

$$\begin{aligned}
E_k &= n^2 \left( \frac{h^2}{8md^2} \right) \\
&= n^2 \left( \frac{(6.626 \times 10^{-34} \text{ Js})^2}{8(9.1 \times 10^{-31} \text{ kg})(1 \times 10^{-10} \text{ m})^2} \right) \\
&= n^2 \left( 6.0 \times 10^{-18} \frac{\text{J}^2 \text{s}^2}{\text{kg m}^2} \right) \\
&= n^2 (6.0 \times 10^{-18} \text{ J})
\end{aligned}$$

Therefore, if  $n = 1$ ,  $E_k = 1^2 (6.0 \times 10^{-18}) \text{ J} = 6.0 \text{ aJ}$ ; if  $n = 2$ ,  $E_k = 2^2 (6.0 \times 10^{-18}) \text{ J} = 24 \text{ aJ}$ ; if  $n = 3$ ,  $E_k = 3^2 (6.0 \times 10^{-18}) \text{ J} = 54 \text{ aJ}$ ; and so on.