Electrical Safety and Ohm's Law (19:35)

Use Ohm's Law and the power equation to explain how voltage, resistance, and time of exposure influence the amount of energy transferred to an individual during a shock.

Recommend 5 basic steps to prevent shock hazards.

List general safe work practices when working with electricity.

List the undesirable effects of increasing levels of current during a shock.

Determine the current and resistance of a 100W electric bulb driven by a 120V source

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Identify conditions that may influence the resistance of a human.

Given R_{DRY} = 400kΩ and R_{WET} = 9kΩ calculate the voltage necessary to produce a mild 2mA shock.

Given R_{DRY} = 400kΩ and R_{WET} = 9kΩ calculate the voltage necessary to produce a more severe 8mA shock.

Given R_{DRY} = 400kΩ and R_{WET} = 9kΩ calculate the current experienced when direct contact is made with a 120V source.

Compare and contrast shock events in dry and wet skin conditions. Identify areas in a house or work environment where this might be a concern.

Define an arc flash and identify means of mitigating arc flash hazards.

Differentiate between DC and AC shocks.