

Actividad n° 9. pag 19. (T1).

Datos

$$m = 2 \mu\text{g}$$

$$c = 300.000 \frac{\text{km}}{\text{s}}$$

$$2 \mu\text{g} \cdot \frac{1 \text{g}}{1000 \mu\text{g}} \cdot \frac{1 \text{kg}}{10^3 \text{g}} = 2 \cdot 10^{-6} \text{kg}$$

$$300.000 \frac{\text{km}}{\text{s}} \cdot \frac{1000 \text{m}}{1 \text{km}} = 3 \cdot 10^8 \text{ m/s}$$

$$E = m \cdot c^2 = 2 \cdot 10^{-6} \cdot (3 \cdot 10^8)^2 = 18 \cdot 10^{10} \text{ J}$$

Tenemos que pasar de Julios a kWh:

$$\text{Como } 1 \text{ J} = 1 \text{ W} \cdot \text{s}$$

$$18 \cdot 10^{10} \text{ J} = 18 \cdot 10^{10} \cancel{\text{W} \cdot \cancel{\text{s}}} \cdot \frac{1 \text{kW}}{10^3 \cancel{\text{W}}} \cdot \frac{1 \text{h}}{3600 \cancel{\text{s}}} = 5 \cdot 10^4 \text{ kWh}$$