

Agricultural Structures

Unit V — Electricity Student Handout

Name_____

Objective: Wire a machinery shed.

Materials Needed:

Diagram
Transparencies
Dry-erase markers

Instructions:

The instructor will give you a diagram of a machinery shed. Develop a wiring plan for the building using the steps below. Be sure to determine what local building and zoning codes apply to the structure and design a wiring plan that complies with all relevant codes.

1. Identify the best position for the electrical service panel and ground rod and mark the locations on the diagram using their symbols.
2. Place a transparency sheet over the diagram. Determine the best location for the fixtures, receptacles, and switches listed below and draw their symbols on the transparency using a dry-erase marker.
 - 6 ceiling light fixtures
 - 3 wall-mount light fixtures
 - 9 duplex receptacles (3 must be GFCIs)
 - Wall switches (You decide how many.)
3. Place a second transparency over the diagram and the first transparency. Determine how many circuits you need and draw in the circuits. Draw lines from the switches to the fixtures they control. Use different colors to make the wires easier to follow.
4. Complete a bill of materials for the project. See the back side of this sheet for a bill of materials form. Include all the materials that will be needed to complete the electrical work in the building — light bulbs, receptacles, cover plates, wire, etc.

Date _____
Project Title _____

Bill of Materials

Determine the materials you will need for this project and complete the bill of materials below.

| No. of Pieces or Amount of Material | Material or Electrical Hardware | Estimated Cost per Unit | Cost |
|---|---------------------------------|----------------------------|------|
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Estimated Total Cost _____

MACHINERY SHED 60'X80'

