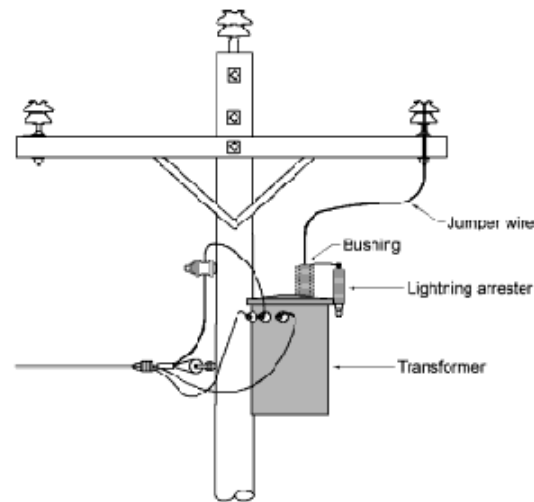
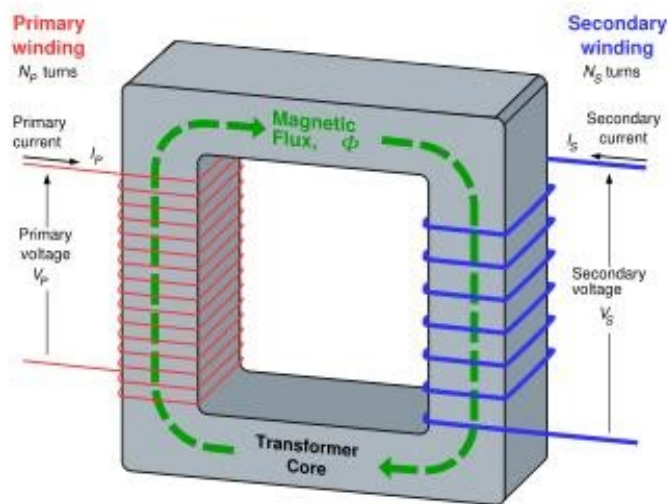


Physics 12 Section 21-7 Transformers; Transmission of Power



1. A transformer is a



2. An alternating current goes into the primary coil producing a magnetic flux in the iron core. The iron core transfers the magnetic flux to the secondary coil. The secondary coil produces an induced EMF to counter the introduction of the magnetic flux in the iron core.

$$V_p = N_p \frac{\Delta\Phi}{\Delta t}$$

Combining the two above equations results in

3. The amount of power transformed is also close to 100% efficient.

Combining this with the previous derived equation we get:

Example p635: A transformer for home use of a portable radio reduces 120V AC to 9.0V AC. The secondary coil contains 30 turns and the radio draws 400mA. Calculate the number of turns in the primary, the current in the primary, and the power transformed.

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