

# Van de Graaff Generator

Experience what strong electric fields can do..

## WHAT TO DO

With the Van de Graaff Generator (VDG) off, stand on the stool and place one hand on the large metal dome. When an adult turns on the VDG will your hair stand up?

## WHAT'S HAPPENING?

A VDG is a type of electric charge pump. Inside the tower a motor turns a plastic roller which is connected to a second plastic roller by a long rubber belt. This pulls electrons off the large metal dome and they are carried by the belt and deposited onto the metal base (and eventually into the Earth through the ground wire). This gives the dome of the VDG a very large positive charge, which in turn creates an electric field so strong (typically 150,000 Volts!) that it can rip electrons from nearby air molecules and produce little lightning bolts or sparks. It can also pull electrons from your hand and body, giving you an electric charge and field so that your hair stands up.