

## Electrostatics Worksheet

1. In a lightning bolt, it is estimated that a charge of 20 C is transferred from a cloud to Earth. How many electrons make up a lightning bolt.
2. An ebonite rod with an excess of  $6.4 \times 10^8$  electrons shares its charge equally with a pith ball when they touch. What is the charge on the pith ball, in coulombs?
3. What is the charge on a metal-leaf electroscope with a deficit of  $5.0 \times 10^{11}$  electrons?
4. In 5.0 seconds, 3.0 C of electric charge passes through the filament of a light bulb. How many electrons move through the filament in this time?
5. How much charge does the earth acquire  $2.5 \times 10^{11}$  electrons if leaves a grounded metal-leaf electroscope?