1. Current is defined as the amount of charge per unit time or $I = q / t$, so we can determine the amount of charge involved with a given current if we multiply both sides of the equation by t to get

$$q = I\ t$$

$$q = (1\ A)\ (1\ s)$$

One Ampere is defined as one Coulomb per second, so we have a charge of

$$q = (1\ C / s)\ (1\ s)$$

$$q = 1\ C$$

From Chapter 12 (see problem 1 for Chapter 12 on page 94 in this Study Guide) we know that one electron charge is equivalent to 1.6×10^{-19} Coulomb.

Multiplying both sides of the equation by one in the form (1 electron charge) / (1.6×10^{-19} C) gives

$$q = (1\ C)\ (1\ \text{electron charge}) / (1.6 \times 10^{-19} C)$$

or $$q = 6.25 \times 10^{18} \text{ electron charges}$$

This is a very large number of charges indicating that even a relatively modest current of one Ampere represents the motion of a very large number of individual charges.