

COEFFICIENT OF RESTITUTION THE BOUNCING BALL

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What is the Meaning of Coefficient of Restitution?

- The coefficient of restitution is a number which indicates how much kinetic energy (energy of motion) remains after a collision of two objects.

Where is the lost energy?

- If the coefficient is high (very close to 1.00) it means that very little kinetic energy was lost during the collision.
- If the coefficient is low (close to zero) it suggests that a large fraction of the kinetic energy was converted into heat or was otherwise absorbed through deformation.

Classification of Coefficient Restitution

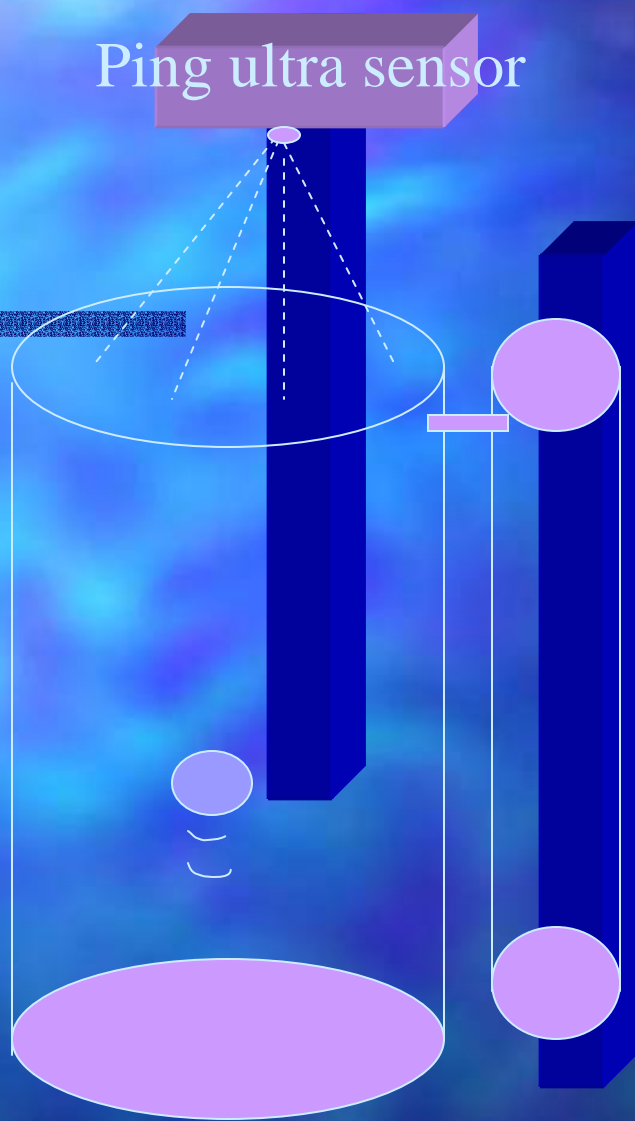
Type	Kinetic Energy	Restitution
Perfectly Elastic	Conserved	$\epsilon = 1$
Partially Elastic	Not Conserved	$0 < \epsilon < 1$
Perfectly Inelastic	Maximum Possible Loss	$\epsilon = 0$
Hyperelastic	Energy Gained	$\epsilon > 1$

ADDRESSING The STANDARDS

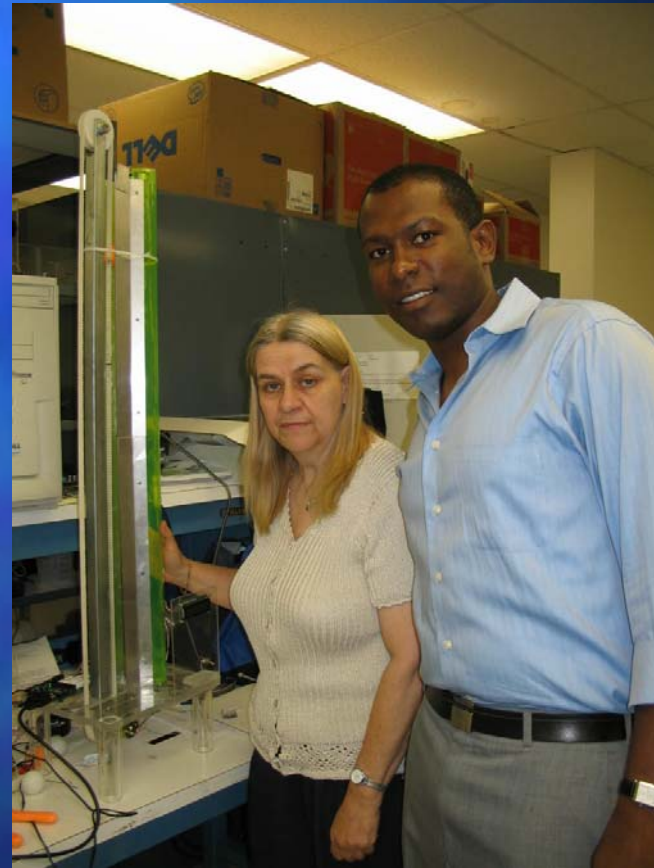
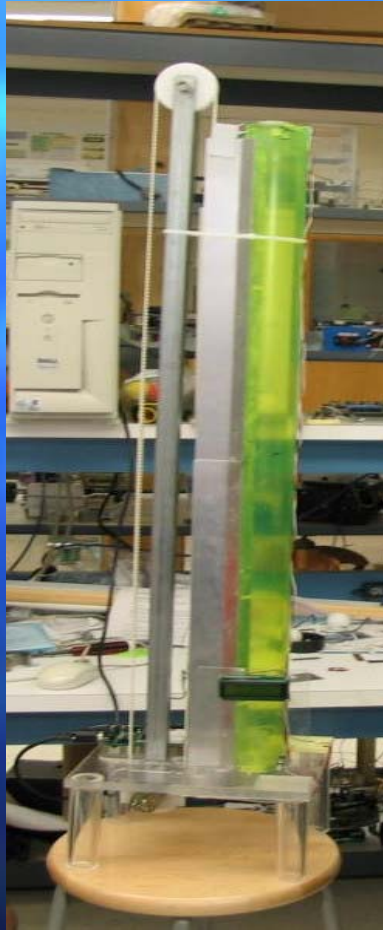
- Students will apply technological knowledge and skills to construct, use and evaluate systems to satisfy human and environmental needs
- Mathematical analysis, scientific inquiry and engineering design, as appropriate to, pose questions seek answers and develop solutions

Ping ultra sensor

1st max hgt=



Our Apparatus



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