

**Electric Excitement Content Standards**  
**Level 4: Entering Electronics**  
**Grades: 10-12**

**\*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: 9-12: A,E**

**Project Area Skill: The youth will learn about the roles electricity and technology play in many career fields. 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: 9-12: A,B**

**Project Area Skill: Before beginning the workbook activities, the youth must purchase or borrow various materials such as a transistors, resistors and solar cells. 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: 9-12: A,B,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 LED systems and how to create a small radio. Furthermore, they will learn how to solder wire connections and use computers to create a spreadsheet of the materials they need to purchase for the activities. 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: 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 and circuits.**

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#### **Language Arts-**

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

**Benchmarks: 9-12: A,B,C,D**

**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 electrical discovery. Furthermore, they will be encouraged to read books to further their understanding on subjects such as LED's and resistor and capacitor values.**

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

**Benchmarks: 9-12: A,B,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 determining cause and effect of certain electrical circuit connections. They will record the outcome of each effect and discuss the outcome of their experiment with their peers and group leaders.**

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**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.**

**9-12 Benchmarks: I,II,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 LED systems and radios. 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.**

**9-12 Benchmarks: I,II**

**Project Area Skill: The youth will analyze electricity as well as currents, voltage, watts, LED's, X-rays and other electrical subjects. They will understand that electricity can be run through wires and can be used to create light, heat and motion. Furthermore, the youth will create a device to measure light intensity using a photocell.**