

**2012 Wyoming State FFA CDE
Agricultural Technology and Mechanical Systems
Electrical Systems – Wiring Skill**

You are an employee at the Clearwater feed mill in Cheyenne Wyoming. Your responsibilities include the construction and maintenance of existing machinery and systems for the company. A new Thiele Technologies Model 6128 gravity feed gross weigh scale system was purchased for use by the company and your boss has asked you to wire a duplex receptacle to be specifically used for this new system. He asks that the top outlet be ready to use at all times, with the bottom outlet needing to be able to have the electrical current shut on or off by a switch located on the wall in order to more efficiently run the new bagging system. He wants the outlet to be able to be shut on or off so that the auger can be serviced without eliminating power to the entire receptacle. Your boss also instructed you to leave the outlets and switches unsecured so that the county inspector can make the proper inspections.

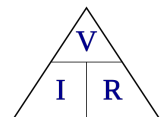
Utilizing the equipment and materials found in the electrical skill area, answer the following questions:

1. For a duplex receptacle to be properly oriented within an electrical box, where should the ground portion of the plug be located?
The ground portion should be oriented to the bottom of the plug

2. By evaluating the duplex receptacle provided, what two things would prohibit this outlet from being used in this scenario?
The plug is cracked
The break away tabs have not been removed.

3. What is the potential Ohm range at R X 1 found on the Simpson Ohm meter displayed in the skill area?

At R X 1, the meter will measure 0 to 2000 or Infinity (∞) Both answers will be accepted



Answer the following using the formula for Ohms Law: Volts / Ohms = Amps

Volts	Amps	Ohms
120	5.4	22.22222
136	6.8	20
220	13.75	16

Name _____ School _____ Contestant Number _____

Criterion	Points possible	Points earned
Wiring skill	16 (8 points each)	
Questions	12 (2 points each)	
Safety	2	