Automotive Technology

USING A DIGITAL VOLT- OHM - METER

(DVOM, DMM, VOM, or VM)

_____   _____   _____
Name   Date   Period / Team

1. Fill in the following blanks:

    A. Electricity is the flow of _____ along a conductor.

    B. _____ is the **force** that pushes the electrons along a conductor.

    C. _____ is a measurement of the **volume** of electron flow.

    D. _____ is the measurement of **resistance** to the flow of electrons.

2. Fill in the symbols for the following:

    A. Direct Current Voltage _____.

    B. Alternating Current Voltage _____.

    C. Ohms _____.

3. DC voltage flows in only _____ _____.

4. AC voltage flows _____ & _____.

5. Inspect VOM leads and determine how to hook up to VOM.

    BLACK LEAD _____

    RED LEAD _____

6. Determine VOM Battery Location:_____

7. Always estimate what readings you anticipate getting and then set the meter to a value _____ than what you are expecting to measure.

8. Meters that do not have adjustable range settings are called _____ _____.

9. What scale would you use to test the battery voltage of most cars? _____.

10. To test the **continuity** or "connectedness" of a circuit, you should use what scale? *(circle one)*   DC   AC   Amps   Ohms.

11. You should **never** use which scale when the power is turned on or connected to the circuit?   *(circle one)*   DC   AC   Amps   Ohms.

12. For instructional purposes electricity can be compared to _____?

13. Car batteries are for _____ electricity, but they do not produce it.

14. Milli-amp scales can be used for what test? _____

15. A Diode is a _____ _____ _____ _____ for electricity.

16. Define the following terms in relation to **resistance** *(ohms)*:

   a. What does infinity mean? _____

   b. What does "open" mean? _____

   c. What does "closed" mean? _____

   d. What does shorted mean? _____

17. Fill in the following chart:

OPEN CIRCUIT VOLTAGE CHART for 12 Volt Battery	
Open Circuit Voltage (volts)	Percent Charge in Battery
__.__ **or less….. ………….…..…0%**	
__.__**…………….. ………………25%**	
__.__ **………….... ………………50%**	
__.__**…………… ………………75%**	
__.__or higher.. ………………100%	

18. Using the circuit boards, check the continuity (Ω), and fill out the chart below:

Board#___	Board#___	Board#___	Board#___
1.	1.	1.	1.
2.	2.	2.	2.
3.	3.	3.	3.
4.	4.	4.	4.
5.	5.	5.	5.
6.	6.	6.	6.
7.	7.	7.	7.
Board#___	Board#___	Board#___	Board#___
1.	1.	1.	1.
2.	2.	2.	2.
3.	3.	3.	3.
4.	4.	4.	4.
5.	5.	5.	5.
6.	6.	6.	6.
7.	7.	7.	7.