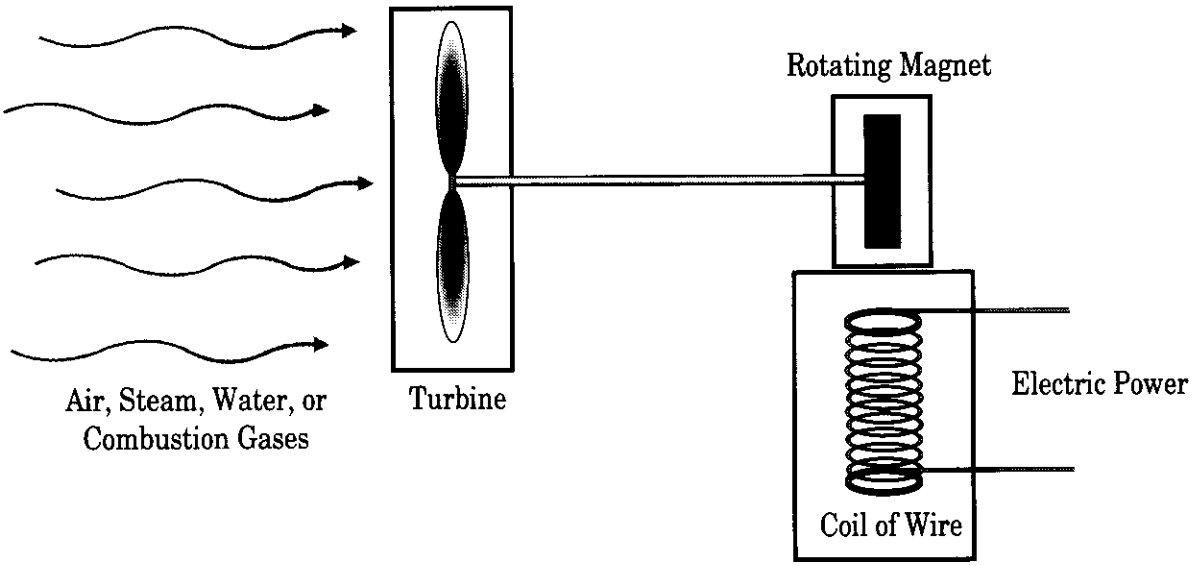
Turbine Choices

CONCEPT: Turbines are spun with water, steam, wind, and fumes from burning fuel (as in jet engines, also called "combustion turbines". More about these in Lesson 12).

DIRECTIONS/LAB: Students spin their home-built turbines in class using their breath as wind, water from a faucet or watering can (hydropower), and steam from a kettle on a hot plate. Have students design on paper their concept of the much larger turbines used in industry that spin using these three methods. See the diagram below for the different components.



Their initial designs will evolve and improve as they explore each type of electrical generation. They can construct models from their drawings. It is important to encourage students to just draw out an idea, even if it is just a guess, rather than have them research the actual working models. The shock of recognition that they will have if these models are introduced much later on, reinforces the fact that *they* can design these systems; it demystifies the whole process. Remember that some students will need to be encouraged to guess.