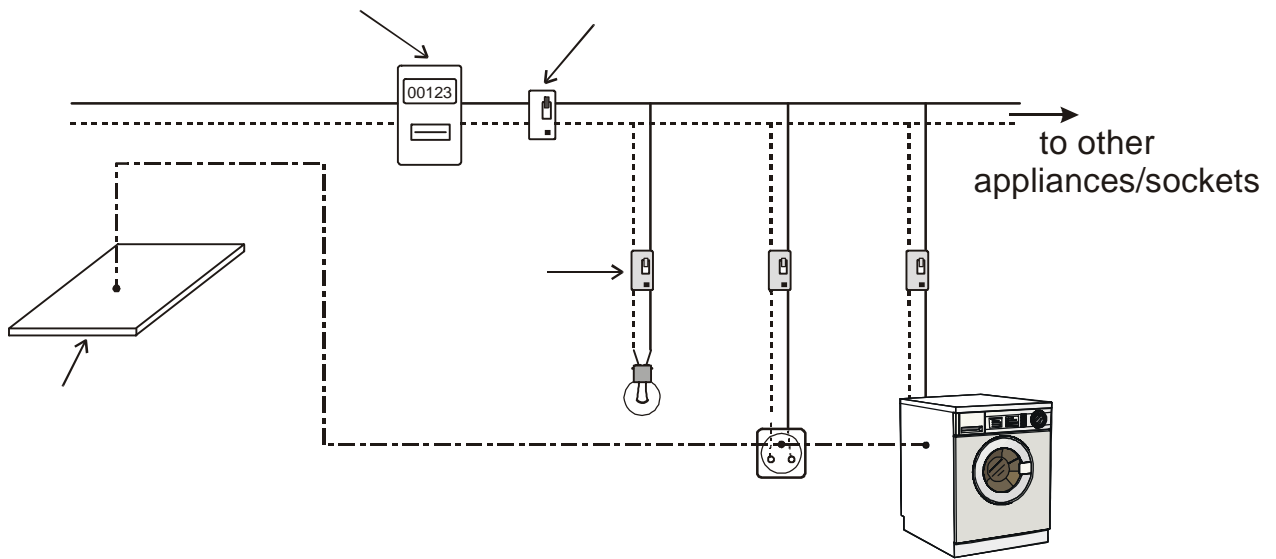
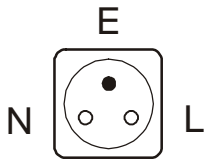


Domestic Electric Circuits



The Colour Code for Cable Insulation



Cable	Colour of Insulation	
	old	new
Live		
Neutral		
Earth		

The Differential Circuit Breaker

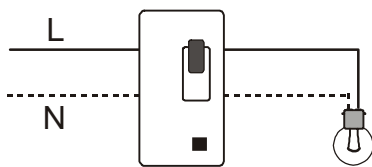


diagram 1

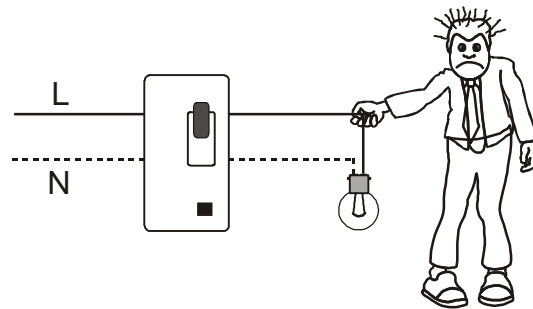
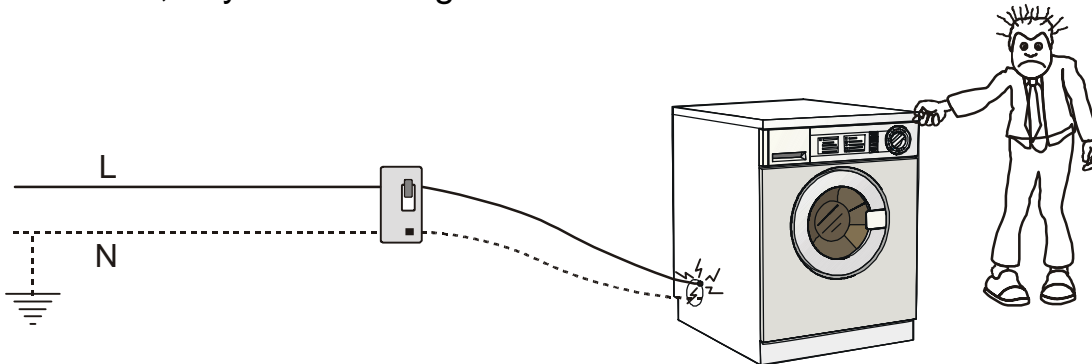


diagram 2

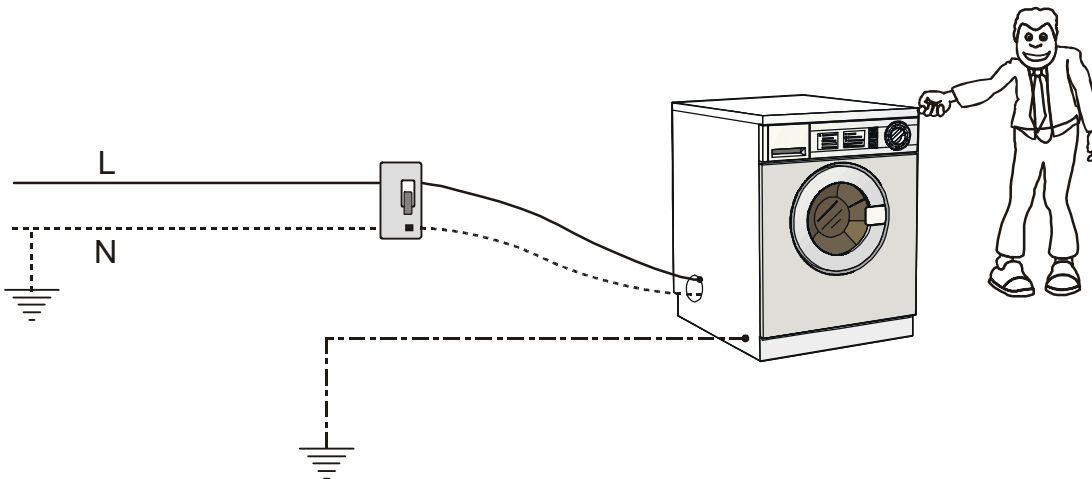
Under normal conditions (diagram 1), the current flowing through the live wire is _____ the current flowing through the neutral wire. If a fault occurs (diagram 2), the current flowing the live wire is _____ the current flowing through the neutral wire. The d.c.b. detects this difference and breaks the circuit. The person *still gets an electric shock* but for less time !!

The Earth Connection

In the first diagram below, there is *no earth connection* to the washing machine. If a fault occurs, causing the live wire to touch the metal case of the machine, anyone touching the machine will be electrocuted.



In the next diagram, the machine has been “earthed”. Now, if the live wire touches the case, a large current flows “to earth” and the circuit breaker switches off the current. The machine will not function but it will not be dangerous to touch it.



Conclusion

Any electrical appliance which has a _____ should have an earth connection.