612-0002 (10-118) Franklin's Bells

Description: this device is named after Benjamin Franklin, although Andrew Gordon invented them around 1742. Franklin famously used them to detect approaching thunderstorms.

The device consists to two bells on nonconductive mounts, and a small conductive ball hanging on a thread between them. The device works in two ways. The first way is to give the bells opposite charges. The second way, which is essentially the same thing, is to expose one bell to a static electricity generator, and ground the other. Van de Graaff Generators work especially well. Franklin used a lightning rod for his experiments; however, this is ill advised because of the obvious difficulties.

When the bells are charged, the ball will be attracted towards the one exposed to the static electricity. It will move and strike the bell, producing a ringing sound. When it hits, it will take on the charge of the bell. This causes it to be repelled and attracted towards the opposite bell. As the ball hits the opposite bell, the same process takes place, and the ball will again move toward the first bell. As long as the supply of electricity is uninterrupted, the bell will ring continuously.

Warranty and Parts:
We replace all defective or missing parts free of charge. Additional replacement parts may be ordered toll-free. We accept MasterCard, Visa, checks and School P.O.s. All products warranted to be free from defect for 90 days. Does not apply to accident, misuse or normal wear and tear. Intended for children 13 years of age and up. This item is not a toy. It may contain small parts that can be choking hazards. Adult supervision is required.

May we suggest:

615-3130 400 kV Van de Graaff generator or
615-3100 200 kV Van de Graaff generator: Create your own lightning with these time-tested devices that have delighted students for decades! Named after the inventor Van de Graaff, an American physicist, this machine produces low-amperage static electricity that can be "shocking" but perfectly safe. Two different pulleys inside a plastic column create and carry static charge up to the aluminum collector globe. You can draw out this static charge in a burst of lightning - or you can set each hair on your head on end! Our instruction booklet tells you how to raise hair; produce lightning and electric wind; experiment with St. Elmo's fire or electrostatic attraction and repulsion. *Base and column color may vary.*

615-3085 Electrostatic Demonstration Kit: Charge electroscopes, show electrostatic attraction, duplicate Faraday's ice pail experiment, and more! Includes: 2 electroscopes with flasks; 2 ball and disc terminals; Faraday cage; 6 different friction rods, labeled; electrophorus with charge plate and handle; neon lamp; ice pail; acetate and polyethylene cloth; charge transfer ball; electrically conducting ball; 12 pith balls; mounted point; instructions.

615-3085 Electroscope Kit: Detect and identify electrical charges, experiment with electrostatic induction. Includes: 2 foil leaf electroscopes with 250 mL flasks; 2 ball terminals; ice pail; 2 disc

615-3190 Wimshurst Machine: This easy-to-use device consists of two high resistance plastic discs 25 cm in diameter with equally spaced metal sections. The discs are supported with two upright posts and rotate in opposite directions with a hand crank, producing substantial opposite charges which are deposited in the capacitors and on the metal electrodes. You can collect induced charge with the brushes and adjust the electrodes and Leyden jar capacitors for higher potential, thus generating sparks by lowering the system's capacitance. It is mounted on an attractive wooden base.

652-1010 Anemometer: This colorful working model is sensitive to breezes as slight as 2 mph. Since it rotates at speeds 1/6 that of the wind velocity, wind speeds can be determined quantitatively by counting the rotations. Consists of: Four (4) plastic molded cups, three black and one red for contrast, mounted on a low-friction axle and attached to a sturdy base. Instructions include sample questions, problem and wind speed chart.