

# Relative Velocity (review)

- Sometimes your velocity is known relative to a reference frame that is moving relative to the earth.
  - Example 1: A person moving relative to a train, which is moving relative to the ground.
  - Example 2: a plane moving relative to air, which is then moving relative to the ground.
- These velocities are related by vector addition:

$$\vec{V}_{ac} = \vec{V}_{ab} + \vec{V}_{bc}$$

- »  $v_{ac}$  is the velocity of the object relative to the ground
- »  $v_{ab}$  is the velocity of the object relative to a moving reference frame
- »  $v_{bc}$  is the velocity of the moving reference frame relative to the ground