

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?