

Relationship between F , E , U_E , V

	Vector	Number (“scalar”)
Property of interacting charges	F [N] Ex: $F = k \frac{q_1 q_2}{r^2}$	U_E [J] Ex: $U_E = k \frac{q_1 q_2}{r}$
Property of point in space	E [N/C]=[V/m] $E \equiv F/q$ Ex: $E = k \frac{q}{r^2}$	V [J/C]=[V] $V \equiv U_E/q$ Ex: $V = k \frac{q}{r}$

Why so many ways to describe electric force?