|  |  |  |  |
| --- | --- | --- | --- |
| Activity | Date | Score | Initials |
| Worksheet 1 – Electrical Safety  *Compare the student work to answer sheet. Ensure the safety list is complete and remind student to tape it to their binder. Mark out of* |  | /62 |  |
| Worksheet 2 – Instruments, Tools and Fasteners  *Compare the student work to the answer sheet. Mark out of* |  | /16 |  |
| Worksheet 2 – Research Assignment: Toolkit for Electricians  *The toolkit should have a variety of screwdrivers, nut drivers, pliers, diagonal cutters, meters, tape, and may also contain adjustable wrenches, soldering iron/solder, crimper, solderless connectors, hex wrenches, marker, lockout tags.* |  | /5 |  |
| Worksheet 2 – Practical Assignment: Tool Inventory Sheet  (Attach inventory sheet to activity sheet)  *Ensure the tool inventory sheet matches the previous tool inventory sheet. Replace any missing components/used up components from the general supplies. Track down any major missing components, such as meters, hand tools and dvds. Check only.* |  | /10 |  |
| Worksheet 2 – Electrical Conductors, Insulators and Semiconductors  *Compare the student work to the answer sheet. Mark out of* |  | /7 |  |
| Worksheet 2 – Sources of Electromotive Force  *Compare the student work to the answer sheet. Mark out of* |  | /5 |  |
| Worksheet 2 – Basic Electrical Units  *There are quite a few calculations in this section. It would be a good idea to introduce the concept of Ohm’s law to the students and go over changing the formula to match the desired component. Mark out of* |  | /43 |  |
| Worksheet 3 – Electrical Connections  *Compare the student work to the answer sheet. Mark out of* |  | /35 |  |
| Soldering Package(P1)  *Compare the student work to the answer sheet. There are instructions and descriptions of how to perform various operations involved with soldering in this package, but students are not required to perform any practical operations. They will be doing a basic joint as Practical (P2). Instructions on how to do this are the final information in the soldering package.Mark out of* |  | /81 |  |
| Soldering Practical (P2) – marked with rubric  *The student will be providing you with two loops, each made out of two pieces of wire. One loop will have the pieces joined by mechanical connectors and the other loop will have one joint soldered and the other simply twisted. Compare the student work to the exemplars and give them either a pass or retry for each joint. Require the student to reach acceptable standard on all joints before moving on.* |  | /52 |  |
| 130 in One Tutorial Practical (P3)  *The student should show you that the switch can be wired in two different ways: between 119 and 37, and between 121 and 38 as illustrated. Check only.* |  |  |  |
| 130 in One Tutorial Practical (P4)  *The student should explain that as the light increases on the Cds cell, the resistance decreases (as more light is applied to the cell, the light gets brighter, meaning more electricity is getting in due to lessened resistance. The circuit diagram should closely resemble this:*  *Check only* |  |  |  |
| 130 in One Tutorial Practical (P5)  *The student should build a circuit which allows them to be able to control the brightness of the display by the variable resistance control knob. The diagram is as follows.*  *Check only* |  |  |  |
| 130 in One Tutorial Practical (P6)  *The student should build a circuit which shows the number 5 on the digital LED display. They must be able to control the brightness of the display by the variable resistance control knob. The diagram is as follows.*  *Check only.* |  |  |  |
| 130 in One Tutorial Practical (P7)  *The readings should be close to the following, but there could be some variance. Make sure the correct units –and prefixes – are used.*  1. *56.7Ω*  2. *5.19KΩ* 3. *12.14KΩ*  4. *18.08KΩ* 5. *24.7KΩ*  6. *31.1KΩ*  7. *36.3KΩ* 8. *42.1KΩ*  9. *48.2KΩ*  10. *51.4KΩ 0. 1.6Ω* |  | /11 |  |
| 130 in One Tutorial Practical (P8)  *The batteries should measure between 1. 4 and 1. 6 volts. There is going to be some variance because of manufacturing practices, contact surface contamination, and meter variance. Check only.* |  |  |  |
| Worksheet 3 – Simple, Series and Parallel Circuits  *Compare the student work to the answer sheet. Mark out of* |  | /21 |  |
| Worksheet 3 – Practical (P9) *The student should have a diagram similar to the one below. The measurement across the power supply should be equal to the power source. There should be no voltage across the switch when it is closed*  a)  *Check only.* |  |  |  |
| Worksheet 3 – Practical (P9)*The total voltage across both LEDs should equal the power available at source, or very near it.*  b)  *Check only.* |  |  |  |
| Worksheet 3 – Practical (P9) *The voltage across each LED should be slightly less than the voltage at source. When one LED is disconnected, the voltage across the remaining one should measure very close to voltage at source.*  c) |  |  |  |
| Worksheet 3 – Practical (P10) Record a description of the activity undertaken and have the instructor date and initial each day.  *Students should be working carefully and slowly as they disassemble their projects. It is important that they try to trace, or understand, the path the electricity takes, identify controls and servo motors, and identify various components that have recognizable jobs. They should make an effort to salvage as many electronic and electrical components as they can. Make sure they leave their work area clean and they put all tools back in their specific spot. Marking for this component can be left up to the instructor.* |  |  |  |
| Occupational Connection Worksheet  *Discuss the student’s findings with him/her. Check only.* |  |  |  |