

Potential energy & Kinetic energy

Conservation of Energy

PhysiXplore Session 2
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What is Energy?

A classic lecture!

[When a physics teacher knows his stuff !! - YouTube](#)



What is Energy?

- Conserved quantity
- Energy can be converted from one form to another but cannot be created or destroyed
- Common forms: kinetic energy, potential energy, chemical energy, electrical energy, thermal energy





Gravitational Potential Energy

- The energy an object has due to its position in a gravitational field

$$U_g = mgh$$



Kinetic Energy

- The energy a body possesses due to its motion

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



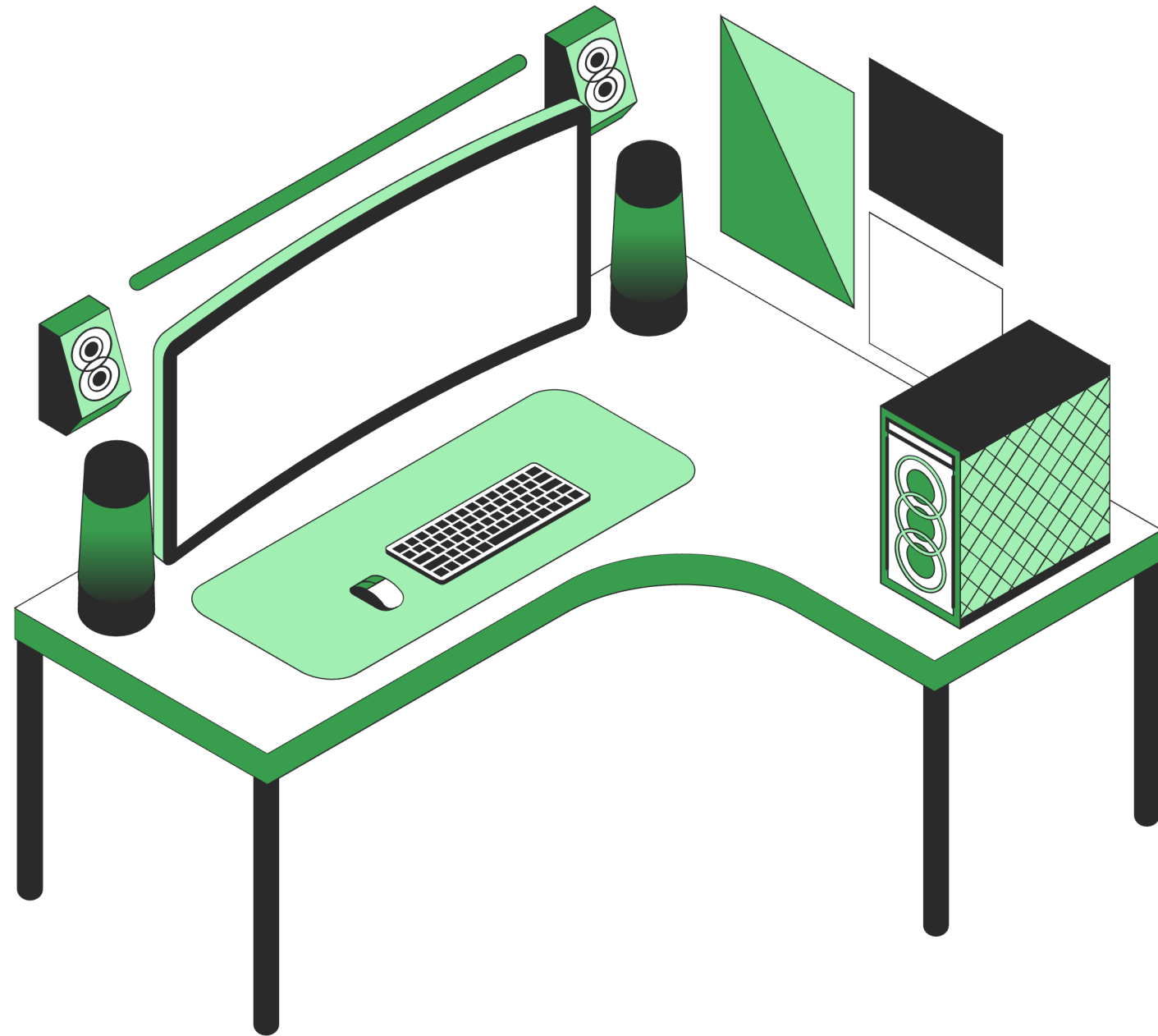
Roller Coaster
?



Same concept
for today's lab!

Gravitational potential energy converts
into kinetic energy





Calculation

Calculate your theoretical final velocity by using the law of conservation of energy, and compared it with your measured value

$$\Delta U_g = \Delta K$$
$$mg\Delta h = \frac{1}{2}mv_f^2$$