

Learnzy Academy

Worksheet: Electricity

1. What is meant by saying that the potential difference between two points is 1 V?
2. Calculate the number of electrons constituting one coulomb of charge.
3. Name a device that you can use to maintain a potential difference between the ends of a conductor. Explain the process by which this device does so.
4. Why are alloys commonly used in electrical heating devices ?
5. Will current flow more easily through a thick wire or a thin wire of the same material, when connected to the same source? Why?
6. How is the resistivity of alloys compared with those of pure metals from which they may have been formed?
7. List the factors on which the resistance of a conductor in the shape of a wire depends.
8. What does an electric circuit mean?
9. Calculate the resistance of a metal wire of length 2 meters and cross-sectional area 1.55×10^{-6} square meters, if the resistivity of the metal is 2.8×10^{-8} ohm meter.
10. Name a device that helps to maintain a potential difference across a conductor.
11. Why are metals good conductors of electricity whereas glass is a bad conductor of electricity ? Give reason.
12. Calculate the resistivity of the material of a wire of length 1 m, radius 0.01 cm and resistance 20 ohms.
13. What is the maximum resistance which can be made using five resistors each of $1/5 \Omega$?
14. Define the unit of current.
15. How much energy is given to each coulomb of charge passing through a 6 V battery?
16. What are the advantages of connecting electrical devices in parallel with the battery instead of connecting them in series?
17. Why does the cord of an electric heater not glow while the heating element does?
18. Why are coils of electric toasters and electric irons made of an alloy rather than a pure metal?
19. Compute the heat generated while transferring 96000 coulomb of charge in one hour through a potential difference of 50 V
20. What determines the rate at which energy is delivered by a current?