

Grades
6-8



Force & Motion SCAVENGER HUNT

Chaperones & students: Work in small groups to explore the following questions. You will have the opportunity to explore potential and kinetic energy, Newton's Laws and technology at COSI today.

Foucault Pendulum:

At what point in the pendulum's swing does the bob have the MOST potential Energy?

At what point in the pendulum's swing does the bob have the MOST kinetic energy?

Describe the process of energy transfer during the pendulum's swing.

Hot Air Balloons:

At what point in this process does the Hot Air Balloons have the most potential energy?

What provides this potential energy?

Once the balloon is at its maximum height, what form of energy does it now have?

Coin Vortex:

Drop a penny into the vortex. What type of energy does this penny have initially?

Describe the process of energy transfer during the penny's journey.

If a penny and a quarter were to be dropped at the same time, which would reach the bottom first?

Test this. What factors come into play in this experiment?

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Newton's First Law– A moving object will keep moving until something stops it. A non-moving object will stay still until something makes it move.

Newton's Second Law– $\text{Force} = \text{Mass} \times \text{Acceleration}$. If you push something it will move. Push it twice as hard and it will go twice as far. If its twice as heavy, it will go half as far.

Newton's Third Law– For every action, there is an equal and opposite reaction.

Visit one or more of the following areas: Gadgets, Space or Ocean. Find as many examples as you can of one or more of Newton's Laws as you explore that exhibit area. Which law did you find? Where did you find it? How did it work? List your findings below. Draw pictures if necessary.