

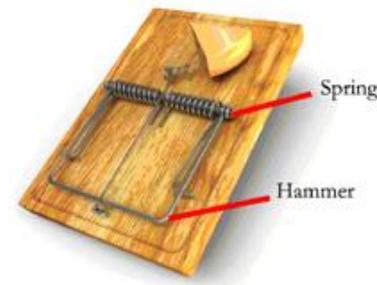
Monday, September 24, 2012

Agenda

- Warm up (10 min)
- Reminders (3 min)
- Mousetrap Car intro (5 min)
- Choose partner (5 min)
- Research/ Design (25 min)
- Daily Log 2/ Clean Up (5 min)

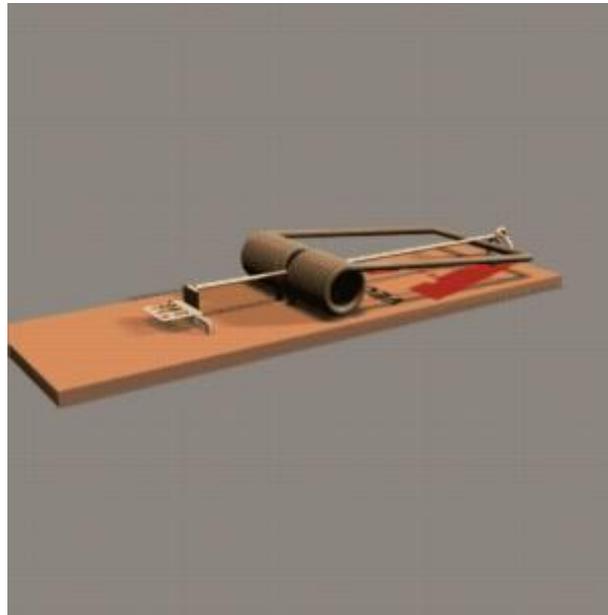
Warm Up:

Draw a picture of a mousetrap and *explain* how potential energy is stored and can change to kinetic energy



Warm Up Answers

- Potential Energy – stored energy, ready to use in a system
- Kinetic Energy – energy being used to move an object



REMINDERS

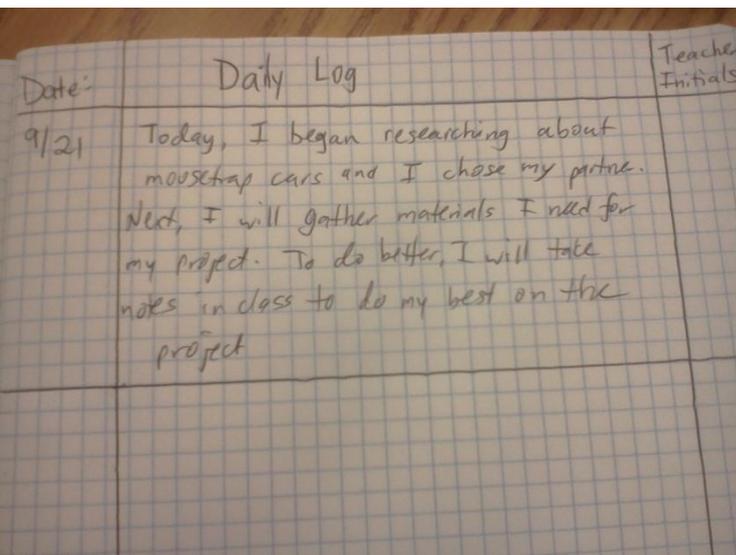
Daily logs!!

These are easy points. Do them at the end of every class starting **TODAY!**

Daily points!!

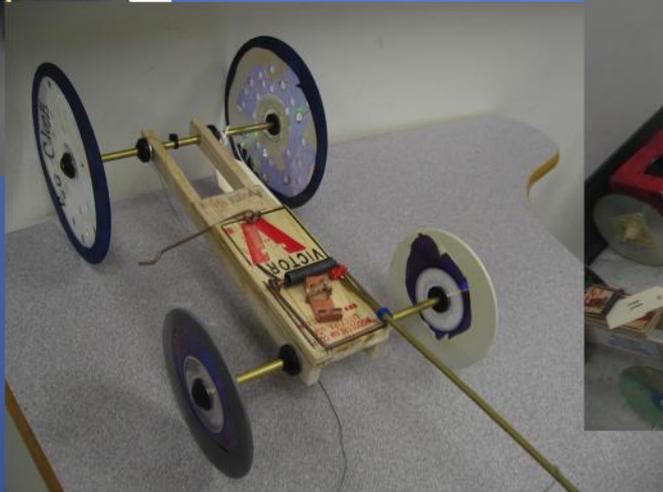
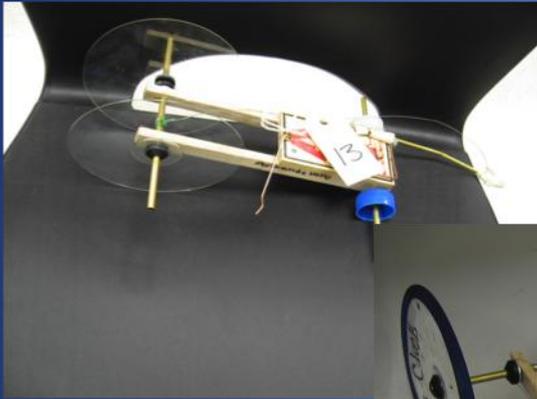
These are easy points. You earn them if you are safe, on task, and respectful.

3 pts



MESA Day 2012

Mousetrap Car - Distance



- ◆ Students will build a vehicle solely powered by a standard mousetrap to travel the longest distance on a specified track

Key terms

- ◆ **Energy:** *It's what moves the car.*
 - ◆ *Potential: stored energy; ready to use*
 - ◆ *Kinetic: energy of motion*
 - ◆ *Potential → Kinetic*
- ◆ **Inertia:** *The resistance an object has to changing its state of motion.*
- ◆ **Rotational Inertia:** *The resistance an object has to changing its state of rotation.*

Key terms

- ◆ **Friction:** *A force that opposes the direction of motion.*
 - ◆ *Static: caused from two surfaces pressing together.*
 - ◆ *Fluid: caused from liquids or gases. In air, this is known as drag.*
- ◆ **Torque:** *The force required to rotate an object.*
- ◆ **Power:** *The rate at which energy is released or transformed in a system.*

Research and Design

- ◆ Research and Design are due:

FRIDAY, SEPTEMBER 28, 2012

- ◆ 20 POINTS EA = 40 POINTS TOTAL!
- ◆ Check the class website for the requirements for these assignments.

◆ Nesbitt521.weebly.com

Research

In your notebook, put the following information:

Define these words:

1. Potential Energy
2. Kinetic Energy
3. Force
4. Friction
5. Torque
6. Power
7. Axle
8. Chassis
9. Lever

List 4 websites that have information about building a mousetrap car

- 1.
- 2.
- 3.
- 4.

Research

Answering the following questions

1. Describe how a mousetrap car works and explain the different parts of the car (mousetrap, chassis, wheels, axle, lever arm, and string) (**two paragraphs**).
2. Describe where the energy comes from and how it makes the car move (**one paragraph**).
3. Describe the materials you plan on using and the different features of your design (wheel size, chassis size, lever arm size, string type, wheel type, axle size) (**one paragraph**)

Design

In your notebook, make a drawing of your mousetrap car design.

Include a TOP VIEW

Include a BOTTOM VIEW

Include a SIDE VIEW

Label all of the parts of your car (wheels, axle, lever arm, string, mousetrap, etc.)

Include the measurements of your car (wheel size, axle length, length and width of chassis, length of lever arm, etc.)

Include a list of MATERIALS that you plan on using for your car and what you will use them for.

**use a ruler. It must be neat and presentable. **

Let's go!!

- Choose your partner... if you want one
 - Decide who is bringing what materials
 - Tell Mr. Nesbitt who your partner is
- Read the rules twice
- Set up your notebook for research and design and daily logs