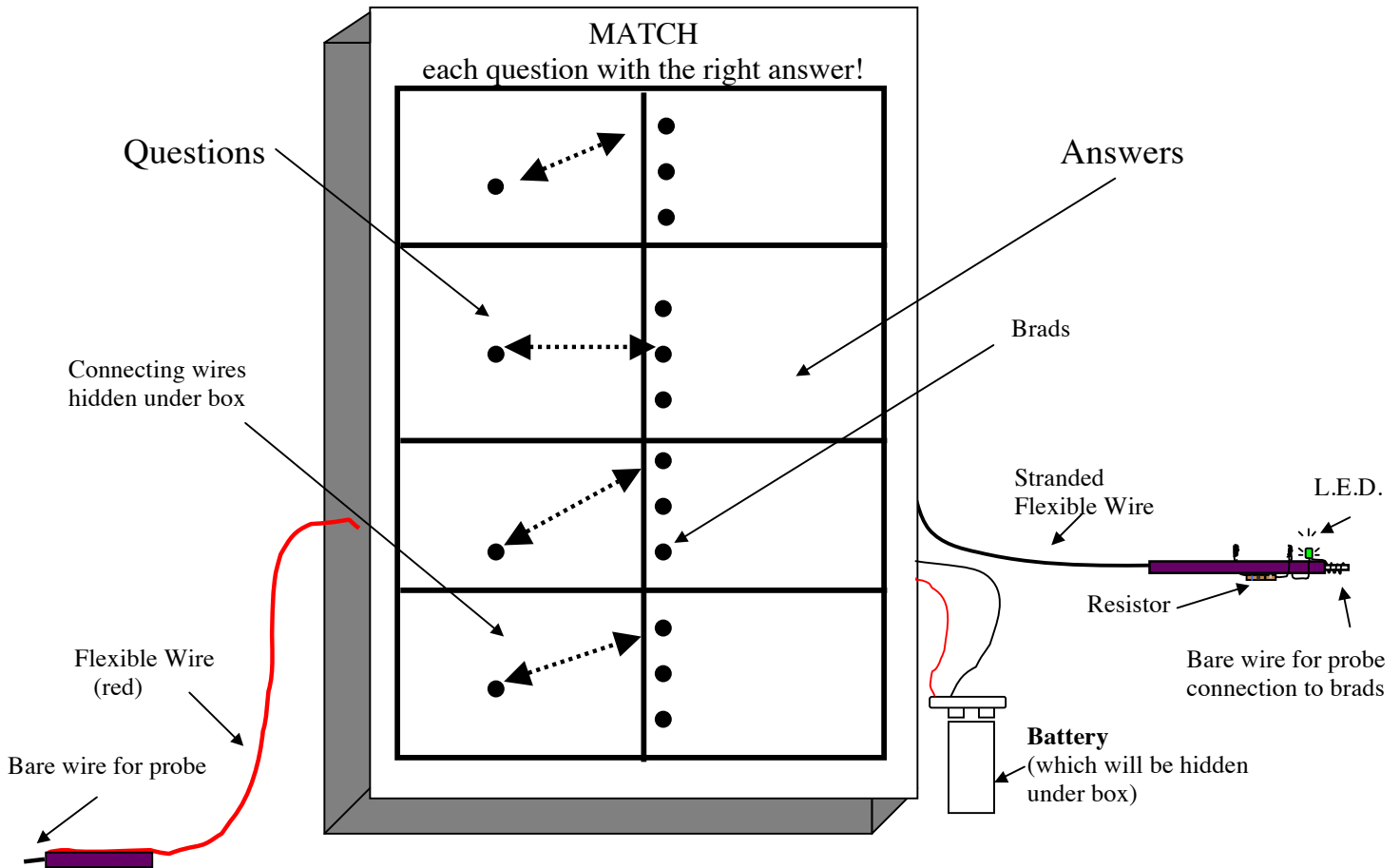


MAKING A QUIZ BOARD

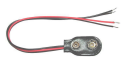


ELECTRONIC PARTS OF QUIZBOARD



Battery

Supplies electrical energy to the quizboard circuit



Battery Snap

Snaps onto the battery and has wires to connect the battery to the rest of the circuit.



LED

LED stands for Light Emitting Diode, an electrical component that lights up when current flows through in one direction, but not the other.



Resistor

Reduces the electric current flowing through the circuit so it does not burn out the LED.



Conductor

Materials through which electricity can flow easily.

Insulator

Insulators block electricity from passing from one conductor to another.



Wire Strippers

A tool used to strip the insulation off of the wires. We can also use it to cut thin wires.

Directions for Probe Building

1a. Cut 1 piece of red wire and 1 piece of black wire. The wire should be long enough to reach all parts of the quizboard, approximately $2\frac{1}{2}$ feet each. These wires will attach to the battery snap inside the quizboard.
1b. This wire is the STRANDED kind, which is flexible. Using wire strippers, remove about 1 inch off of each end of the red and black wires.

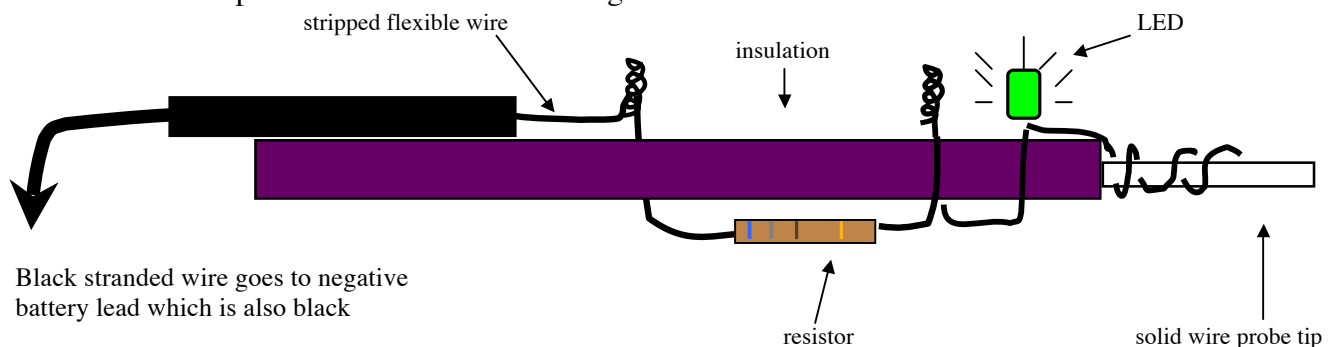
2a. Cut two, pieces of the purple house wire, each piece 6 inches long. This is SOLID wire, and much stiffer than the red and black wires.

2b. Use the wire strippers to remove 1 inch of the insulation, as shown below.

MAKE TWO



3. Assemble one probe as follows. Use the diagram for reference.



Black stranded wire goes to negative battery lead which is also black

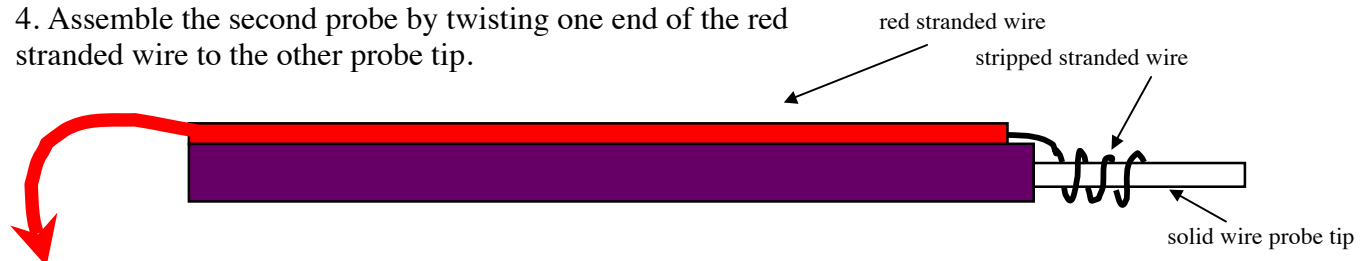
3a. Wrap the longer wire of the LED (positive wire) around the probe tip.

3b. Wrap the negative wire of the LED around and under the purple insulation once, so that it points up, back and away from the probe tip (like the LED).

3c. Bend the resistor so that the resistor looks like a "U". Hold the resistor under the probe, with one leg next to the LED. Twist the negative leg of the LED with that end of the resistor.

3d. Twist the other end of the resistor to one end of the black wire.

4. Assemble the second probe by twisting one end of the red stranded wire to the other probe tip.



Red stranded wire goes to positive battery lead which is also red.

5. Solder your connections and tape over the solder with electrical tape. Tape the 2 ends of the resistor separately.