

Student Tracker

Electrical/Electronic (ELEC)

Name: _____

Class: _____

Please complete the following competencies using the proper procedures, service information, and tools. Be prepared to explain to the teacher what you did. After completion of each competency, your teacher will initial next to each number.

Vehicle Year/Make/Model: _____

1. Research current Technical Service Bulletins (TSB's) on the electrical/electronic system of your chosen vehicle. Some key search words include electrical, electronic, audio, instruments, battery, alternator, navigation, keyless entry, sensor, starting system, charging system, ignition, computer, module, lights, fuse, relay, etc. List the date and title of each TSB:

2. Research how to reset the maintenance indicator on your chosen vehicle. List the steps here or print out the steps and staple them to this unit plan.

3. Identify the location and define the purpose of the following components:
 Power distribution box(es) (fuse box)
 Alternator
 Battery
 Voltage light/gauge

4. Demonstrate how to locate and check a fuse for proper operation (visually). The teacher will tell you which fuse to find and check.

5. Demonstrate how to locate and check a relay for proper operation (quick and easy way). The teacher will tell you which relay to check.

6. Research the following battery information on your chosen vehicle:

What is the voltage of a fully charged battery? _____

What type of battery is in your chosen vehicle? _____

What is the BCI group size of the battery? _____

What are the cranking amps and/or cold cranking amps of the battery? _____

7. Demonstrate how to safely jump start a battery with jumper cables.

8. Demonstrate how to safely jump start a battery with a jump box.

9. Describe/define the following electrical elements:

Voltage and its unit of measure:

Amperage and its unit of measure:

Resistance and its unit of measure:

10. Describe/define the following electrical issues:

Open:

Short:

11. Demonstrate the proper use of a digital multimeter (DMM) by determining the state of charge of a battery in a vehicle:

What is the voltage of the battery with the engine not running? _____

Is it fully charged? Please explain why or why not:

What is the voltage of the battery with the engine running? _____

Is there a difference between the readings? Explain why or why not:

12. Demonstrate how to ohm out a wiring harness. Run a continuity check on the birdnest of wires and match the wire numbers that are connected together:

_____ = _____
_____ = _____
_____ = _____
_____ = _____
_____ = _____
_____ = _____
_____ = _____
_____ = _____

13. Describe how to disable a supplemental restraint system (SRS). Research the procedure on your vehicle; print and staple it to this paper if needed.

14. Demonstrate how to safely charge a battery.