

## The Turbine Generator

**Recommended grades level(s)** 9-12

**Time Duration:** - 15 minutes

**Objective(s):**

The learner will be able to identify components of a turbine generator.

**Materials and/or Resources:**

Worksheets

**Background Information:**

In 1831, Michael Faraday, a British scientist, discovered that an electrical current is produced when a magnet is turned inside a coil of wires. Faraday's invention, which sat on a table top and was turned by hand, was the first electrical generator. Although much larger and more efficient generators have been developed, they still work on the same principle.

The two largest parts of the generators are the stator and the rotor. The stator is a stationary ring wrapped with coils of wire. The rotor is a wheel inside the stator and is also wrapped with wire. When a small electrical current passes through the coils of the rotor, it acts like a magnet. As the magnetized rotor spins, it produces an electrical current in the stator coils which can be collected and distributed to wherever it is needed.

Connected to the central shaft of the rotor is a device called a turbine? It has a series of specially designed blades. When water or steam is jetted against the blades, the turbine shaft turns and spins the generator's rotor.

**Reproducible Material**

Worksheet (in supplementary materials)

**Development Resources:**

Sund, R.B., D.K. Adams, J.K. Hacket, and R.H. Mayes. Accent on Science. Columbus, OH: Merrill, 1985.

Zinn, G.A. Steps in Science. New York: Standard, 1974.