



Motional EMF circuit

- Magnitude of current

$$I = \mathcal{E}/R = vBL/R$$

- Direction of Current

Clockwise (+ charges go down thru bar, up thru bulb)

- B field generates force on current-carrying bar

$$F_{\text{bar}} = ILB \sin(\theta), \text{ to left (RHR1)} \quad F_{\text{bar}} \text{ opposes } v!$$

- Careful! There are two forces:

F_{bar} = force on bar from induced current

F_q = force on + charges in bar driving induced current

