Source: ⟦KBhPHYS201ElectricFields⟧

#ref #incomplete

1 | **Voltage**

- Units: $\frac{Nm}{C} = \frac{J/C}{=} V$
- Amount of energy per unit of charge it takes to bring that charge to that point

    - If you have a ball and you are taking it up the hill, then it takes energy to do that
    - When you let go, it will roll back down the hill
    - Voltage = energy per charge is similar to energy per kilogram of raising the ball.
    - Field is the amount that it is resisting–the amount of force required to move the charge.
    - **Analogous to gravitational potential energy**.

Zero Point

- If you have one positive and one negative, then the zero point of the voltage is between the two charges
- The zero can be defined anywhere, just like zero gravitational energy can be anywhere

    - However, conventionally, we define zero to be between two opposite charges
    - We also define the voltage infinity distance away to be zero

Equipotential

- A line that shows where voltage is the same srcPhETChargesFieldsEquipotentialLines.png
- Joules of electric potential energy
- Scalar, while electric field is a vector ### Relationship with Electric Field
- Perpendicular to the electric field