

# Magnetic Fields and Forces

- Magnetic field  $B$  exerts force on moving charge

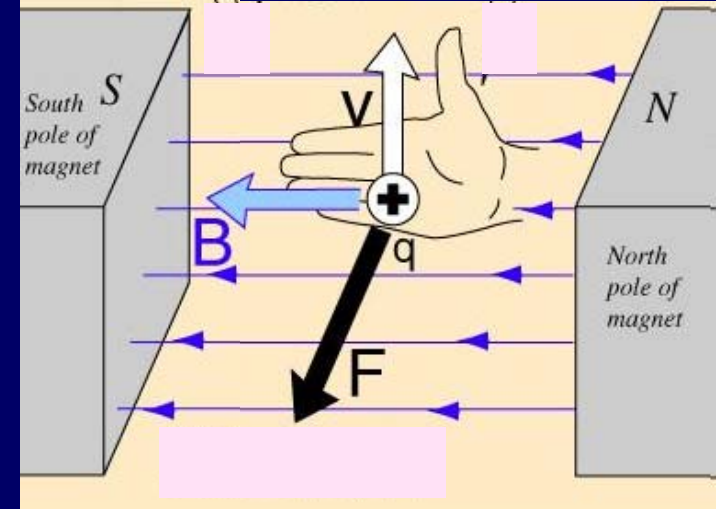
Magnitude

$$F = qvB \sin \theta$$

- Magnetic force is perpendicular to both  $B$  and  $v$
- “Right-hand rule” (RHR):

Direction

- Thumb of right hand along  $v$
- Fingers of right hand along  $B$
- Out-of-palm points
  - in the direction of  $F$  for + charge
  - opposite to  $F$  for – charge



Note: there are different versions of RHR