

## SNC 1P ELECTRICITY REVIEW

1. Use the words below to complete the following sentences.

charged	electricity	electroscope	insulator	metals	stronger
repel	pith	negatively	object	ebonite rod	fur
rubbed	conductor	neutral	attract	lightning	

1. Like charges \_\_\_\_\_.
2. Opposite charges \_\_\_\_\_.
3. Charged objects attract \_\_\_\_\_ objects.
4. A(n) \_\_\_\_\_ permits the flow of electrons.
5. A substance that does not allow the flow of electrons is a(n) \_\_\_\_\_.
6. When an object has electrons added to it, it becomes \_\_\_\_\_ charged.
7. A positively \_\_\_\_\_ object has lost electrons.
8. A \_\_\_\_\_ rod provides a safe path for electrons to the ground.
9. An object that has a \_\_\_\_\_ hold for electrons when 2 objects are \_\_\_\_\_ together will become the one with the negative charge.
10. \_\_\_\_\_ are good conductors of \_\_\_\_\_ since they permit the flow of electrons.
11. A(n) \_\_\_\_\_ detects the presence of electrical charge.
12. Charging a \_\_\_\_\_ ball by contact involves touching the neutral pith ball with a charged \_\_\_\_\_.
13. A(n) \_\_\_\_\_ will become negatively charged if it is rubbed with \_\_\_\_\_.

2. **Matching: Match circuit symbols on the right with the description on the left.**

Use the web site to practice the matching activity

3. **Match the electricity term on the left with the description on the right.**

- |                          |   |
|--------------------------|---|
| ___ potential difference | A. measures potential difference in a circuit |
| ___ current              | B. I  |
| ___ resistance           | C. A  |
| ___ voltmeter            | D. unit is ohms                               |
| ___ ammeter              | E. V  |
| ___ ampere               | F. measures current in a circuit              |

### Ohm's Law

4a) Write an equation for Ohm's Law.

b) Given:  $V = 6\text{ V}$  and  $I = 3\text{ A}$ , Calculate  $R$ .

c) Given  $R = 2$  ohms, and  $V = 8$  volts, Calculate  $I$ .

d) Given  $R = 3$  ohms, and  $I = 5$  amps, Calculate  $V$ .

### **Circuits**

5. Draw a series diagram with: 1 light bulb, an open switch, connecting wires and a 3 cell battery, an ammeter, with 2 resistors, one 15 ohm and one 25 ohm.

### **Questions**

a) In order for electric current to flow around this circuit, what must happen?

b) In making a complete circuit, how do you connect the 2 wires to the battery?

c) Which terminal of the battery do the electrons flow from?

d) What will happen if you have made a circuit using a dead battery?

e) How was the ammeter connected in this circuit? (in series or parallel)?

f) State how you would connect a voltmeter in a circuit. Draw a basic circuit with one cell, one lamp, a switch, connecting wires, and voltmeter to show how.

g) Draw a parallel circuit. Use a 12 V battery, a voltmeter, a switch, connecting wires, and 2 light bulbs connected in parallel.

**6. True or False. Comparing Series and Parallel Circuits. Read the following statements. Write “T” for true, and “F” for false.**

- a) In a parallel circuit, the potential difference across each load is the same \_\_\_\_\_
- b) In a series circuit, the current traveling through each load is equal \_\_\_\_\_
- c) In a series circuit, if one bulb goes out, the rest stay on \_\_\_\_\_
- d) In a parallel circuit, all bulbs stay on if one goes out \_\_\_\_\_
- e) Wiring in parallel cost more money since they require more metal \_\_\_\_\_
- f) In a series circuit, there are many pathways for electrons to travel \_\_\_\_\_
- g) In a parallel circuit, there is only 1 pathway for electrons to travel \_\_\_\_\_

**7. What are renewable resources?**

b) Non renewable?

c) Give examples of 2 renewable and 2 non-renewable resources that are used in the generation of electricity.

d) Why is the shortage of energy a problem?

e) Give examples of energy sources that can be used in Canada? Outside Canada?