

Year 9 Science

Electricity Topic Test

Mark: /50

1. Moving electric charges are called an electric c_____. [1]
2. What is the charge on the shell of a Van De Graph generator? [1]
positive OR negative
3. Rice bubbles jump off the top of a Van De Graph generator, what charge must they carry? [1]
positive OR negative
4. Complete the following table: [1 each]

Circuit Component	Diagram
Wire	
Switch	
Light Bulb	
Power Source	
Resistor	
Ammeter	
Voltmeter	

5. What happens to the current in a circuit if the voltage decreases? [1]
increases OR decreases OR stays the same
6. What is the law called which relates voltage, current, and resistance? [1]
O_____ Law

7. Complete the following table:

[1 each]

Name	Unit	Symbol
Eg. Distance	Meter	m
Voltage		
Current		
Resistance		

8. Explain electricity by describing an analogy for voltage, current, and resistance.

[2]

Electricity is like

Voltage is like

Current is like

Resistance is like

9. Draw a **series** circuit containing one power supply, one light globe, and one switch which turns the light on and off.

[3]



10. Calculate the current flowing in the following circuit:

[3]

$Current = Voltage \div Resistance$

11. What does a ammeter measure? [1]
voltage OR current OR resistance

12. What does a voltmeter measure? [1]
voltage OR current OR resistance

13. Describe **one** benefit that parallel circuits have over series circuits? [2]

14. What type of circuit is used for the lights in your home? [1]
series OR parallel

15. Why? [1]

16. Draw a circuit containing one power supply and two light globes in **parallel**. [3]

17. Explain what a short circuit is and why they are dangerous. [3]

18. Explain how a fuse works and how they can protect your home. [3]

19. Why are circuit breakers used in new homes instead of fuses? [2]
20. Complete the following sentence about AC and DC electricity?
- A _____ Current is used for powering our h _____. [2]
- D _____ Current is provided by b _____ to power small appliances. [2]
21. Complete the following sentence:
- Moving e _____ c _____, or c _____, is the fundamental source of magnetism. [2]
22. What is the **main** difference between a permanent magnet and an electromagnet? [2]
23. Propose one alternative source of electrical energy and a benefit it provides. [2]

The End