1/18/17 9 Calculating Kinetic Energy

Question: A 35 kg lion was running with a velocity of 12 m/sec. What was the lions kinetic energy?

1) Question & TOC
2) Notes & Problem
3) Reading Ek & questions
4) 3 Calculation Problems
5) Reflection

1/18/17 9 Calculating Kinetic Energy

Question: A 35 kg lion was running with a velocity of 12 m/sec. What was the lions kinetic energy?

m V

Formula:

$EK = \frac{1}{2} * m * V^2$

Work: $EK = .5 * 35kg * 12\frac{m}{s}^2$

$EK = 2520\ J$

$EK = \frac{1}{2} * m * V^2$

$EK = .5 * 5 * 5^2 = 62.5\ J$

Double mass $.5 * 10 * 5^2 = 125\ J$

Double V $.5 * 5 * 10^2 = 250\ J$

Table of Contents

Kinetic Energy

Name _____

Please answer the questions below using the reading on the other side.

1) What is a definition for Kinetic Energy? energy of motion.

2) What is the unit we measure energy? Joules

3) What is the formula for Kinetic Energy?

$EK = \frac{1}{2} * m * v^2$

4) What are the two factors that determine the amount of kinetic energy of an object?

velocity and mass

5) Which would increase the kinetic energy more, doubling the mass or doubling the speed? _____ Because the velocity would get squared. velocity

6) A swinging weight had a mass 225Kg and was traveling at a velocity 8 m/sec. How much kinetic energy did the weight have when it hit the wall?

m = 225Kg
v = 8m/sec

$EK = \frac{1}{2} * m * v^2$

$EK = .5 * 225 * 8^2 =$

7200 Joules

Kinetic Energy Problems

1. A kid on a bicycle had a mass of 750 kg and was riding with a velocity of 17 m/sec. What is the kinetic energy of the kid on the bike?

Given:
m =

V =

Formula:

Work:

Answer & Units:

2. A baseball of 3 kg had a velocity of 65 m/sec. What is the kinetic energy of the baseball?

Given:
m =

V =

Formula:

Work:

Answer & Units:

3. A horse was running with a velocity of 15 m/sec. The horse had a mass of 1600 kg. What is the kinetic energy of the running horse?

Given:
m =

V =

Formula:

Work:

Answer & Units:

Attachments

Zinszer 3 Analyze Total Energy 2013.pptx