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Magnetic Field:

$$\mathcal{B} = \frac{1}{2}\frac{1}{2\pi}\mu_0 \frac{q}{r^2}\left(\vec{v} \times \frac{\vec{r}}{r}\right) = \nabla \times \mathcal{A} \neq \frac{\mathcal{E}}{v} \tag{1}$$

Lorentz Force:

$$F_B = q(v \times \mathcal{B}) \tag{2}$$

Vector Potential: $\mathcal{A}$