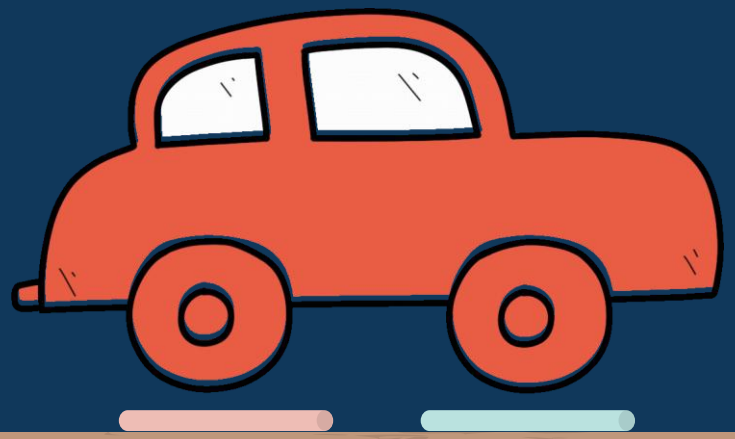
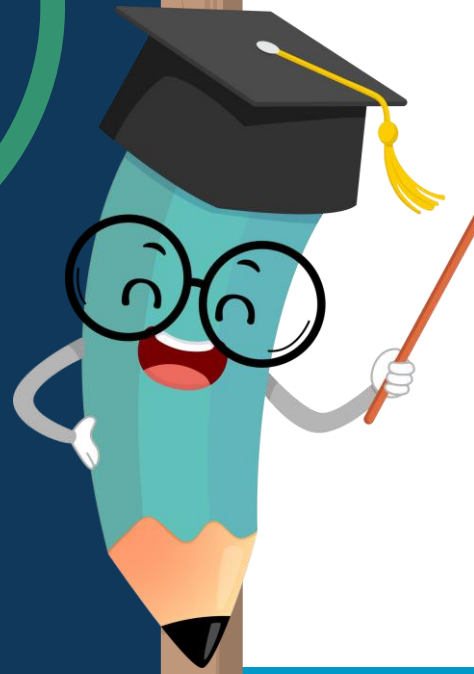
WHAT IS ENERGY?







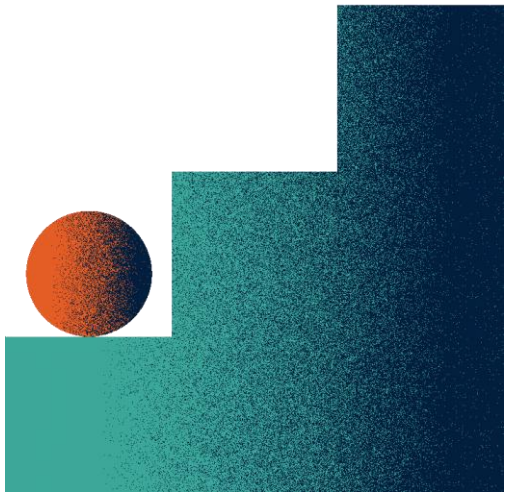


Energy

It is the ability to do work. It is what allows things to happen and make objects move, heat up or produce light. ENERGY is measured in Joules (J).







Types of Energy

- **Kinetic Energy** → Energy of **movement**.



- **Gravitational Potential Energy** → Stored energy due to **height**.



- **Elastic Potential Energy** → Energy stored in something that is **stretched or compressed**.



Energy formulas

KINETIC ENERGY

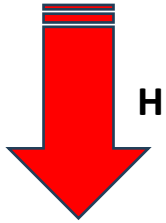


MOTION

$$E_k = \frac{1}{2}mv^2$$

E_k = Kinetic Energy (J)
M= Mass (Kg)
V = velocity (m/s)

GRAVITATIONAL POTENTIAL ENERGY

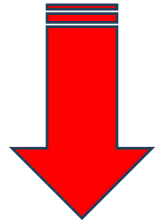


HEIGHT

$$\triangle E_p = mg\Delta h$$

Ep = change in gravitational potential energy (J)
M= Mass (Kg)
$\triangle$h = changes in height (m)

ELASTIC POTENTIAL ENERGY



STRETCHING/

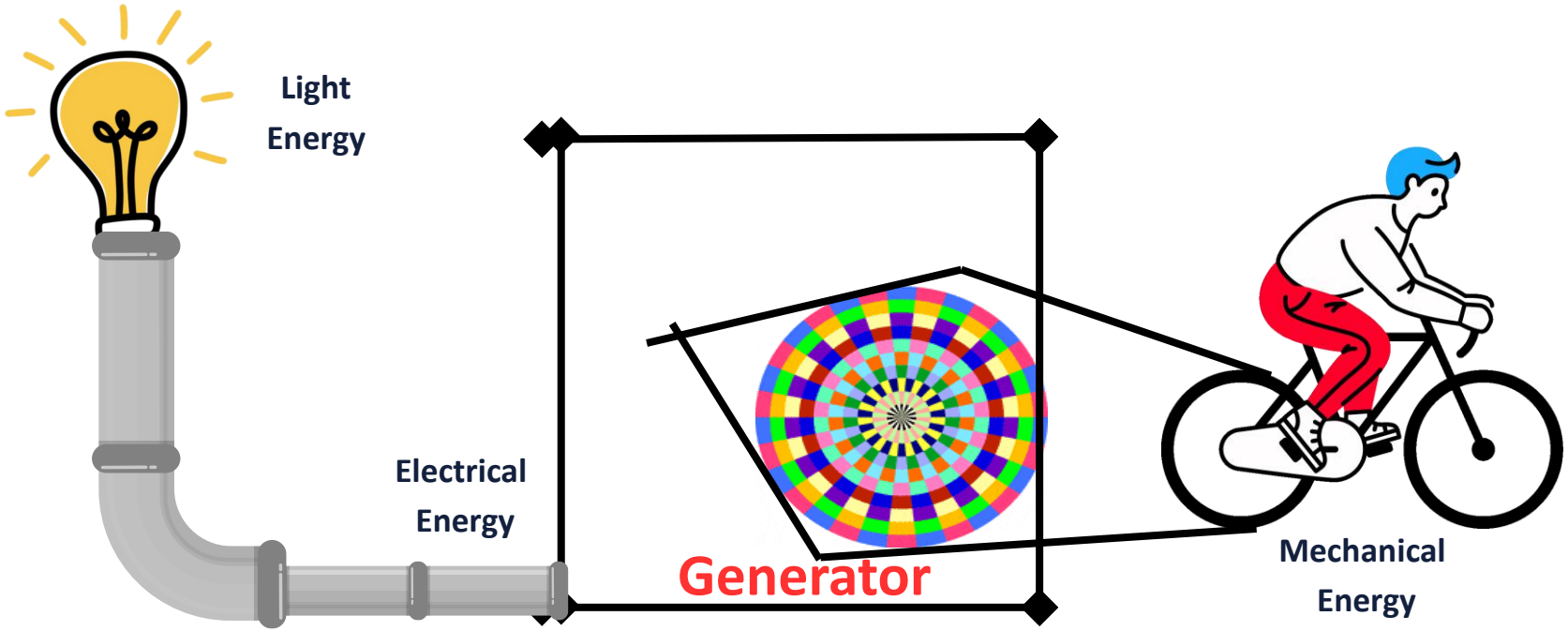
COMPRESSING

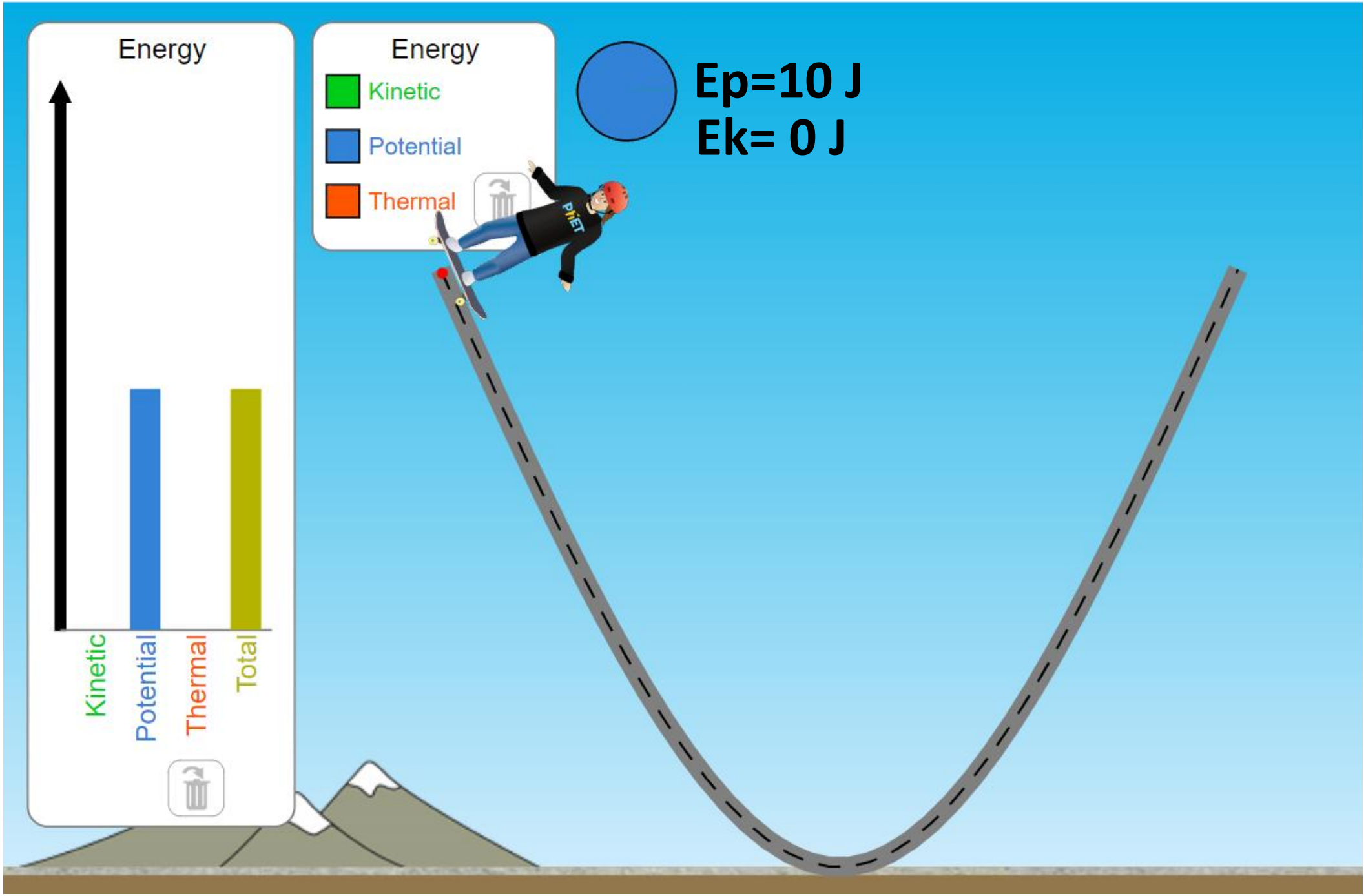
$$\triangle E_p = \frac{1}{2}kx^2$$

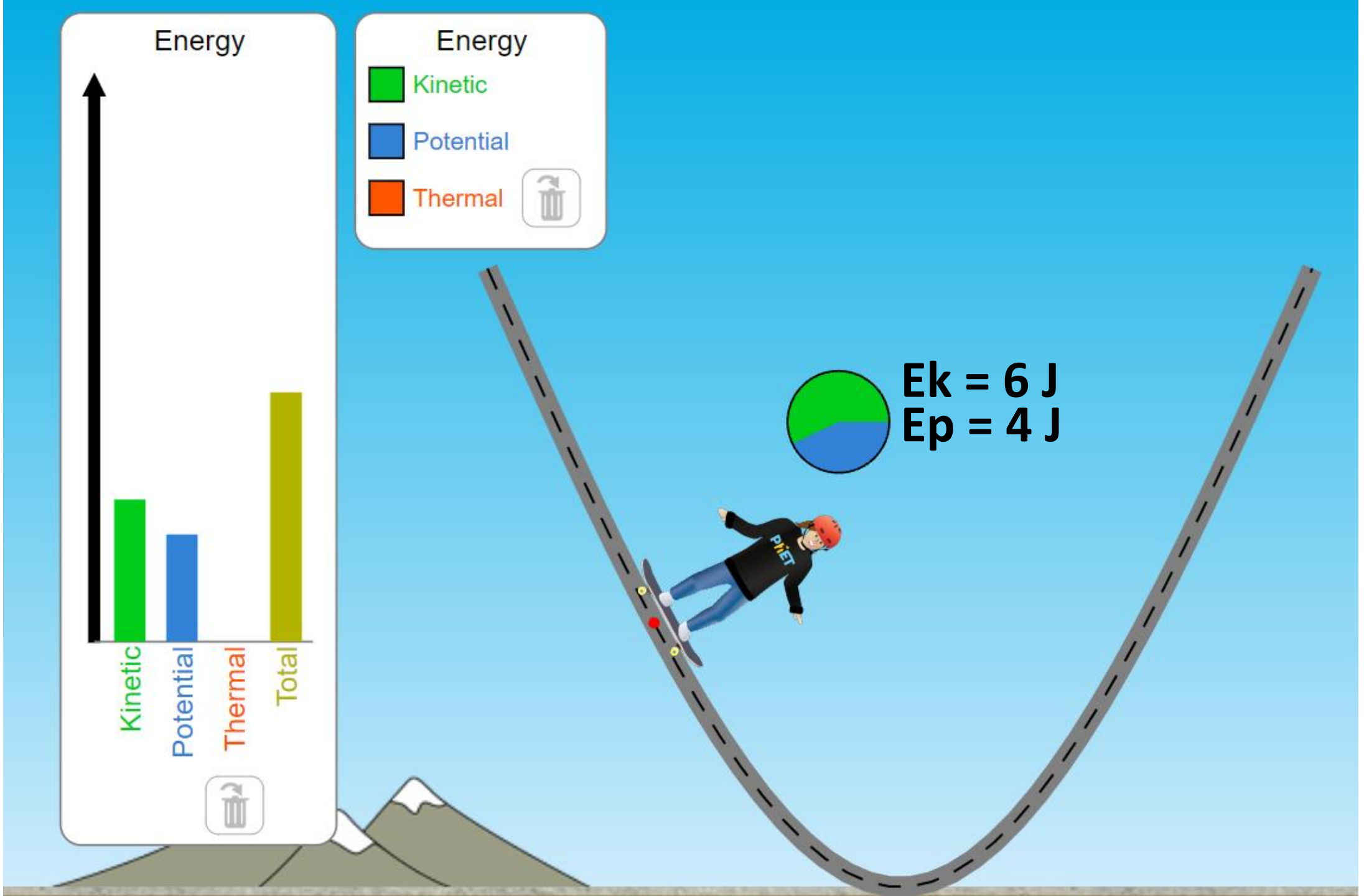
Ep = Energy stored in the spring (J)
K= constant of the spring (N/m)
x = Extension (m)

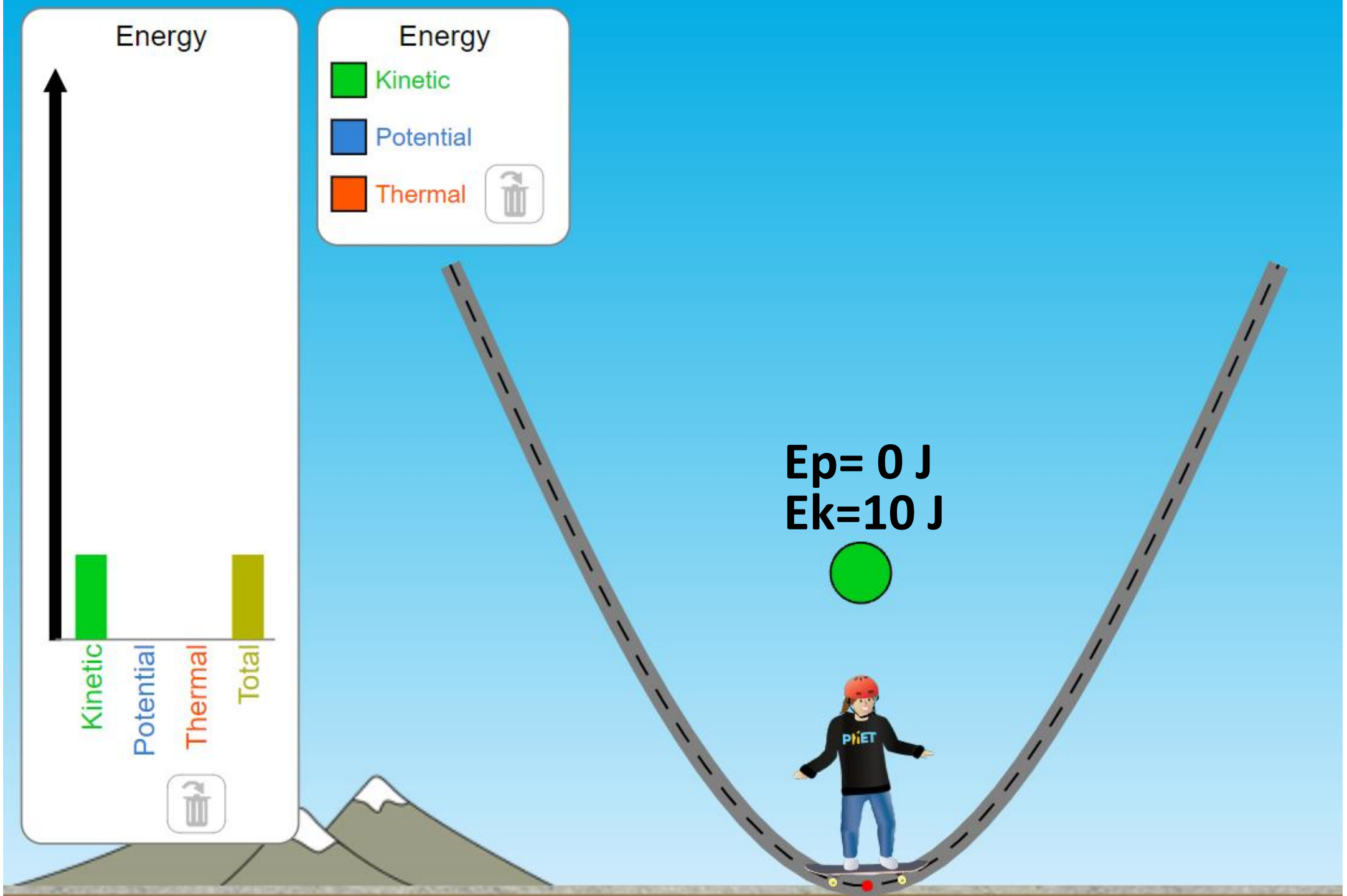
Energy

Energy cannot be destroyed. It exists in many forms and can be transformed from one form to another.




Energy
Kinetic
Potential
Thermal
Total
Energy
Kinetic
Potential
Thermal
Ep=10 J
Ek= 0 J


Energy
Kinetic
Potential
Thermal
Energy
Kinetic
Potential
Thermal
Total
Ek = 6 J
Ep = 4 J


Energy
Kinetic
Potential
Thermal
Energy
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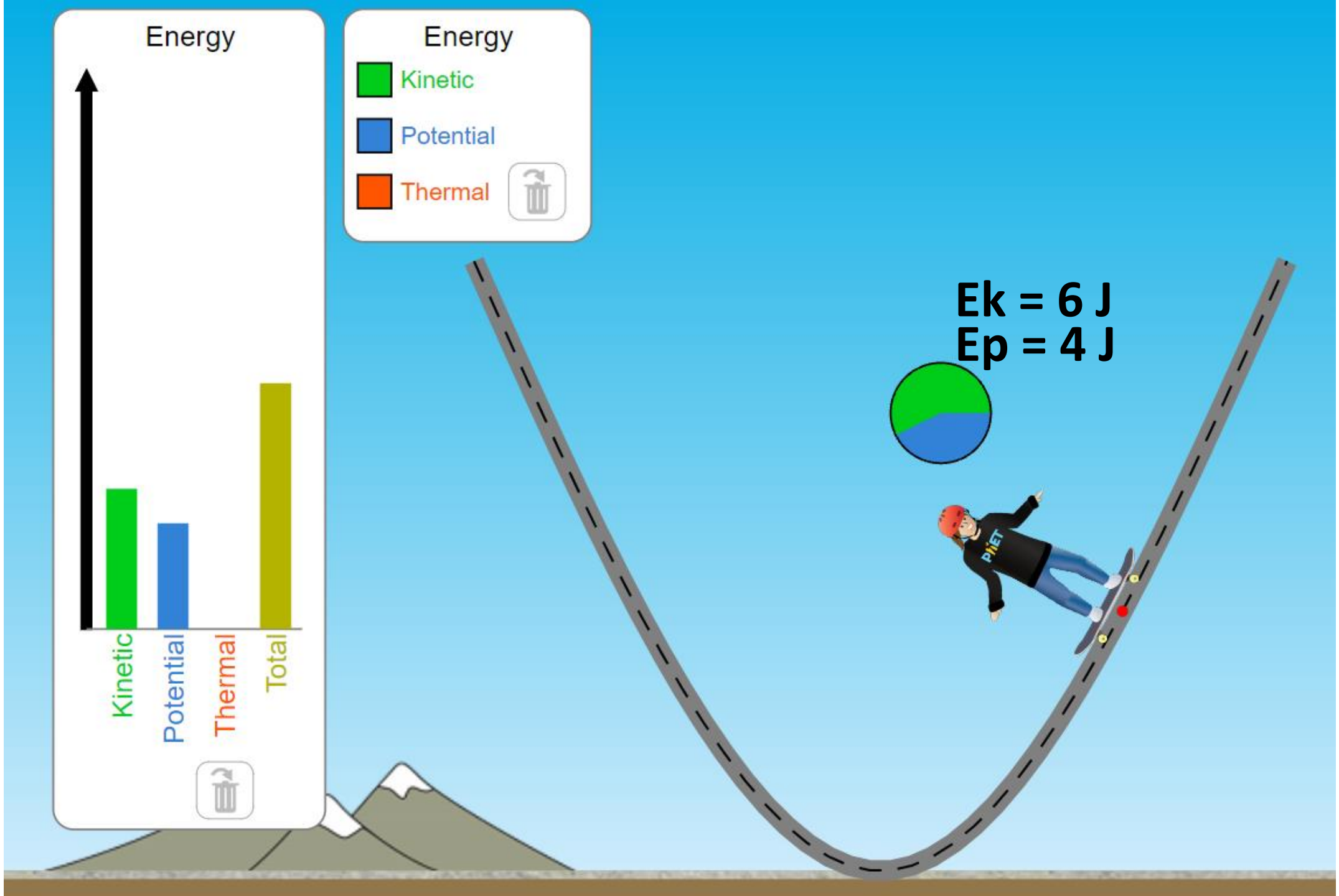
Thermal
Total
Ep= 0 J
Ek=10 J


Energy
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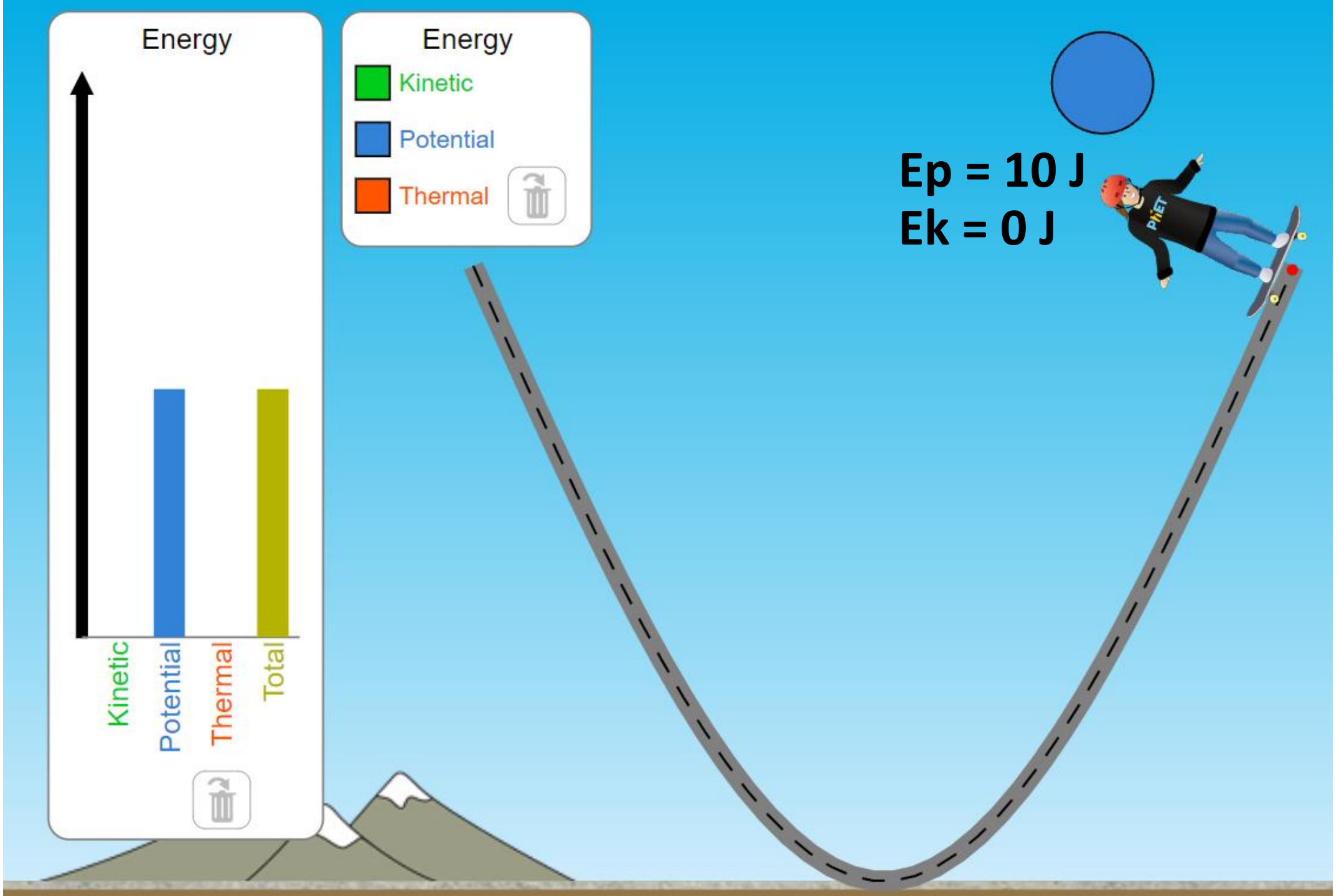
Energy
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