Charge Transfer

**Problem 1 (10 pts.)**

A lightweight metal ball hangs by a thread. When a positively charged rod is held near, the ball moves toward the rod, touches the rod, then quickly ‘flies away’ from the rod. Why?

The rod attracts the electrons to the closer side of the ball. There being more electrons than protons close to the rod in the metal ball now, the metal ball will be attracted to the charged rod. Once it touches though, electrons from the metal ball will be transferred to the rod. Now both objects will be slightly positively charged, and will therefore repel each other.