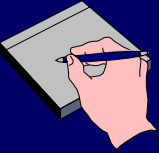
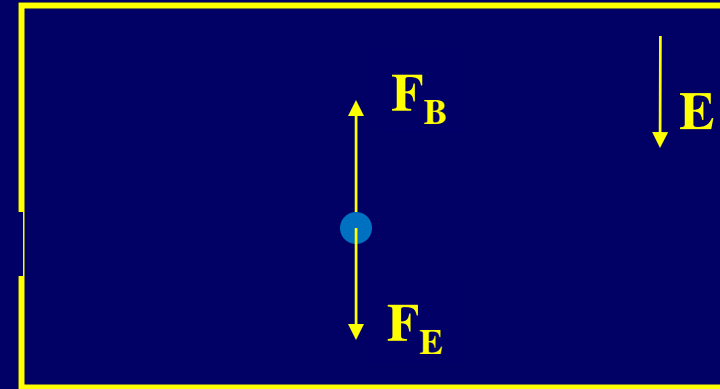


Example

Velocity Selector



Determine magnitude and direction of magnetic field such that a positively charged particle with initial velocity v travels straight through and exits the other side.



Electric force is down, so need magnetic force up.

By RHR, B must be into page

For straight line, need $|F_E| = |F_B|$

$$q E = q v B \sin(90)$$

$$B = E/v$$

What direction should B point if you want to select negative charges?

A) Into Page

B) Out of page

C) Left

D) Right

F_E would be up so F_B must be down.