$$E_n = \frac{\hbar^2}{2m}\left(\frac{n\pi}{L}\right)^2 \qquad \text{so} \quad E_2 - E_1 = \frac{\hbar^2\pi^2}{2mL^2}(2^2-1^2) = 3 \cdot \frac{\hbar^2\pi^2}{2mL^2}.$$

For an electron, $m = 9.1\times10^{-31}$ kg, and $L = 10^{-9}$ m,

$$E_2 - E_1 = \frac{3}{2}\left(\frac{6.626\times10^{-34}\ J\cdot s}{2\pi}\right)^2 \frac{\pi^2}{9.1\times10^{-31}\ kg\ (10^{-9}\ m)^2} \simeq 1.8\times10^{-19}\ J$$

For 1 mole of electrons, multiply by Avogadro's number, so

$$E_2 - E_1 \simeq 109\ kJ/mol$$

For a ball of mass $m = 10^{-2}$ kg, and $L = 1$ m,

$$E_2 - E_1 = \frac{3}{2}\left(\frac{6.626\times10^{-34}\ J\cdot s}{2\pi}\right)^2 \frac{\pi^2}{10^{-2}\ kg \cdot (1\ m)^2} \simeq 1.65\times10^{-65}\ J$$

For 1 mole of tennis balls,

$$E_2 - E_1 \simeq 10^{-41}\ kJ/mol$$