

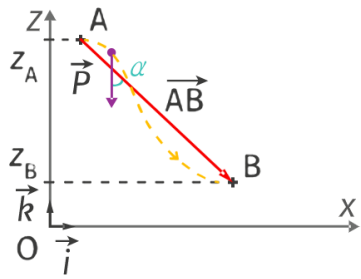
**Énergie cinétique**  
 $E_c = \frac{1}{2} m \cdot v^2$

(+)

**Énergie potentielle de pesanteur**  
 $E_{pp} = m \cdot g \cdot z$

(=)

**Énergie mécanique**  
 $E_m = E_c + E_{pp}$

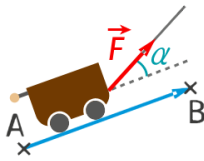


**Variation  $\Delta E_m$**   
 $\Delta E_m = \Delta E_c + \Delta E_{pp}$

**Théorème de l'énergie cinétique**  
 $\Delta E_c = \Sigma W(\vec{F})$

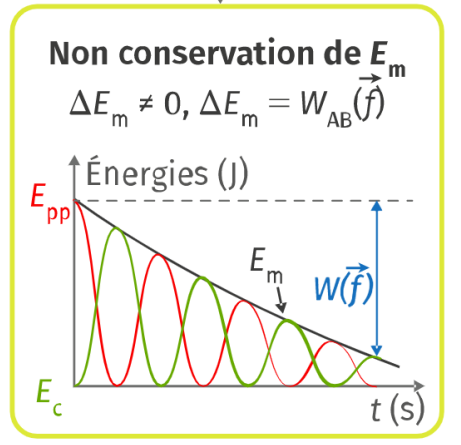
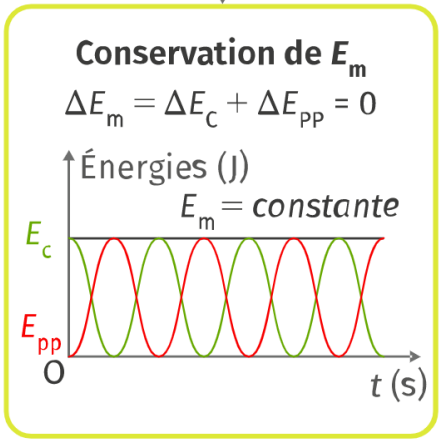
**Travail du poids**  
 $W_{AB}(\vec{F}) = m \cdot g \cdot (z_A - z_B)$

**Travail d'une force**  
 $W_{AB}(\vec{F}) = \vec{F} \cdot \vec{AB}$   
 $W_{AB}(F) = F \cdot AB \cdot \cos(\alpha)$



**Travail d'une force de frottement**  
 $W_{AB}(f) = -f \cdot AB$

$\vec{f} \cdot \vec{AB} = f \cdot \underbrace{AB \cos(180^\circ)}_{=-1} = -f \cdot AB$



**Force conservative**

**Force non conservative**