

Shining a Light

Design & Technology

Year 9



SCOTCH
COLLEGE
ADELAIDE

Questions on Electrical Circuits Worksheet - ANSWERS

- 1. What design features could be considered in the manufacture of a torch?**
(Comfortable to hold, colour, Ruggedness, self cleaning switch contacts, corrosion resistant metal parts, easy replacement of cells and lamp, spare lamp inside)
- 2. How could you describe the torch circuit when it is switched on?**
(A closed conducting path)
- 3. What is an electric current?**
(A flow of charged particles)
- 4. What is the unit and its symbol for current?**
(Amp or Ampere, I)
- 5. What causes current to flow?**
(A potential difference or voltage)
- 6. How many cells in a 6volt battery and how are they connected?**
(4 cells connected in series)
- 7. Why would you connect two cells in parallel?**
(To double the capacity and therefore the life)
- 8. Which direction do electrons flow in a circuit?**
(From negative to positive)
- 9. Give one reason why an electric current can be so dangerous.**
(It can kill, it is invisible, it can burn, it can start fires, it can melt metal, and it can arc and produce plasma balls)
- 10. Why does the filament of the lamp emit light?**
(Because it resists the current and glows white hot)
- 11. Why does the switch in the torch not get hot when current is flowing?**
(Because its conducting parts are of very low resistance)

