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Virtual Rube Goldberg Device

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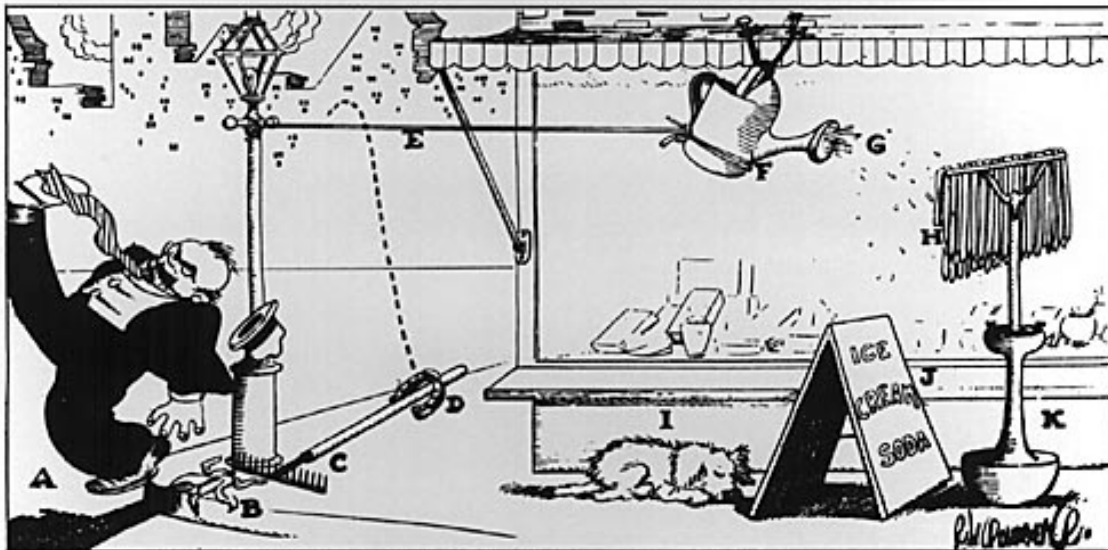
Interactive Physics

Simple Machines Project: Virtual Rube Goldberg Device

Background:

Simple machines make work easier by changing the direction of our effort force and/or multiplying our effort force. Most people would agree that machines have dramatically changed our modern day lives.

In 1907, an artist with an engineering degree named Rube Goldberg began drawing cartoons for the New York Evening Mail and the New York Sun. His cartoons made fun of America's obsession with the "machine age". He created completely outrageous machines designed to perform the most ordinary tasks. See the Official Rube Goldberg website at www.rubegoldberg.com for examples of his cartoons.



How To Keep Shop Windows Clean RUBE GOLDBERG (tm) RGI 031

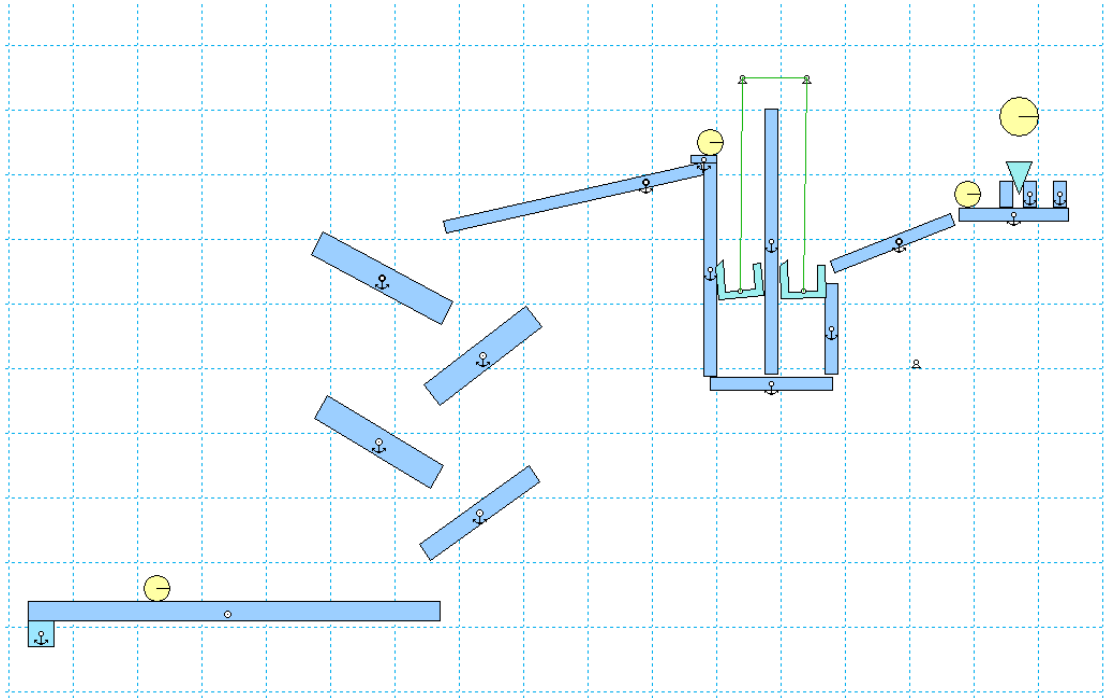
Equipment:

Interactive Physics, stopwatch, and scoring rubric

Goal:

Design your own Rube Goldberg device using Interactive Physics. **Your completion task will be to launch a ball with a first class lever.** Include as many of the six simple machines (wheel and axle, lever, screw, wedge, pulley, and inclined plane) as possible in your Rube Goldberg Device. You earn 10 points for each simple machine you choose. In addition, you must complete your task in as close to 30 seconds as possible. To earn bonus points, design your device with as many machine switches as possible. A switch is defined as a change from one type of simple machine to a different simple machine. (For example: A ball rolls off an inclined plane into a basket on a pulley system)

Example:



Scoring Rubric:

simple machines points

(10 pts per simple machine)

wheel and axle	
lever	
pulley	
screw	
inclined plane	
wedge	
machine total	

machine switch points

(add 2 pts for every machine switch)

switches	
switch total	
total score	

time points

(subtract 1pt per second under or over 30 sec

add 10 pts if time is exactly 30 seconds)

time	
time total	