



2007 State Competition
FFA Agricultural Mechanics Contest
University of Missouri
50 points

Contestant # _____
Contestant Name _____
Chapter _____

Electrical Circuits

Directions: Please circle the appropriate answer for each question. When you are finished please turn your sheet in. Remember to put your name, contestant number, and chapter on your paper. Not doing so will result in a zero for this section. If you have questions please feel free to ask.

Objectives:

Demonstrate electrical skill by wiring a light that is controlled from three locations in a house.

Materials Needed:

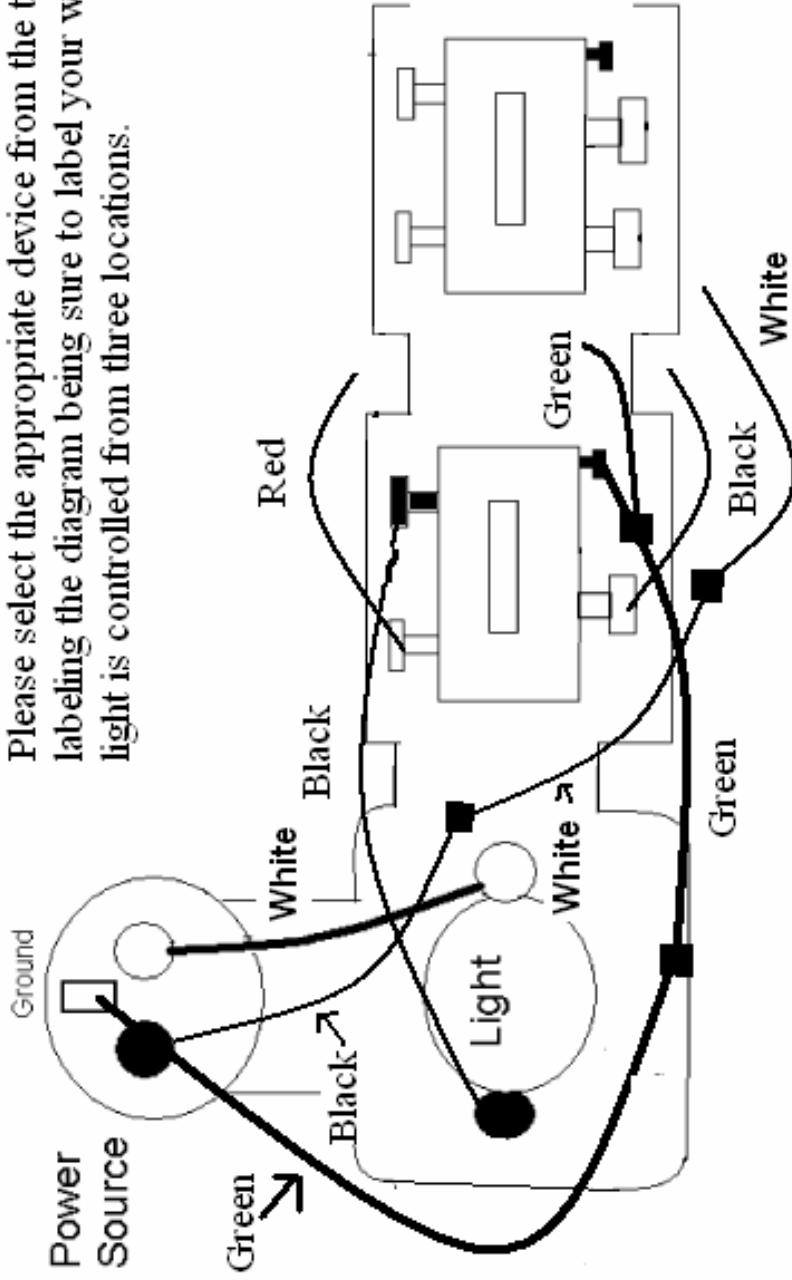
Power source, 4 pieces of 14 gauge wire (green, red, black, white), 1 – three way switch, 1 – four way switch, appropriate device, wiring board with boxes, light box and light switch, 2 solder-less connectors, 1 grounding pigtail, and various tools provided.

Directions:

1. Complete the wiring diagram on the second page using the following letter codes
R = red/hot
W = white/neutral
B = black/hot
G = Bare or Green grounding conductor
2. Wire to NEC code.
3. **DO NOT cut wire – use the length given**
4. **NO BACK WIRING**

Point Evaluation	Possible Points	Earned
1. Wiring diagram drawn correctly	7	_____
2. Selection of proper device	5	_____
3. Cable covering removed correctly	8	_____
4. Grounding conductor pigtails	1	_____
6. Proper connection to screws	9	_____
7. Proper use of solder-less connectors (2pt each)	4	_____
9. Correct wire connections	11	_____
10. Work habits and shop clean-up	5	_____
Total Points Earned	50	_____

Please select the appropriate device from the three given. Finish drawing and labeling the diagram being sure to label your wires correctly. Remember that the light is controlled from three locations.



Key

- Solderless Connector
- Connector

