

Relative Motion

3.4

Objectives

- **Describe** situations in terms of frame of reference.
- **Solve** problems involving relative velocity.

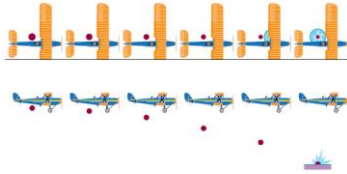
Frames of Reference

- If you are moving at **80 km/h** north and a car passes you going **90 km/h**, to you the faster car seems to be moving north at **10 km/h**.
- Someone standing on the side of the road would measure the velocity of the faster car as **90 km/h** toward the north.
- This simple example demonstrates that velocity measurements depend on the **frame of reference** of the observer.

Frames of Reference

Consider a stunt dummy dropped from a plane.

- (a) When viewed from the plane, the stunt dummy falls straight down.
- (b) When viewed from a stationary position on the ground, the stunt dummy follows a parabolic projectile path.



Other Videos

- Make sure to watch the math video
