

POWER (P) - How FAST WORK IS DONE

IN DOING WORK ($F \cdot d$ _{OR} ΔNRG) THERE IS NO ELEMENT ~~OF~~ OF TIME

RUNNING UP STAIRS OR WALKING UP STAIRS REQUIRE THE SAME
AMOUNT OF WORK

$$P = \frac{W}{t} \text{ OR } \frac{\Delta \text{NRG}}{t} \text{ OR } F \cdot v \quad \begin{array}{l} \text{SPECIAL DERIVATION} \\ \text{FORCE} \times \text{VELOCITY} \end{array}$$

SPECIAL UNITS

$$\frac{\text{Joules}}{\text{Second}} = \text{WATT} \quad \frac{\text{J}}{\text{s}} = \text{W} \quad \frac{\text{N} \cdot \text{m}}{\text{s}} = \frac{\text{kg} \cdot \text{m} \cdot \text{m}}{\text{s}^2 \cdot \text{s}} = \frac{\text{kg} \cdot \text{m}^2}{\text{s}^3}$$

1 HORSEPOWER (1hp = 746W)

LIGHTBULBS ARE MEASURED IN WATTS

100 W LIGHTBULB USES 100 J OF ENERGY PER SECOND
" " " "
1 kW