$$M_{r,101} \quad = \quad M_{r,100} \; + \; \left.\frac{dM_r}{dr}\right|_{100}$$

$$Q_M \quad \equiv \quad 1 \; - \; \frac{M_r}{M_{\rm tot}} \qquad\qquad \Rightarrow \qquad M_r \quad = \quad M_{\rm tot}(1 \; - \; Q_M)$$

$$\text{lifetime T} \quad \sim \quad \frac{\text{amount of fuel}}{\text{rate of burning fuel}} \quad = \quad \frac{M}{L}$$