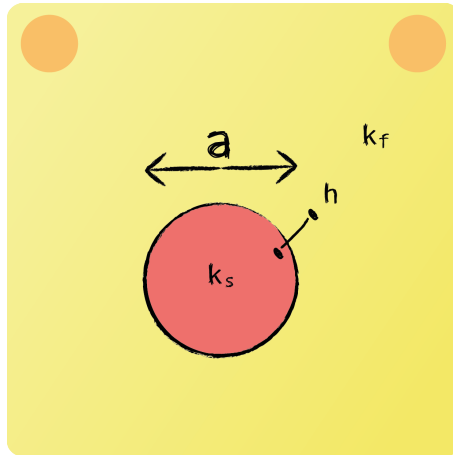


Lecture 06 - Biot Number 03

Give an expression for the Biot number Bi, for a sphere subjected to convection.



The characteristic length of a sphere:

$$L_c = \frac{V}{A_s} = \frac{\frac{4}{3}\pi a^3}{4\pi a^2} = \frac{a}{3}$$

Biot number:

$$\text{Bi} = \frac{hL_c}{k_f} = \frac{ha}{3k_f}$$