



$$\text{So: } v_d \approx \frac{L}{\Delta t}$$

$$\Delta t \approx \frac{L}{v_d} \approx 1.35 \times 10^4 \text{ s}$$
$$\approx \underline{\underline{37.5 \text{ hours}}}$$

The light comes on almost instantaneously because the wire is already full of electrons. When the switch is turned on, all of the electrons — even the ones in the light bulb — begin to move.

