

# PHYSICS TAKES FLIGHT!

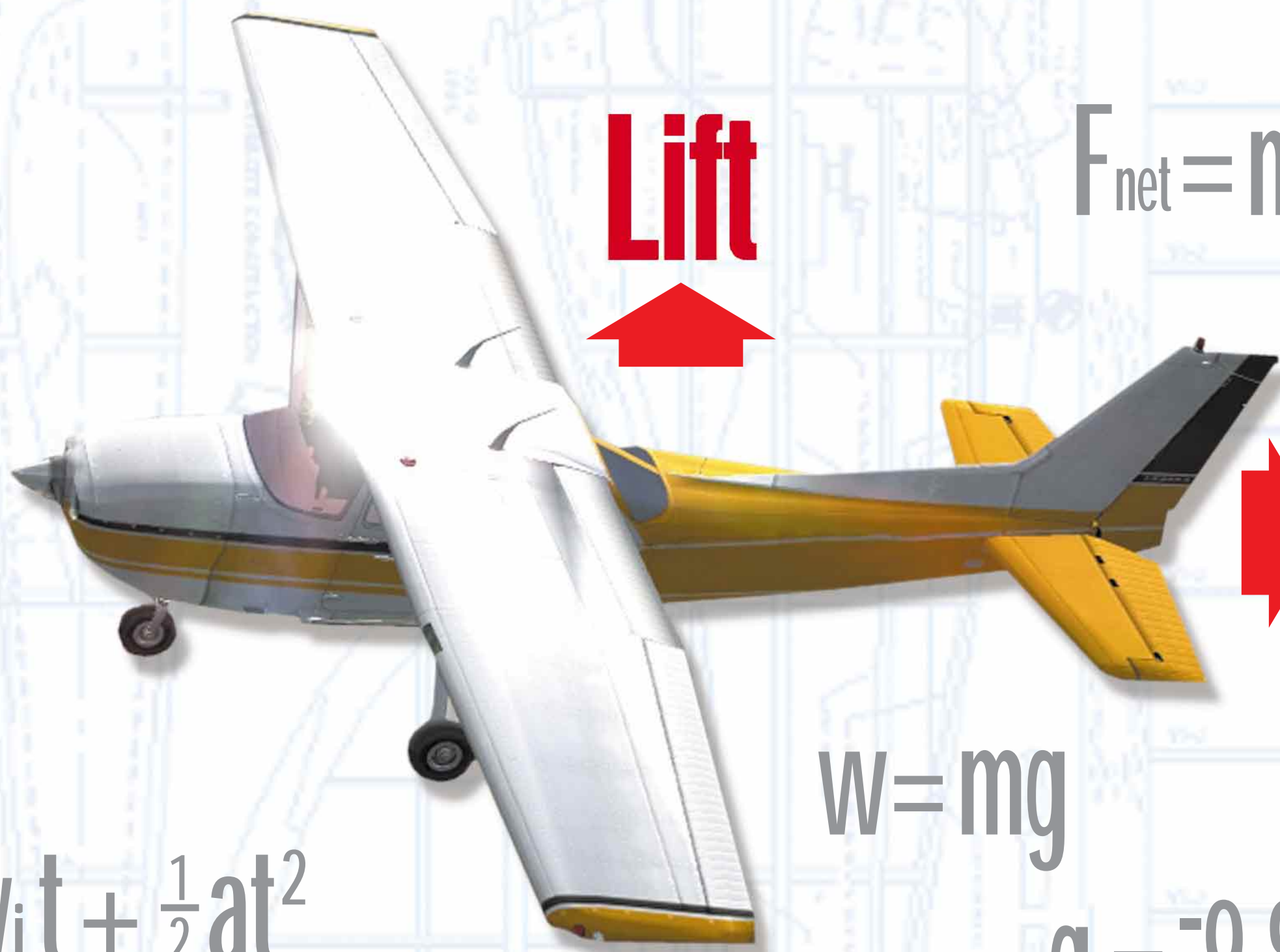
$$a = \frac{\Delta v}{t}$$

$$F_{\text{net}} = ma$$

**Thrust** ←

**Lift**

→ **Drag**



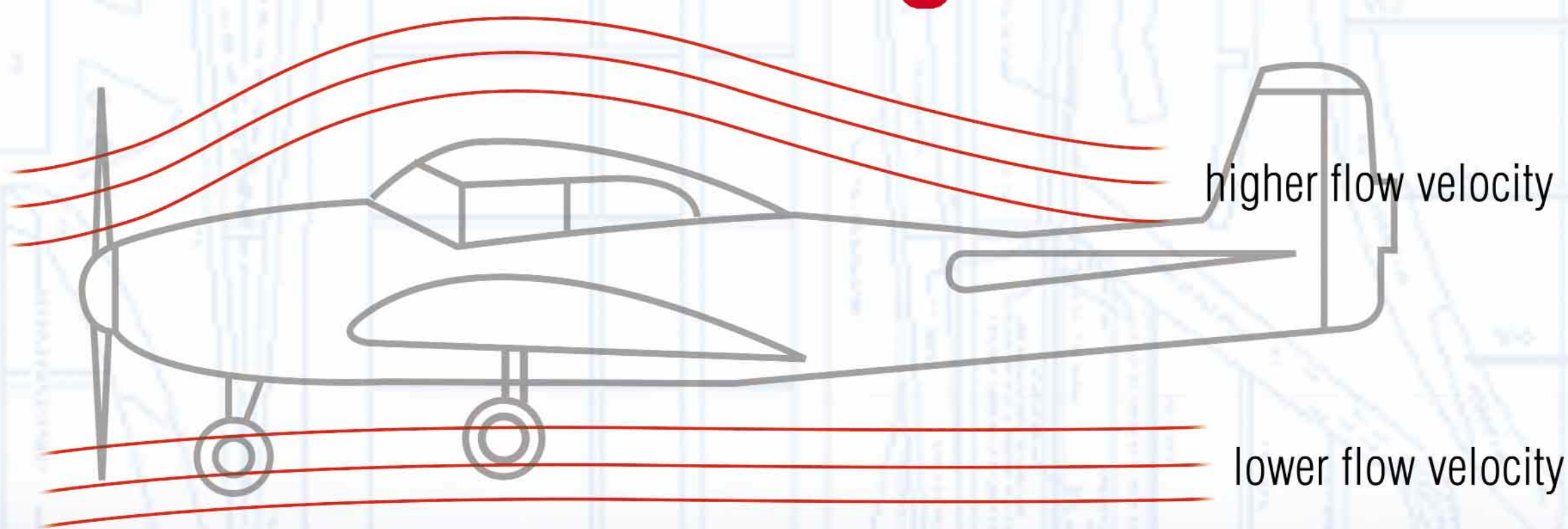
$$w = mg$$

$$\bar{v} = \frac{d}{t}$$

$$d = v_i t + \frac{1}{2} a t^2$$

$$g = -9.8 \text{ m/s}^2$$

**Weight**



higher flow velocity

lower flow velocity

d = displacement  
a = acceleration  
g = acceleration due to gravity  
 $\bar{v}$  = average velocity  
 $v_i$  = initial velocity

t = time  
 $F_{\text{net}}$  = net force  
w = weight  
m = mass  
v = velocity



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