

**C.11.9 Conductivity**

Suppose you prepare a dilute solution of sodium chloride (NaCl). It dissociates almost completely into ions ( $\text{Na}^+$  and  $\text{Cl}^-$ ). You measure its electrical conductivity to be  $0.01 \Omega^{-1}\text{m}^{-1}$ . Your lab partner prepares a dilute solution of magnesium chloride ( $\text{MgCl}_2$ ) with the same concentration of  $\text{Mg}^{2+}$  ions as your solution's concentration of sodium ions. What is the conductivity of your partner's solution?