

Name _____ School _____

**2015 Wyoming State FFA CDE
Agricultural Technology and Mechanical Systems
Electrical Systems – Wiring Skill**

You have been hired by Harris Solutions, an integrated Pest Management company located in Cheyenne Wyoming. As your first assignment, you have been asked to remodel the staff office and bring all of the electrical components up to code. As a result of changes to the National Electric Code (NEC), you determine that one of the combination single pole switches in the room is required to be changed in order to bring it up to code. Each switch controls either a light fixture or a duplex receptacle and originate from the same circuit. Additionally, You also need to be able to identify any potential problems that may exist with the current wiring to ensure a safe and compliant electrical installation.

1. Complete the wiring connection of the combination single pole switch with the tools and supplies provided.

2. Evaluate each of the wiring boards and use the following space to identify wiring problems, which might exist. Identify how to fix any observed problems in the space provided. (Do not attempt to repair any of the identified problems).

	Existing Wiring Problems	Recommendation for Repair
1.	The ground and hot wire are switched	Reverse connections
2.	The ground on the plug is missing; Non NEC Compliant receptacle; Loose Hot wire	Replace plug with modern plug; Tighten hot wire
3.	Broken ground on box	Reattach ground on box
4.	No problems	

Multiple Choice:

<u> D </u>	1.	Ohm's law represents how the flow of electricity is through a conductor is directly proportional to the electromotive force that produces it. Electromotive force is measured in volts, rate of flow in amperes and resistance. (Volts= Amperes x Resistance or E=IR) How much force is being produced when there are 15 amps and a resistance of 5? a. 45 b. 15 c. 70 d. 75
<u> C </u>	2.	What wire type is rated specifically for use in dry locations with high temperatures? a. Type T b. Type TW c. Type THHN d. Type THW

Criterion	Points Possible	Points Earned
Wiring skill	18	
Questions	10 (1 point each)	
Safety	2	