

# Energy Wrap up

9/26/14

# Energy Drinks



Sugar – if not sugar free

*The only actual energy*

## Stimulant Drugs

suppress the bodies natural reaction to exhaustion.

Not healthy

# Pendulums

The image shows a screenshot of a web browser displaying the PhET Pendulum Lab 2.03 simulation. The browser address bar shows the URL [http://phet.colorado.edu/sims/pendulum-lab/pendulum-lab\\_en.html](http://phet.colorado.edu/sims/pendulum-lab/pendulum-lab_en.html). The simulation interface features a central pendulum with a blue bob, a vertical dashed line for the equilibrium position, and a curved scale for angular displacement. A vertical ruler on the left side is marked from 0 to 180 cm. A control panel on the right side is highlighted with a blue border and contains the following settings:

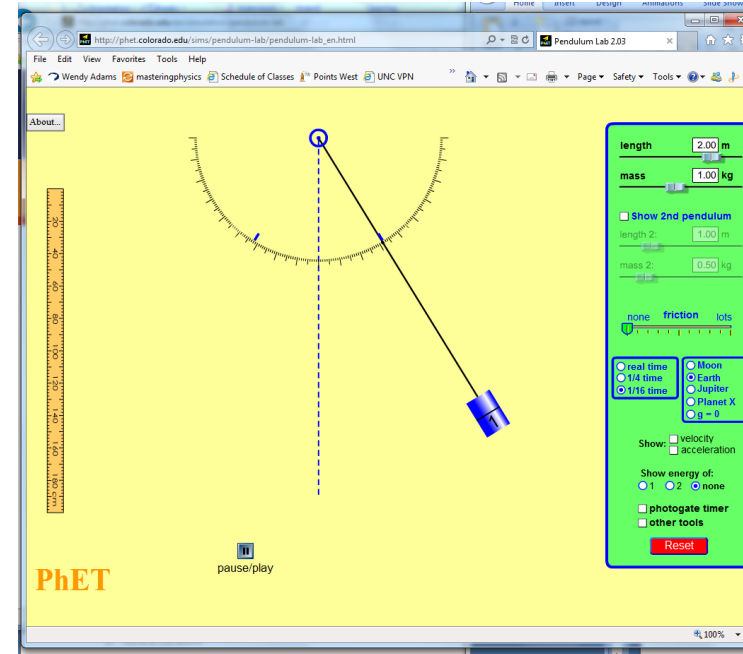
- length:** 2.00 m
- mass:** 1.00 kg
- Show 2nd pendulum
- length 2:** 1.00 m
- mass 2:** 0.50 kg
- friction:** none (selected), friction, lots
- real time:** real time, 1/4 time, 1/16 time
- Planet:** Moon, Earth (selected), Jupiter, Planet X, g = 0
- Show:**  velocity,  acceleration
- Show energy of:** 1, 2, none (selected)
- photogate timer
- other tools
- Reset** button

At the bottom center, there is a pause/play button and the PhET logo. The bottom right corner of the browser window shows a zoom level of 100%.

# Pendulums

A pendulum is pulled the side as shown,  
it's energy before you let it go is

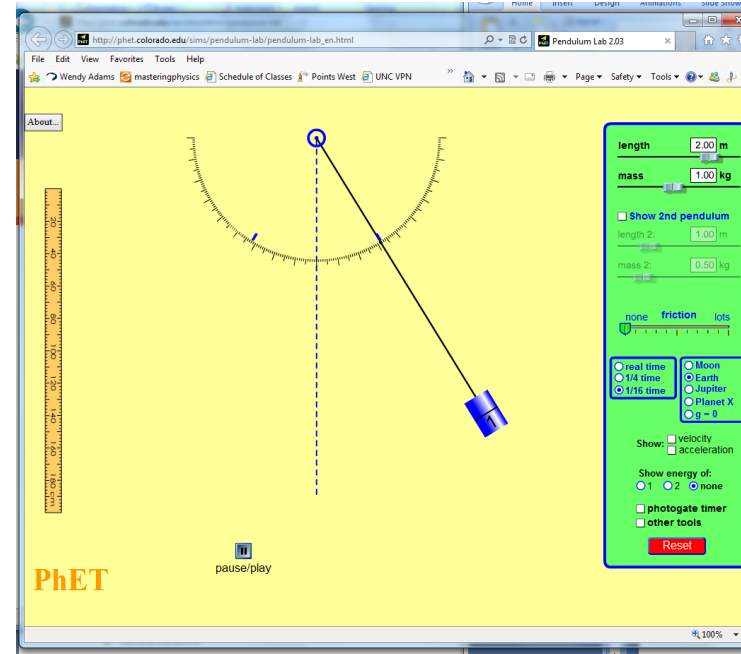
- A. All gravitational potential energy
- B. All kinetic energy
- C. A combination of both



# Pendulums

A pendulum is pulled the side as shown,  
it's energy before you let it go is

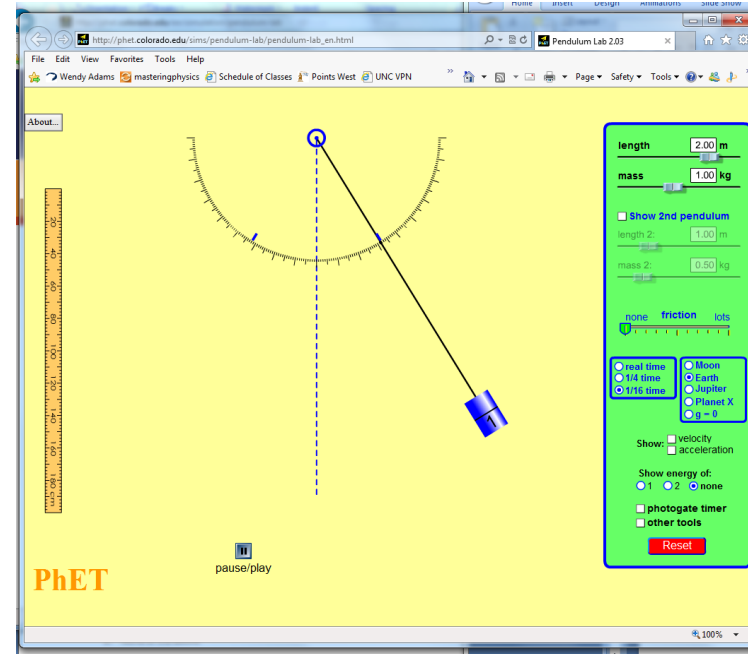
- A. All gravitational potential energy
- B. All kinetic energy
- C. A combination of both



# Pendulums

A pendulum is pulled the side as shown, its energy at its lowest point (dotted line) is

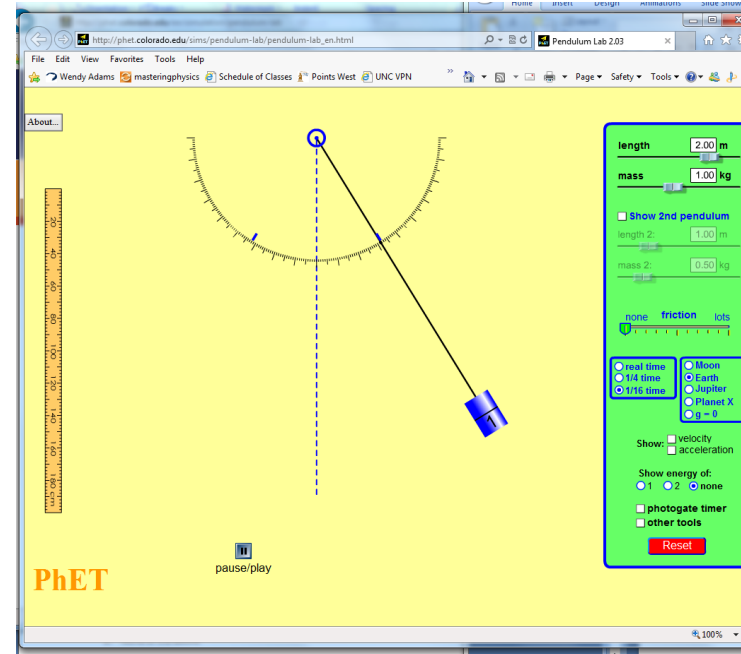
- A. All gravitational potential energy
- B. All kinetic energy
- C. A combination of both



# Pendulums

A pendulum is pulled the side as shown, its energy at its lowest point (dotted line) is

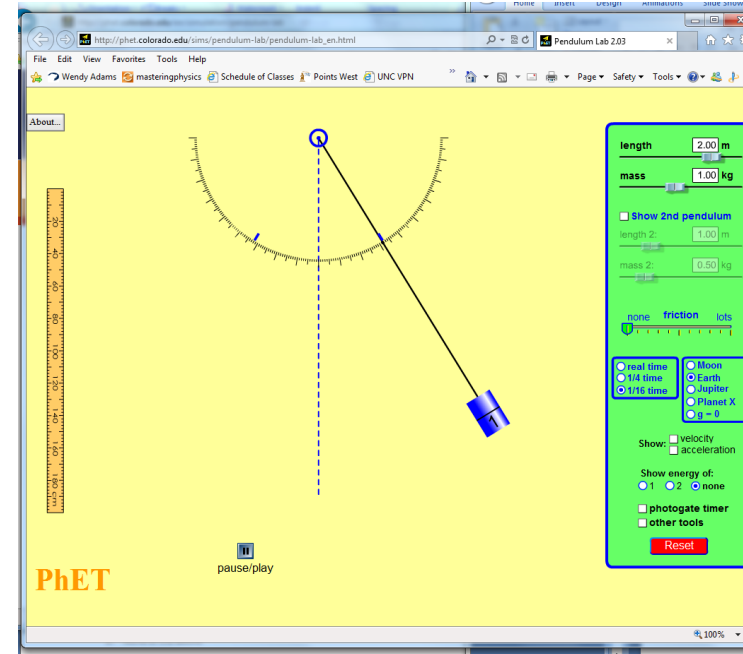
- A. All gravitational potential energy
- B. All kinetic energy**
- C. A combination of both



# Pendulums

A pendulum is pulled the side as shown, its energy at the furthest point to the left side is

- A. All gravitational potential energy
- B. All kinetic energy
- C. A combination of both

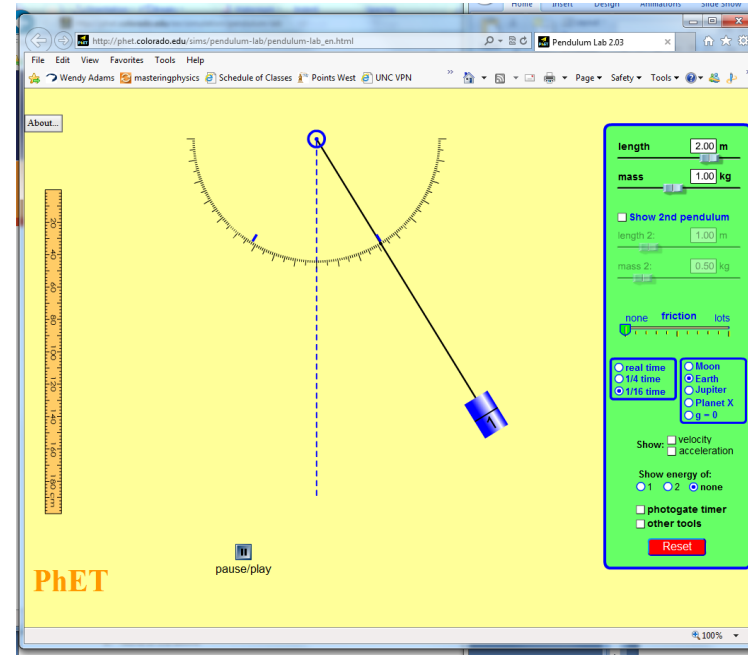




# Pendulums

A pendulum is pulled the side as shown, it's energy at the furthest point to the left side is

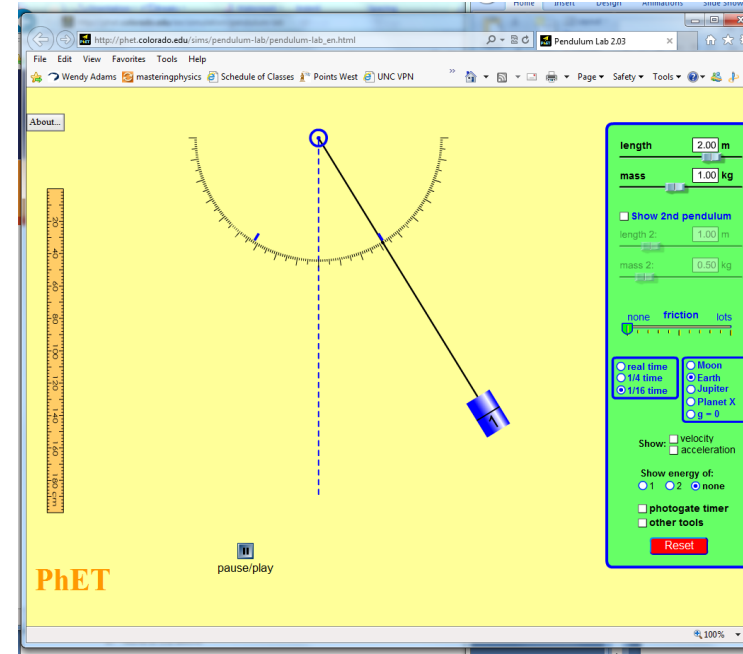
- A. All gravitational potential energy
- B. All kinetic energy
- C. A combination of both



# Pendulums

A pendulum is pulled the side as shown,  
it's energy half way between the start  
and the bottom is

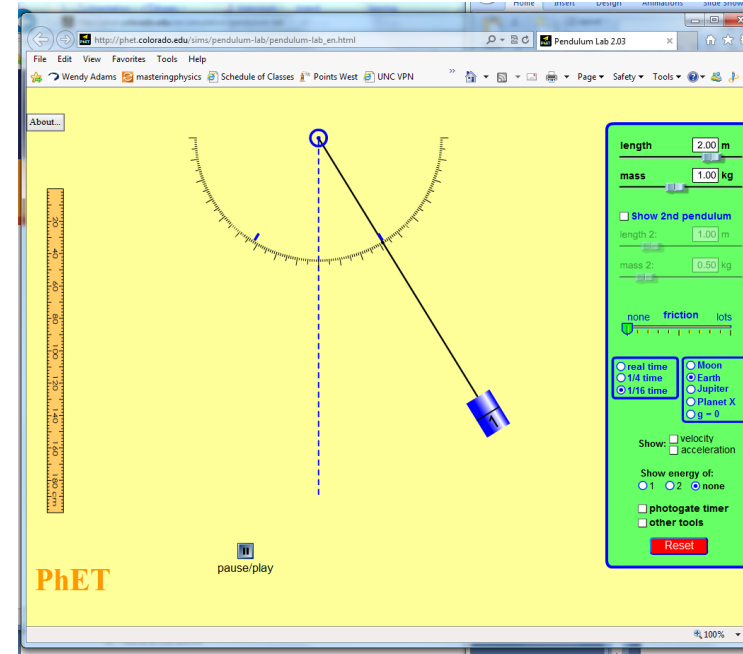
- A. All gravitational potential energy
- B. All kinetic energy
- C. A combination of both



# Pendulums

A pendulum is pulled the side as shown,  
it's energy half way between the start  
and the bottom is

- A. All gravitational potential energy
- B. All kinetic energy
- C. A combination of both**

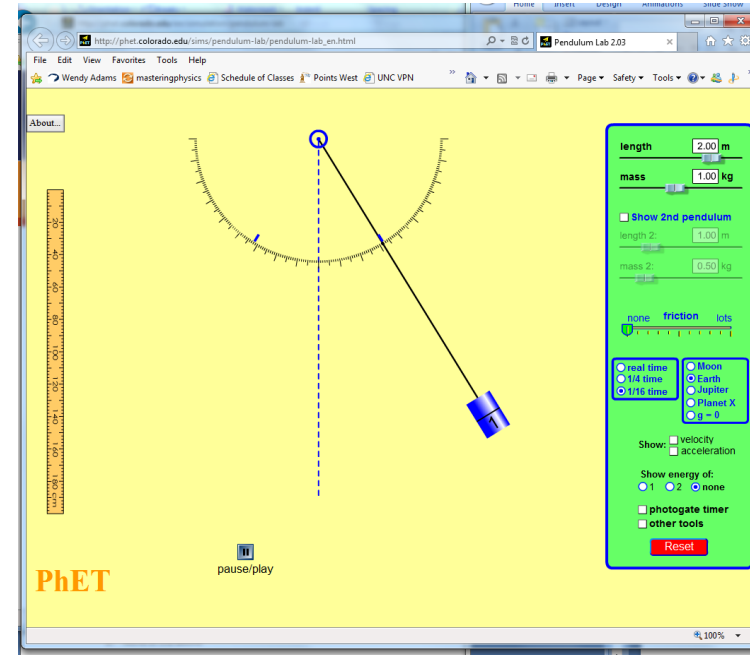


# Pendulums

A pendulum is pulled the side as shown,

The highest point that it will reach on the left hand side is

- A. Exactly as high as it starts
- B. Almost as high as it starts
- C. Higher than it starts
- D. Could be more than one of the above options.

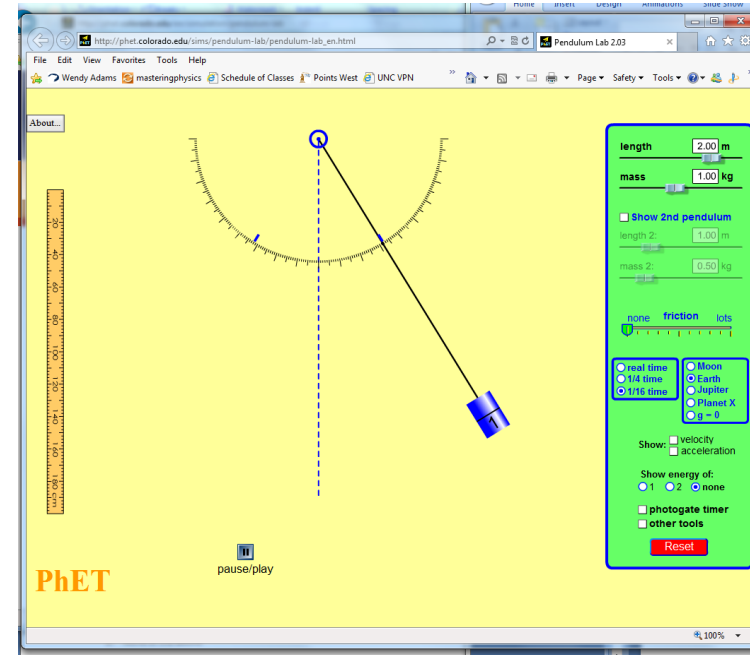


# Pendulums

A pendulum is pulled the side as shown,

The highest point that it will reach on the left hand side is

- A. Exactly as high as it starts**
- B. Almost as high as it starts
- C. Higher than it starts
- D. Could be more than one of the above options.

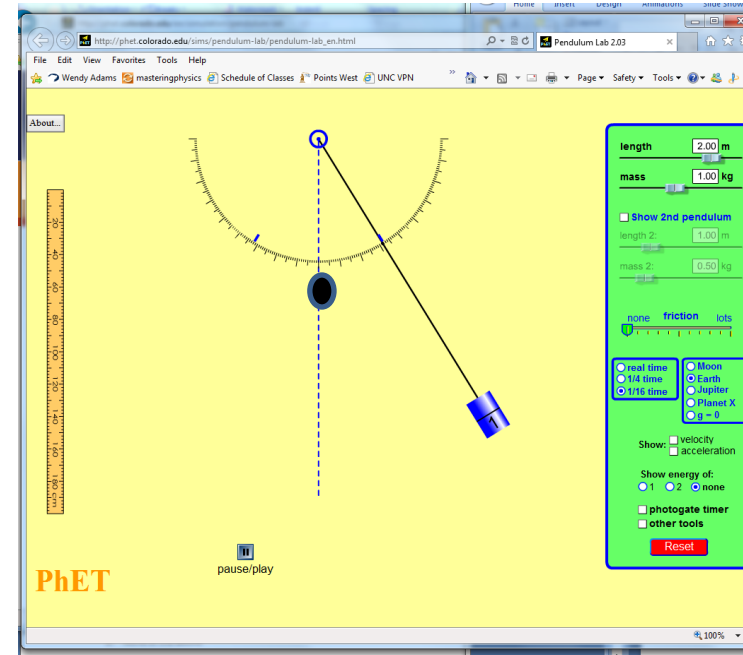


# Pendulums

A pendulum is pulled the side as shown, and a fat bar is stuck in the middle as shown to block the string.

The highest point that it will reach on the left hand side is

- A. Exactly as high as it starts
- B. Almost as high as it starts
- C. Higher than it starts
- D. Could be more than one of the above options.

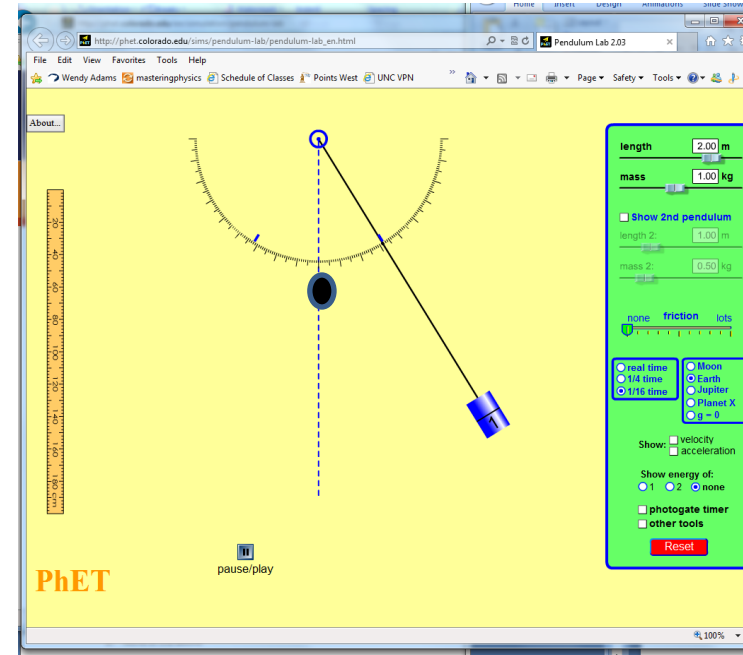


# Pendulums

A pendulum is pulled the side as shown, and a fat bar is stuck in the middle as shown to block the string.

The highest point that it will reach on the left hand side is

- A. Exactly as high as it starts
- B. Almost as high as it starts
- C. Higher than it starts
- D. Could be more than one of the above options.



# Generators

Faraday's Electromagnetic Lab (2.07)

File Options Help

Bar Magnet Pickup Coil Electromagnet Transformer Generator

**Bar Magnet**

Strength: 75 %

0 50 100

Show Field

Show Compass

Show Field Meter

**Pickup Coil**

Indicator

Lightbulb  Voltmeter

Loops: 2

Loop Area: 50 %

20 100

Show Electrons

Reset All

0 RPM

S N

Play/Pause



# Power Plants



- Burn Coal or Natural Gas
- Convert to mechanical energy
- Then to Electrical via *induction*

# Windmills

**ENERGY.GOV**  
Office of Energy Efficiency & Renewable Energy

Search Energy.gov

SERVICES EFFICIENCY RENEWABLES TRANSPORTATION ABOUT US OFFICES >

Home » Information Resources » Energy Basics » How Does a Wind Turbine Work?

## HOW DOES A WIND TURBINE WORK?

- Wind Program Home
- About the Program
- Research & Development
- WINDEXchange
- Financial Opportunities
- Information Resources
  - Publications
  - Wind Vision
  - Energy Basics
    - How Wind Turbines Work
    - How Distributed Wind Works
    - Benefits
    - History
  - Wind Energy FAQs
  - Small Wind Systems FAQs
- Multimedia
- Related Links
- News
- Events



PLAY STOP *Hover over turbine parts for more info.*

U.S. DEPARTMENT OF **ENERGY** | Energy Efficiency & Renewable Energy

Text Only Version

100%