



應用物理及材料工程研究院

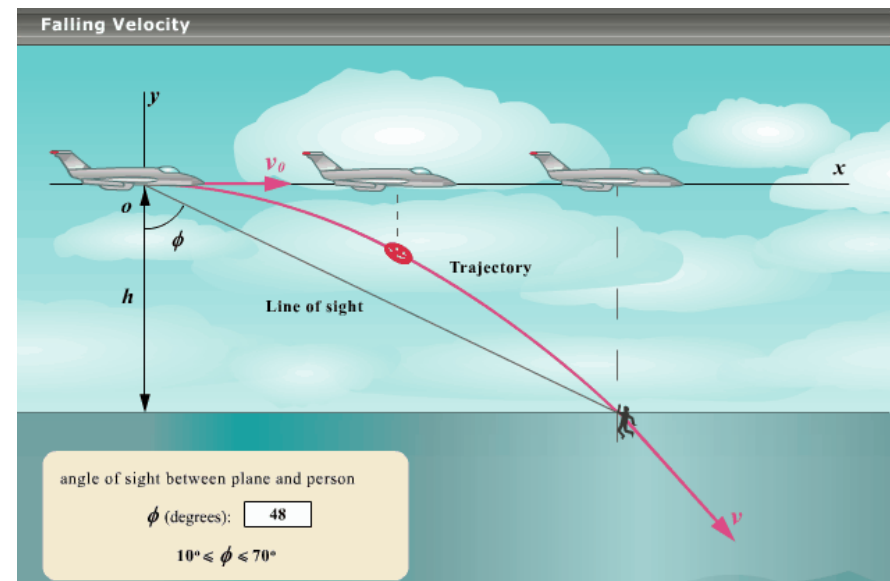
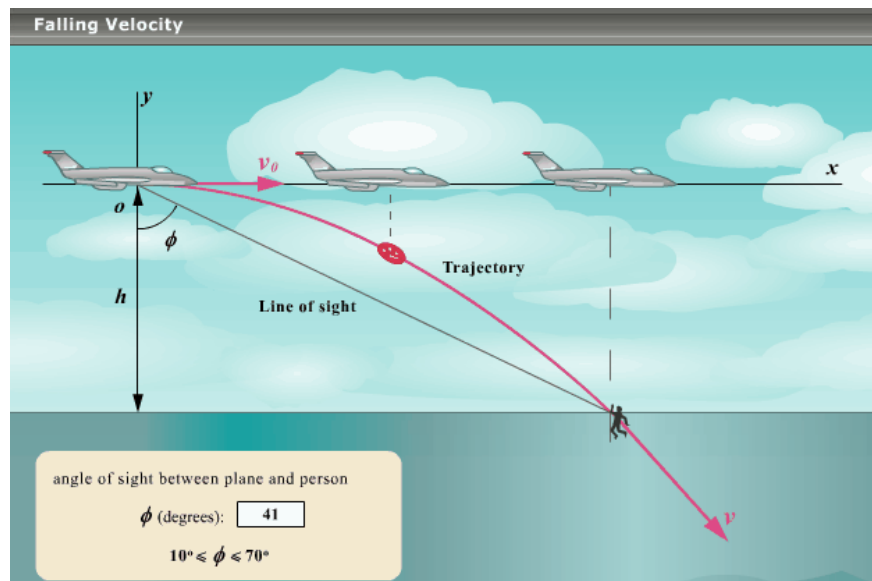
INSTITUTO DE FISICA APLICADA E ENGENHARIA DE MATERIAIS
INSTITUTE OF APPLIED PHYSICS AND MATERIALS ENGINEERING

Student Engagement - Interest First

Bingpu ZHOU

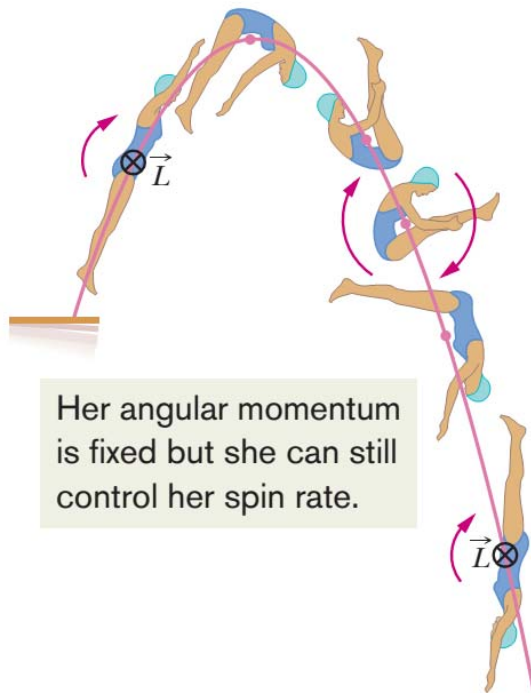
1. MEANINGFUL

How to save people from the airplane? - The Projectile Motion



2. FASCINATING

Angular Momentum - factor you cannot ignore for sports



- High rotation airborne;
- Little splash.

Conservation Laws in daily life

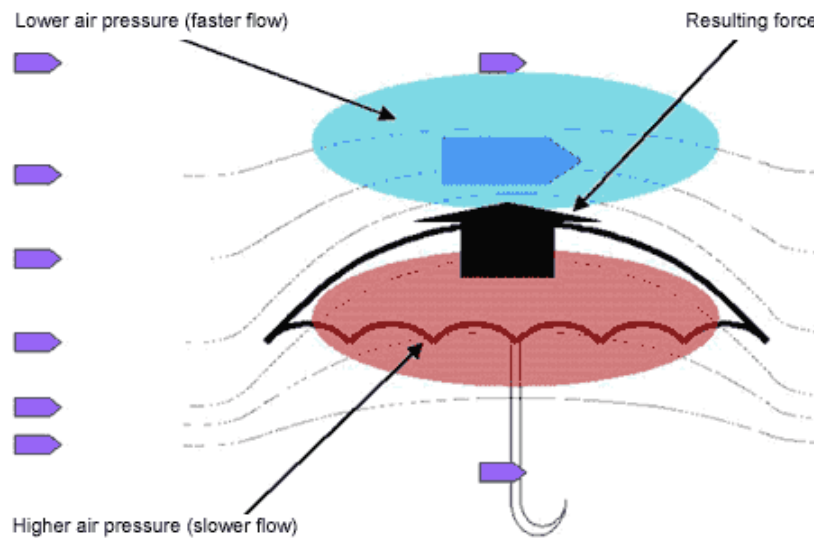


Windmill motion of the arms during a long jump helps maintain body orientation for a proper landing.

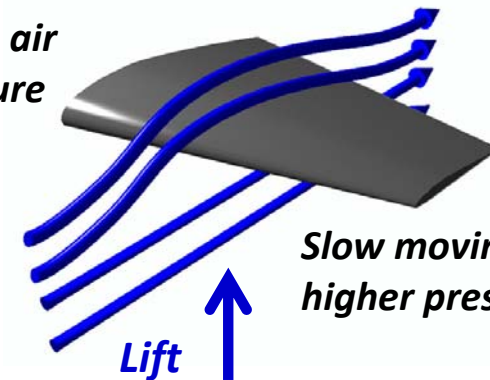
- otherwise, landing via face...

3. ACCESSIBLE

Bernoulli's Umbrella - if strong enough, you can fly.



*Fast moving air
lower pressure*



Bernoulli Principle

$$p_1 + \frac{1}{2}\rho v_1^2 + \rho g y_1 = p_2 + \frac{1}{2}\rho v_2^2 + \rho g y_2$$





應用物理及材料工程研究院
INSTITUTO DE FÍSICA APLICADA E ENGENHARIA DE MATERIAIS
INSTITUTE OF APPLIED PHYSICS AND MATERIALS ENGINEERING

Thank you for watching