

Electric Excitement Content Standards
Lesson 3: Wired for Power
Grades 8-9

Project Area Skill (PAS) refers to the subject matter based skill which youth demonstrate in relation to the correlating content standard.

Objectives:

Career Readiness-

- 1. Students will identify their career interests and aptitudes to develop an educational plan which supports personal career goals.**

Benchmarks: 5-8: A; 9-12: A,E

Project Area Skill: The youth will learn about careers as electrical inspectors as they interview one in their area. They will also utilize skills for careers in science and electric work as they perform the activities in the workbook.

- 2. Students will utilize and manage resources effectively to produce quality services and products.**

Benchmarks: 5-8: B; 9-12: A,B

Project Area Skill: Before beginning the workbook activities, the youth must purchase or borrow various materials such as a wire stripper, sand paper and a screwdriver. They must set goals as to when they are going to purchase the materials and collaborate with their parents and peers to acquire the materials they need.

- 3. Students will demonstrate the technological knowledge and skills required for future careers.**

Benchmarks: 5-8: A,C,D; 9-12: A,C,D

Project Area Skill: The youth will use various tools and skills to create circuits using diagrams in the workbook. They will also learn about circuit breakers and the importance of using the proper outlet for an electrical device so as not to overload a circuit. By doing this the youth will understand the importance of electricity in their every day lives and the career opportunities that stem from such knowledge.

4. Students will develop and demonstrate responsible and ethical workplace behaviors.

Benchmarks: 5-8: A,B,D; 9-12: A,B,E

Project Area Skill: The youth will interact positively with one another as they participate in the workbook activities. They will also learn safety tips to practice as they are working with electricity especially with appliances around the home.

5. The students will develop effective leadership, interpersonal, and team skills.

Benchmarks: 5-8: A,C

Project Area Skill: While working on the activities listed in the workbook, the youth will interact positively with their peers. They will also understand the importance of cooperation and working as a team as they successfully complete and discuss their activities.

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Project Area Skill (PAS) refers to the subject matter based skill which youth demonstrate in relation to the correlating content standard.

Objectives:

Language Arts-

- 1. Reading and listening for comprehension: Students will apply strategies and skills to comprehend information that is read, heard and viewed.**

Benchmarks: 5-8: A,B,C; 9-12: A,B,C

Project Area Skill: The youth will read the text which introduces their next activity. They will learn the background and history of the subject as well as vocabulary that is commonly used in that area of electricity. Furthermore, they will conduct an interview with a local electrical inspector to learn the ins and outs of their career.

- 2. Writing and Speaking for Expression: Students will communicate effectively through speaking and writing.**

Benchmarks: 5-8: A; 9-12: A,C

Project Area Skill: The youth will use charts to document their observations of electrical events and experiences. They will also discuss the outcome of the activity with their group leader using the questions listed at the end of the activity in the workbook. Furthermore the youth will understand the importance of reading certain electrical materials, such as a name plate on an appliance. They will research three name plates on appliances around their house, and give a speech to their peers based on those appliances and their findings.

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Project Area Skill (PAS) refers to the subject matter based skill which youth demonstrate in relation to the correlating content standard.

Objectives:

Math

- 1. Number and Operations: students will understand numerical concepts and mathematical operations.**

Benchmarks: 5-8: B,C

Project Area Skill: To determine the energy efficiency ratings, the youth will use formulas, multiplication and division to find the cost of an appliance per hour and then per year. They will understand how they can use this method to determine the most energy efficient electric devices to use in their homes. Furthermore the youth will use multiplication to determine the amount of usable watts for a circuit.

- 2. Algebra: students will understand algebraic concepts and applications.**

Benchmarks: 5-8: C

Project Area Skill: The youth will use charts to document many of the outcomes of their activities. They will analyze the information and form conclusions to discuss with their group helper and peers.

- 3 Data Analysis and Probability: students will understand how to formulate questions, analyze data, and determine probabilities.**

Benchmarks: 5-8: A,C

Project Area Skill: The youth will use charts to document observations from their experiments. They will use the information they have recorded to understand the outcome of the experiment, participate in discussion and create questions for further understanding.

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Project Area Skill (PAS) refers to the subject matter based skill which youth demonstrate in relation to the correlating content standard.

Objectives:

Science-

Strand I: Scientific Thinking and Practice

Standard I: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.

5-8 Benchmarks: I,II,III

9-12 Benchmarks: I,III

Project Area Skill: The youth will conduct many experiments to learn about how electricity travels and how it is utilized in every day tasks such as switches and lights. Furthermore, they will use charts to document their observations and participate in discussions with peers and group leaders based on the findings of their experiments.

Strand II: Content of Science

Standard I: Physical Science: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.

5-8 Benchmarks: II

9-12 Benchmarks: I

Project Area Skill: The youth will analyze electricity as well as currents, voltage, watts and other electrical areas. They will understand that electricity can be run through wires and can be used to create light and motion.

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Project Area Skill (PAS) refers to the subject matter based skill which youth demonstrate in relation to the correlating content standard.

Objectives:

Social Studies-

- 1. History: Students are able to identify important people and events in order to analyze significant patterns, relationships, themes, ideas, beliefs, and turning points in New Mexico, United States, and world history in order to understand the complexity of the human experience.**

Benchmarks: 5-8: C

Project Area Skill: In each activity the youth will be introduced to the inventor of the area they are studying. The brief history of inventions and circumstances give youth a view into how experiments and every day life can create opportunities for discovery. Furthermore the youth will understand how those inventions are used in everyday life.