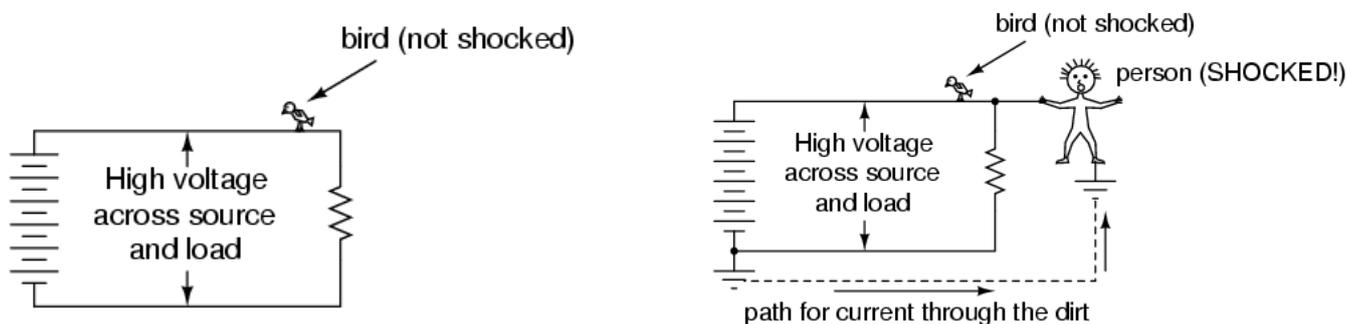


Answer on Question #57689, Chemistry / General Chemistry

Conditions: among to radarfords model its saided that earth has no electric power . then why it happens that when we are standing on earth and if we touch anything that contains electricity we are shocked by electricity.

Solutions:

This might lend one to believe that its impossible to be shocked by electricity by only touching a single wire. Like the birds, if we're sure to touch only one wire at a time, we'll be safe, right? Unfortunately, this is not correct. Unlike birds, people are usually standing on the ground when they contact a "live" wire. Many times, one side of a power system will be intentionally connected to earth ground, and so the person touching a single wire is actually making contact between two points in the circuit (the wire and earth ground):



Electric shock can only occur when contact is made between two points of a circuit; when voltage is applied across a victim's body.

Power circuits usually have a designated point that is "grounded:" firmly connected to metal rods or plates buried in the dirt to ensure that one side of the circuit is always at ground potential (zero voltage between that point and earth ground).

A ground fault is an accidental connection between a circuit conductor and the earth (ground).

Special, insulated shoes and mats are made to protect persons from shock via ground conduction, but even these pieces of gear must be in clean, dry condition to be effective. Normal footwear is not good enough to provide protection from shock by insulating its wearer from the earth.

Though dirt is a poor conductor, it can conduct enough current to injure or kill a human being.