it has become an integral part of the way people live, work, and play	1 - 1 Identify the energy shortage area of today and understand the need for renewable energy in the future.
A.12.2 Show how conflicting assumptions about science themes lead to different opinions and decisions about evolution, health, population, longevity, education, and use of resources, and show how these opinions and decisions have diverse effects on an individual, a community, and a country, both now and in the future	A.12.2 Understand that humans are faced with moral and ethical issues because technology is enabling very significant modifications to the natural world A.12.3 Explain why decisions regarding the use of technology are dependent on the situation, application, or perception of the group using it B.12.1 Identify and explain the ways technological systems have evolved and will continue to evolve to satisfy human needs and desires D.12.3 Analyze how the values and beliefs of different people can influence their perceived risks and benefits of a given technology D.12.5 Describe the current challenges and project the future challenges of governing a technology once it has become an integral part of the way people live, work, and play D.12.6 Show how the effects of a given technology	2 - 4 Understand the trade off from carbon burning fuel to generate electricity power. 10 – 2 Apply the Laws of magnetism. 10 – 3 Define the link between electric current and magnetism.

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	may be unacceptable under one set of circumstances but acceptable under a different set of circumstances	
A.12.3 Give examples that show how partial systems, models, and explanations are used to give quick and reasonable solutions that are accurate enough for basic needs	B.12.2 Demonstrate how systems are planned, organized, designed, built, and controlled B.12.3 Explain how enterprises apply technological systems for generating wealth by providing goods and services C.12.1 Implement and evaluate strategies to solve technological problems that are likely to be successful	1 – 3 Analyse a basic electrical circuits. 1 – 4 Apply Ohm’s Law 2 – 1 Understand and demonstrate Metric units and abbreviation 3 – 2 Construct common circuit and pathways. 3 – 4 Use and apply resistors 10 – 1 Apply basic magnetism principles 10 – 3 Apply Roland’s Law
A.12.4 Construct arguments that show how conflicting models and explanations of events can start with similar evidence	A.12.3 Explain why decisions regarding the use of technology are dependent on the situation, application, or perception of the group using it C.12.3 Defend solutions to technological problems and opportunities D.12.6 Show how the effects of a given technology may be unacceptable under one set of circumstances but acceptable under a different set of circumstances	
A.12.5 Show how the ideas and themes of science can be used to make real-life decisions about careers, work places, life-styles, and use of resources	A.12.3 Explain why decisions regarding the use of technology are dependent on the situation, application, or perception of the group using it A.12.7 Explain how scientific and technological research can contribute to improved quality of life and a better standard of living C.12.4 Select materials and other resources for a technological design and develop practical solutions C.12.5 Identify constraints present in a given technological process C.12.9 Apply basic engineering concepts in the design and creation of solutions to	1 – 4 Examine Careers in Electrical/Electronics Units 5,6,8,9,10,11 --Analyze, construct and troubleshoot circuits: Series, parallel, series-parallel, voltage and current dividers.

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	<p>various problems or opportunities D.12.3 Analyze how the values and beliefs of different people can influence their perceived risks and benefits of a given technology</p>	
<p>A.12.6 Identify and replace inaccurate personal models and explanations of science-related phenomena using evidence learned or discovered</p>	<p>B.12.6 Show how new knowledge is usually, by design or otherwise, an outcome of technological activity that contributes to the exponential growth of technological knowledge C.12.5 Identify constraints present in a given technological process C.12.10 Evaluate a technological solution and make necessary improvement if needed</p>	
<p>A.12.7 Re-examine the evidence and reasoning that led to conclusions drawn from investigations, using the science themes</p>	<p>C.12.2 Measure, collect, and analyze data in order to solve a technological problem C.12.10 Evaluate a technological solution and make necessary improvement if needed D.12.4 Evaluate the relative appropriateness of a given technology by comparing the risks with the benefits or the advantages with the disadvantages D.12.6 Show how the effects of a given technology may be unacceptable under one set of circumstances but acceptable under a different set of circumstances</p>	<p>12 – 1 Apply Operating principles of DC motors. 13 - 2 Analyze and apply principles of transformers and AC circuits. 8 - 5 Utilize standard troubleshooting procedures for defective circuits</p>

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B. NATURE OF SCIENCE	Technology Education Standards	Crosswalk of Local School Curriculum
Performance Standards	Performance Standards	Electronics
<i>By the end of Grade 12 students will:</i>	<i>By the end of Grade 12 students will:</i>	<i>Badger High School. Lake Geneva</i>
B.12.1 Show how cultures and individuals have contributed to the development of major ideas in the earth and space, life and environmental, and physical sciences	A.12.2 Understand that humans are faced with moral and ethical issues because technology is enabling very significant modifications to the natural world A.12.3 Explain why decisions regarding the use of technology are dependent on the situation, application, or perception of the group using it A.12.4 Explore the way in which human adaptive technological systems interact with ideological and sociological systems A.12.7 Explain how scientific and technological research can contribute to improved quality of life and a better standard of living	4 - 6 Identify historical individuals that have laws and theorems named for them 3- 4 Research the history of an invention and its impact on society and our environment
B.12.2 Identify the cultural conditions that are usually present during great periods of discovery, scientific development, and invention	A.12.2 Understand that humans are faced with moral and ethical issues because technology is enabling very significant modifications to the natural world A.12.3 Explain why decisions regarding the use of technology are dependent on the situation, application, or perception of the group using it A.12.4 Explore the way in which human adaptive technological systems interact with ideological and sociological systems A.12.5 Portray how a society may not be able to exercise full control over their technological systems D.12.3 Analyze how the values and beliefs of different people can influence their perceived risks and benefits of a given technology	2 - 4 Identify historical individuals that have laws and theorems named for them

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<p>B.12.3 Relate the major themes of science to human progress in understanding science and the world</p>	<p>B.12.5 Assess the impact new and improved products and services have had on the quality of life; explain how the development of new tools, materials, and processes is necessary to maintain and improve high productivity and quality</p> <p>B.12.6 Show how new knowledge is usually, by design or otherwise, an outcome of technological activity that contributes to the exponential growth of technological knowledge</p>	
<p>B.12.4 Show how basic research and applied research contribute to new discoveries, inventions, and applications</p>	<p>A.12.7 Explain how scientific and technological research can contribute to improved quality of life and a better standard of living</p> <p>B.12.6 Show how new knowledge is usually, by design or otherwise, an outcome of technological activity that contributes to the exponential growth of technological knowledge</p> <p>C.12.1 Implement and evaluate strategies to solve technological problems that are likely to be successful</p> <p>C.12.9 Apply basic engineering concepts in the design and creation of solutions to various problems or opportunities</p> <p>C.12.11 Select and apply appropriate processes to alter the characteristics of material to make it useful in different situations</p>	
<p>B.12.5 Explain how science is based on assumptions about the natural world and themes that describe the natural world</p>	<p>No significant match found</p>	

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C. SCIENCE INQUIRY	Technology Education Standards	Crosswalk of Local School Curriculum
Performance Standards	Performance Standards	Electronics
<i>By the end of Grade 12 students will:</i>	<i>By the end of Grade 12 students will:</i>	<i>Badger High School, Lake Geneva</i>
C.12.1 When studying science content, ask questions suggested by current social issues, scientific literature, and observations of phenomena; build hypotheses that might answer some of these questions; design possible investigations; and describe results that might emerge from such investigations	A.12.4 Explore the way in which human adaptive technological systems interact with ideological and sociological systems C.12.7 Present a design solution that accounts for production of a device; how the device	2 – 3 Identify circuit components and analyze components with digital multimeters (DMM). 6 – 4 Design and experiment with a circuit to identify the unknown values. 8 – 4 Utilize standard troubleshooting procedures for defective circuits
C.12.2 Identify issues from an area of science study, write questions that could be investigated, review previous research on these questions, and design and conduct responsible and safe investigations to help answer the questions	C.12.1 Implement and evaluate strategies to solve technological problems that are likely to be successful C.12.4 Select materials and other resources for a technological design and develop practical solutions C.12.5 Identify constraints present in a given technological process	7 -1 Recognize the basic components used in electronics 7 -2 Read and understand schematic symbols of electronics components 7 -3 Demonstrate the basic function of electronics components. 7-4 Learn how to construct and solder electronics projects.
C.12.3 Evaluate the data collected during an investigation, critique the data-collection procedures and results, and suggest ways to make any needed improvements	C.12.2 Measure, collect, and analyze data in order to solve a technological problem practical solutions C.12.5 Identify constraints present in a given technological process C.12.10 Evaluate a technological solution and make necessary improvement if needed C.12.11 Select and apply appropriate processes to alter the characteristics of material to make it useful in different situations	2 – 3 Identify circuit components and analyze components with digital multimeters (DMM). 6 – 4 Design and experiment with a circuit to identify the unknown values. 8 – 4 Utilize standard troubleshooting procedures for defective circuits
C.12.4 During investigations, choose the best data-collection procedures and materials, use them competently, and calculate the degree of precision of the resulting data	B.12.8 Select and apply appropriate processes to transform information into its most useful format C.12.2 Measure, collect, and analyze data in order to solve a technological problem	2– 2 Measure properties of a circuit using digital multimeters (DMM). 11 – 4 Analyze and measure AC signals using oscilloscope, frequency meters and generators.

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	<p>C.12.4 Select materials and other resources for a technological design and develop practical solutions</p> <p>C.12.5 Identify constraints present in a given technological process</p>	
<p>C.12.5 Use the explanations and models found in earth and space, life and environmental, and physical sciences to develop likely explanations for the results of their investigations</p>	<p>C.12.9 Apply basic engineering concepts in the design and creation of solutions to various problems or opportunities</p> <p>D.12.1 Evaluate technologies based upon various sources of information</p>	
<p>C.12.6 Present the results of investigations to groups concerned with the issues, explaining the meaning and implications of the results, and answering questions in terms the audience can understand</p>	<p>A.12.3 Explain why decisions regarding the use of technology are dependent on the situation, application, or perception of the group using it</p> <p>A.12.6 Use accepted methods of forecasting and projecting to develop scenarios of future technology needs and uses</p> <p>A.12.7 Explain how scientific and technological research can contribute to improved quality of life and a better standard of living</p> <p>C.12.3 Defend solutions to technological problems and opportunities quality, have value greater than the investment, and meet a societal want or need</p> <p>C.12.7 Present a design solution that accounts for production of a device; how the device</p>	
<p>C.12.7 Evaluate articles and reports in the popular press, in scientific journals, on television, and on the Internet, using criteria related to accuracy, degree of error, sampling, treatment of data, and other standards of experimental design</p>	<p>D.12.1 Evaluate technologies based upon various sources of information</p>	

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D. PHYSICAL SCIENCE	Technology Education Standards	Crosswalk of Local School Curriculum
Performance Standards	Performance Standards	<i>Electronics</i>
By the end of Grade 12 students will:	By the end of Grade 12 students will:	Badger High School, Lake Geneva
Structures of Atoms and Matter	<i>The Wisconsin model academic standards for science sections D, E and F are written with specific content. However, the Wisconsin model academic standards for technology education do not have specific content. For the completion of the crosswalk (sections D, E and F) each local district should document curriculum content that crosswalks with these science standards.</i>	
D.12.1 Describe atomic structure and the properties of atoms, molecules, and matter during physical and chemical interactions		1- 1-1 Describe Nature of Matter Electrons, Protons and Neutrons.
D.12.2 Explain the forces that hold the atom together and illustrate how nuclear interactions change the atom		1 – 2 – 2 Explain Static Electricity
D.12.3 Explain exchanges of energy in chemical interactions and exchange of mass and energy in atomic/nuclear reactions		1 – 3 Explain Basic Electrical Circuit. 5 – 3 – 2 Explain polarization of a cell.
Chemical Reactions		
D.12.4 Explain how substances, both simple and complex, interact with one another to produce new substances		
D.12.5 Identify patterns in chemical and physical properties and use them to predict likely chemical and physical changes and interactions		1 – 1 – 3 Describe Nature of Matter Ionization 7 – 4 Construct and solder electronics project
D.12.6 Through investigations, identify the types of chemical interactions, including endothermic, exothermic, oxidation, photosynthesis, and acid/base reactions		5 – 2 – 3 Describe type of cells chemical action of a cell.
Motions and Forces		
D.12.7 Qualitatively and quantitatively analyze		2 – 2 Measuring Voltage, Current and Resistance

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changes in the motion of objects and the forces that act on them and represent analytical data both algebraically and graphically		3 – 1 Troubleshoot a circuit using conductor, loads and insulators 6 – 1 Determine total Voltage, Current and Resistance in series. 7 – 1 Determine total Voltage, Current and Resistance in parallel.
D.12.8 Understand the forces of gravitation, the electromagnetic force, and the intermolecular force, and explain their impact on the universal system		4 – 1 Define work, power and horsepower 4 – 2 Calculate power in watts. 9 – 1 Determine total Voltage, Current and Resistance in series-parallel circuit. 13 – 1 Analyze and apply principles of transformers to AC circuits.
D.12.9 Describe models of light, heat, and sound and through investigations describe similarities and differences in the way these energy forms behave		11 – 1 Demonstrate Mechanical Energy produce electrical energy. 11 – 2 Apply Len’s Law. 11 – 3 Compare DC vs AC. 11 – 4 Demonstrate operation of an Oscilloscope.
Conservation of Energy and the Increase in Disorder		
D.12.10 Using the science themes, illustrate the law of conservation of energy during chemical and nuclear reactions		4 – 4 Determine electrical efficiency. 4 - 5 Determine gear and pulley ratios to power input vs output.
Interactions of Matter and Energy		
D.12.11 Using the science themes, explain common occurrences in the physical world		1 – 1 – 2 Describe Static Electricity
D.12.12 Using the science themes and knowledge of chemical, physical, atomic and nuclear interactions, explain changes in materials, living things, the earth's features, and stars		1- 1-1 Describe Nature of Matter Electrons, Protons and Neutrons 1 – 1 – 3 Describe Nature of Matter Ionization 1 – 1 – 3 Describe Nature of Matter Ionization

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E. EARTH AND SPACE SCIENCE	Technology Education Standards	Crosswalk of Local School Curriculum
Performance Standards	Performance Standards	Electronics
<i>By the end of Grade 12 students will:</i>	<i>By the end of Grade 12 students will:</i>	<i>Badger High School. Lake Geneva</i>
Energy in the Earth System		
E.12.1 Using the science themes, distinguish between internal energies (decay of radioactive isotopes, gravity) and external energies (sun) in the earth's systems and show how these sources of energy have an impact on those systems		5 – 1 – 4 Describe the sources of Electricity Solar.
Geochemical Cycles		
E.12.2 Analyze the geochemical and physical cycles of the earth and use them to describe movements of matter		
The Origin and Evolution of the Earth System		
E.12.3: Using the science themes, describe theories of the origins and evolution of the universe and solar system, including the earth system as a part of the solar system, and relate these theories and their implications to geologic time on earth		
E.12.4 Analyze the benefits, costs, and limitations of past, present, and projected use of resources and technology and explain the consequences to the environment		
The Origin and Evolution of the Universe		
E.12.5 Using the science themes, understand that the origin of the universe is not completely understood, but that there are current ideas in science that attempt to explain its origin		

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F. LIFE AND ENVIRONMENTAL SCIENCE	Technology Education Standards	Crosswalk of Local School Curriculum
Performance Standards	Performance Standards	Electronics
<i>By the end of Grade 12 students will:</i>	<i>By the end of Grade 12 students will:</i>	<i>Badger High School. Lake Geneva</i>
The Cell		
F.12.1 Evaluate the normal structures and the general and special functions of cells in single-celled and multiple-celled organisms		
F.12.2 Understand how cells differentiate and how cells are regulated		
The Molecular Basis of Heredity		
F.12.3 Explain current scientific ideas and information about the molecular and genetic basis of heredity		
F.12.4 State the relationships between functions of the cell and functions of the organism as related to genetics and heredity		
Biological Evolution		
F.12.5 Understand the theory of evolution, natural selection, and biological classification		
F.12.6 Using concepts of evolution and heredity, account for changes in species and the diversity of species, including the influence of these changes on science, e.g., breeding of plants or animals		

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The Interdependence of Organisms		
F.12.7 Investigate how organisms both cooperate and compete in ecosystems		
F.12.8 Using the science themes, infer changes in ecosystems prompted by the introduction of new species, environmental conditions, chemicals, and air, water, or earth pollution		
Matter, Energy, and Organization in Living Systems		
F.12.9 Using the science themes, investigate energy systems (related to food chains) to show how energy is stored in food (plants and animals) and how energy is released by digestion and metabolism		
F.12.10 Understand the impact of energy on organisms in living systems		
F.12.11 Investigate how the complexity and organization of organisms accommodates the need for obtaining, transforming, transporting, releasing, and eliminating the matter and energy used to sustain an organism		
The Behavior of Organisms		
F.12.12 Trace how the sensory and nervous systems of various organisms react to the internal and external environment and transmit survival or learning stimuli to cause changes in behavior or responses		

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G. SCIENCE APPLICATIONS	Technology Education Standards	Crosswalk of Local School Curriculum
Performance Standards	Performance Standards	Electronics
<i>By the end of Grade 12 students will:</i>	<i>By the end of Grade 12 students will:</i>	<i>Badger High School. Lake Geneva</i>
G.12.1 Identify personal interests in science and technology; account for implications that these interests might have for future education, and options to be considered	A.12.6 Use accepted methods of forecasting and projecting to develop scenarios of future technology needs and uses	1 – 4 Explore careers in the Electrical/Electronics fields.
G.12.2 Design, build, evaluate, and revise models and explanations related to the earth and space, life and environmental, and physical sciences	C.12.1 Implement and evaluate strategies to solve technological problems that are likely to be successful C.12.6 Design and/or create solutions that are functional, aesthetically pleasing, demonstrate C.12.9 Apply basic engineering concepts in the design and creation of solutions to various problems or opportunities	Units 2,3,4,5,6,7,8,10,11 Design, plan and build Unit projects.
G.12.3 Analyze the costs, benefits, or problems resulting from a scientific or technological innovation, including implications for the individual and the community	A.12.2 Understand that humans are faced with moral and ethical issues because technology is enabling very significant modifications to the natural world A.12.3 Explain why decisions regarding the use of technology are dependent on the situation, application, or perception of the group using it D.12.2 Illustrate how a technology can become controversial when people think the cost of the technology is not being equally shared by those who will benefit most from the technology D.12.3 Analyze how the values and beliefs of different people can influence their perceived risks and benefits of a given technology D.12.4 Evaluate the relative appropriateness of a given technology by comparing the risks with the benefits or the advantages with the disadvantages	4 – 1 Define work, power and horsepower 5 – 1 – 1 Apply the six basic sources of electricity. 5 – 2 – 3 Describe type of cells chemical action of a cell.

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	D.12.6 Show how the effects of a given technology may be unacceptable under one set of circumstances but acceptable under a different set of circumstances	
G.12.4 Show how a major scientific or technological change has had an impact on work, leisure, or the home	A.12.2 Understand that humans are faced with moral and ethical issues because technology is enabling very significant modifications to the natural world A.12.7 Explain how scientific and technological research can contribute to improved quality of life and a better standard of living B.12.5 Assess the impact new and improved products and services have had on the quality of life; explain how the development of new tools, materials, and processes is necessary to maintain and improve high productivity and quality C.12.6 Design and/or create solutions that are functional, aesthetically pleasing, demonstrate quality, have value greater than the investment, and meet a societal want or need	11 – 1 Demonstrate Mechanical Energy produce electrical energy. 11 – 3 Compare DC vs AC. 11 – 4 Demonstrate operation of an Oscilloscope 2 – 2 Measuring Voltage, Current and Resistance 3 – 1 Troubleshoot a circuit using conductor, loads and insulators
G.12.5 Choose a specific problem in our society, identify alternative scientific or technological solutions to that problem and argue its merits	C.12.1 Implement and evaluate strategies to solve technological problems that are likely to be successful C.12.3 Defend solutions to technological problems and opportunities C.12.6 Design and/or create solutions that are functional, aesthetically pleasing, demonstrate C.12.10 Evaluate a technological solution and make necessary improvement if needed C.12.11 Select and apply appropriate processes to alter the characteristics of material to make it useful in different situations	

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H. SCIENCE IN SOCIAL AND PERSONAL PERSPECTIVES	Technology Education Standards	Crosswalk of Local School Curriculum
Performance Standards	Performance Standards	Electronics
<i>By the end of Grade 12 students will:</i>	<i>By the end of Grade 12 students will:</i>	<i>Badger High School. Lake Geneva</i>
H.12.1 Using the science themes and knowledge of the earth and space, life and environmental, and physical sciences, analyze the costs, risks, benefits, and consequences of a proposal concerning resource management in the community and determine the potential impact of the proposal on life in the community and the region	A.12.1 Contrast the increasing complexities of technology with its ease of use A.12.2 Understand that humans are faced with moral and ethical issues because technology is enabling very significant modifications to the natural world D.12.1 Evaluate technologies based upon various sources of information D.12.2 Illustrate how a technology can become controversial when people think the cost of the technology is not being equally shared by those who will benefit most from the technology D.12.3 Analyze how the values and beliefs of different people can influence their perceived risks and benefits of a given technology D.12.4 Evaluate the relative appropriateness of a given technology by comparing the risks with the benefits or the advantages with the disadvantages D.12.6 Show how the effects of a given technology may be unacceptable under one set of circumstances but acceptable under a different set of circumstances	5 – 2 – 3 Describe type of cells chemical action of a cell. 11 – 1 Demonstrate Mechanical Energy produce electrical energy. 11 – 3 Compare DC vs AC.
H.12.2 Evaluate proposed policy recommendations (local, state, and/or national) in science and technology for validity, evidence, reasoning, and implications, both short and long term	A.12.1 Contrast the increasing complexities of technology with its ease of use A.12.5 Portray how a society may not be able to exercise full control over their technological systems	

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Instructions: Please fill out the third column illustrating how the proposed technology education class meets the state standards in the first two columns. Information in the third column should include knowledge, concepts and skills, and a summary of the equivalent instructional time for the equivalent course. The first column lists Wisconsin’s Model Academic Standards for Science. Column two illustrates the various technology education performance standards that have been crosswalked to the science performance standards in the first column.

H.12.3 Show how policy decisions in science depend on many factors, including social values, ethics, beliefs, and time-frames, and considerations of science and technology	A.12.1 Contrast the increasing complexities of technology with its ease of use A.12.5 Portray how a society may not be able to exercise full control over their technological systems	4 - 6 Identify historical individuals that have laws and theorems named for them 3- 4 Research the history of an invention and its impact on society and our environment
H.12.4 Advocate a solution or combination of solutions to a problem in science or technology	B.12.7 Explain how new and higher quality products require new and higher quality materials and processing techniques C.12.3 Defend solutions to technological problems and opportunities C.12.7 Present a design solution that accounts for production of a device; how the device	2 – 2 Measuring Voltage, Current and Resistance 3 – 1 Troubleshoot a circuit using conductor, loads and insulators
H.12.5 Investigate how current plans or proposals concerning resource management, scientific knowledge, or technological development will have an impact on the environment, ecology, and quality of life in a community or region	A.12.2 Understand that humans are faced with moral and ethical issues because technology is enabling very significant modifications to the natural world A.12.4 Explore the way in which human adaptive technological systems interact with ideological and sociological systems C.12.6 Design and/or create solutions that are functional, aesthetically pleasing, demonstrate quality, have value greater than the investment, and meet a societal want or need D.12.3 Analyze how the values and beliefs of different people can influence their perceived risks and benefits of a given technology	4 - 6 Identify historical individuals that have laws and theorems named for them 3- 4 Research the history of an invention and its impact on society and our environment
H.12.6 Evaluate data and sources of information when using scientific information to make decisions.	B.12.8 Select and apply appropriate processes to transform information into its most useful format C.12.2 Measure, collect, and analyze data in order to solve a technological problem D.12.1 Evaluate technologies based upon various sources of information	2 – 3 Identify circuit components and analyze components with digital multimeters (DMM). 6 – 4 Design and experiment with a circuit to identify the unknown values. 8 – 4 Utilize standard troubleshooting procedures for defective circuits
H.12.7 When making decisions, construct a	A.12.7 Explain how scientific and technological	7-4 Learn how to construct and solder electronics

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<p>plan that includes the use of current scientific knowledge and scientific reasoning.</p>	<p>research can contribute to improved quality of life and a better standard of living C.12.1 Implement and evaluate strategies to solve technological problems that are likely to be successful C.12.9 Apply basic engineering concepts in the design and creation of solutions to various problems or opportunities</p>	<p>projects. 11 – 1 Demonstrate Mechanical Energy produce electrical energy</p>
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