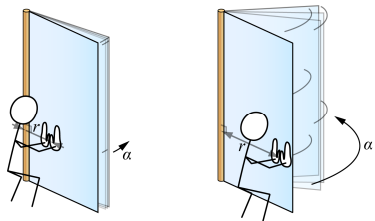


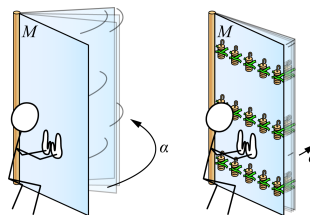
Torque and rotational inertia

How can I give a rigid object a greater angular acceleration?

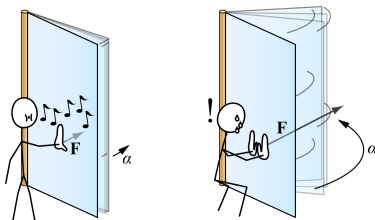
How can I make a rigid object more difficult to angularly accelerate?



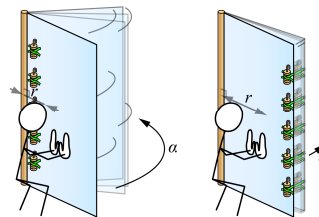
$$\uparrow r \Rightarrow \uparrow \alpha$$



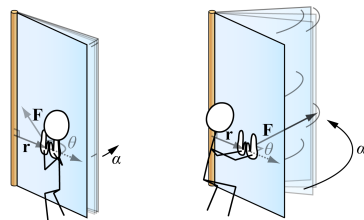
$$\uparrow M \Rightarrow \downarrow \alpha$$



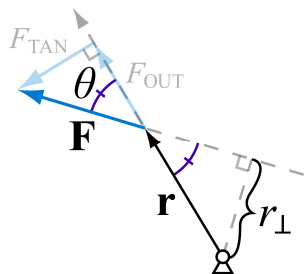
$$\uparrow F \Rightarrow \uparrow \alpha$$



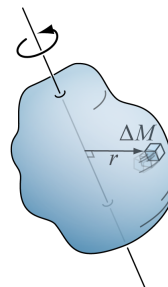
$$\uparrow r \Rightarrow \downarrow \alpha$$



$$\uparrow \perp \text{ity} \Rightarrow \uparrow \alpha$$



$$\begin{aligned} \tau_F &:= r_{\perp} F \\ &:= (r \sin \theta) F \end{aligned}$$



$$I_{\text{RIGID SET OF PARTICLES}} := \sum_i \Delta M_i r_i^2$$

$$I_{\text{RIGID}} = I_1 + I_2 + \dots$$

$$\alpha = \frac{\sum \tau}{I}$$