

Getting to Know your Genecon

ACTIVITY No 1

As tempting as it is to start using your genecons with the many accessory items provided in the Kit, the following suggestions and cautions should be understood before proceeding too far!

Materials: Genecon with output cord
1 bulb (3.8V,.3A) in socket with leads

Procedure:

1. The output cord should be plugged into the back of the Genecon. Connect the leads of the Genecon to one of the miniature bulb sockets, with leads, supplied in Kit. Slowly turn the rotary handle of the Genecon with increasing vigor until the bulb lights. You should notice that the bulb becomes brighter as the handle is turned more rapidly. In general, the brighter the bulb, the more voltage the Genecon is producing. Caution: The Genecon produces approximately 6 volts of pulsating DC current. Overly rapid rotation of the handle may burn out the bulb supplied in the Kit.



2. **SPECIAL CAUTION:** While the Genecon is sturdily constructed, excessive speed in rotating the handle can result in stripped gears and damage to the unit. If while rotating the handle in any of the activities which follow, you should experience a sudden “slippage” or decrease in effort required, check your circuit to see if it is overloaded (e.g., too many bulbs connected) or shorted out. Continuing to turn the handle when there is no resistance is counterproductive.

3. Now try to turn the handle of the Genecon in the opposite direction. Once again, the bulb lights as before.

Key Concepts:

1. A generator converts mechanical energy (the energy of moving parts) into electrical energy (the flow of electrons through a conductor).

2. The brightness of the bulb is directly related to the voltage of the current passing through it.

Teaching Tips:

1. Discuss proper operation of the Genecon with the students.

2. Discuss how lighting the bulb demonstrates a whole series of energy conversions: Chemical energy in the cells of your body was converted into the mechanical energy of your muscles, which the Genecon changed into electrical energy. The electricity passing through the filament of the bulb got it so hot (thermal energy) that it radiated energy.

3. Connect the Genecon to a demonstration doorbell (not supplied in the Kit) to show conversion of electrical energy to sound energy.