**READING:**

**ACT Reading Alignment – Build your own Circuitry Game**

**Technical Comprehension & Analysis**

Students strengthen their reading comprehension by analyzing technical documents, schematics, and research articles related to circuit design. They practice identifying key details, comparing information, and making logical inferences—critical skills for ACT Reading. Activities involve interpreting circuit diagrams, synthesizing information from multiple sources, and evaluating cause-and-effect relationships in electronic systems.

**Potential ACT Reading Standards Covered in This Unit**

This unit connects to ACT reading skills in five key areas:

**ACT Reading Rating Scale – Comprehension & Analysis**

1. **(16–19) Identifying Key Details in Technical Texts**
* Locate and highlight specific facts in circuit-related passages (e.g., definitions of current, voltage, resistance)
* Understand step-by-step instructions in a simple wiring diagram or user manual
* Identify labeled parts of a basic circuit based on a written description
1. **(20–23) Recognizing Main Ideas in Circuit Design**
* Determine the central idea of a passage about how circuits function (e.g., the difference between series and parallel)
* Distinguish between supporting facts and the main takeaway in design explanations
* Summarize the function of a circuit setup in one sentence
1. **(24–27) Evaluating Cause-and-Effect Relationships in Electrical Circuits**
* Explain how changes in one part of a circuit (e.g., adding a resistor) affect other components
* Identify cause-effect relationships in written scenarios (e.g., “What happens if voltage increases?”)
* Use text to predict outcomes based on electrical principles.
1. **(28–32) Analyzing Advanced Electronic Explanations**
* Break down multi-paragraph explanations on complex topics like Ohm’s Law or power calculations
* Understand author’s reasoning when comparing circuit performance or evaluating efficiency
* Interpret challenging terminology and connect ideas between paragraphs
1. **(33–36) Synthesizing Information from Multiple Technical Sources**
* Combine information from circuit diagrams, manuals, and explanatory texts to form conclusions
* Compare perspectives or results from different technical documents.
* Make recommendations or predictions based on synthesized information

**Why This Matters for ACT Preparation**

By engaging with real-world circuit design scenarios, students:

✅ **Identify and interpret key details** from circuit manuals, component labels, and build guides.
✅ **Recognize main ideas and structures** in texts that explain how electrical circuits work.
✅ **Analyze cause-and-effect relationships**, such as how changing a resistor value impacts current flow.
✅ **Synthesize information** from circuit diagrams, written explanations, and performance data to understand complex systems.

These activities mirror the ACT Reading requirements by promoting close reading, inference-making, and interpretation of technical content. Through practice, students develop the comprehension skills necessary for success on the ACT and in STEM-focused academic and career paths.