

Generator Activator [Activity]

This activity shows how magnets can be used to generate electricity.

Answers to Procedure Questions

1. Moving a pole of the magnet in and out of the coil generates a current.
2. Motion of the pole relative to the magnet is what's key to generating current. So a and b are possible, c is not.
3. The hand-crank generator generates current when the handle is turned.
4. If the handle is turned in the opposite direction, current is produced in the opposite direction.
5. The other handle turns and acts as a motor (uses electrical energy to produce motion).
6. The other handle doesn't turn as fast as the handle that's being cranked. If the cranking handle is turned too slowly, the other handle doesn't turn at all.

Answers to Summing Up Questions

1. a. Motor.
b. Battery.
c. Generator.
2. Some energy is turned into sound, some is turned into thermal energy which heats up the gears of the generator.
3. Not a good idea; energy is lost when going from the generator to the motor (and more will be lost going from the motor to the generator).