CIRCUIT WIZARDRY

Description: Test and prediction based upon various simple direct currents.

Number of Participants: 2

Competition:
1. The event consists some combination of the parts below:
   - **Circuit Cards or Boxes**: Team will be given four [4] different mystery circuit cards or boxes to determine the wiring of each. This will be done by the team constructing a circuit tests using a D-cell, bulb and two wires. That circuit tester will be used to determine the wiring of the cards or boxes. The cards or boxes will have from zero [0] to three [3] circuits. A circuit may involve as many as three sites. One point will be given for each correctly identified circuit, whether connected or not.
   - **Prediction Sheets**: Team will be given twenty [20] circuit problems and need to predict whether the bulb will light or not light for each. One point will be awarded for each correct answer.
   - **Inference Cards with Multiple Choices Answers**: Team will use its circuit tester to test and infer all possible wiring schemes for two inference cards. Every choice for each card will count as one [1] point.
   - **Diagrams with Multiple Choice Answers**: Diagrams, using symbols, which will be included in a key on the diagram, will have multiple-choice answers. Possible circuit parts include: power source; switch [single pole, single throw; single pole, double throw]; wire lamp [bulb]; fuse; bell; buzzer; parallel wiring; series wiring. Each question will be worth one point.
   - **Determine the resistance**: Students will be given real resistors and a color coding chart and will be asked to read the resistance value in ohms.
   - **Create a circuit**: Students will be given circuit components and be asked to make a circuit to perform a task. Components may include: battery, wires, bulb, switch, bell, buzzer.
2. No team will be advised by any judge as to how to connect wires for the event.

Scoring: Teams with the most points will be ranked highest.

Tie Breaker: The team with the shortest amount of time to finish both parts. No time will be counted when moving between stations.