ACT-Based Math Activity 1

UNIT: BUILD YOUR OWN CIRCUITRY GAME

### Here are ACT-aligned math activities for the Build Your Own Circuitry Game that help students apply real-world skills in electrical measurement, formula application, and data interpretation relevant to voltage, current, and resistance in circuit design.

### **📌 Activity 1: Calculating Circuit Resistance**

### Objective:

Students calculate total resistance in series and parallel circuits.

MATERIALS NEEDED:

Circuitry Game Kit, multimeter, resistors, worksheet.

Instructions:

1. Measure resistance values of individual resistors.
2. Calculate total resistance in series and parallel configurations.
3. Compare calculated values to measured values.

## ACT-Style MATH Question for BUILD YOUR OWN CIRCUITRY GAME

### **Question 1**

## *A series circuit has a* ***6Ω*** *and* ***4Ω*** *resistor. What is the total resistance? A) 2Ω B) 5Ω C) 10Ω D) 12Ω*

## **⚡ Why These Activities and Questions Matter**

By engaging in math-based activities connected to the **Build Your Own Circuitry Game**, students:
✅ Practice organizing electrical concepts into clear, structured calculations and formulas.
✅ Strengthen their ability to explain circuit design, Ohm’s Law, and electrical efficiency in mathematical terms.
✅ Develop problem-solving and analytical reasoning skills using real-world topics like voltage, current, and resistance.

These skills mirror the **ACT Math** requirements—helping students become confident, effective problem-solvers, prepared for college-level math and careers in STEM fields.