

AXIS 2016 Summer Assignment

The Rube Goldberg Art Machine

Safely build, invent, and engineer a Rube Goldberg machine that uses a chain reaction of moving parts to create some form of art as the end product.

A Rube Goldberg machine is a deliberately over-engineered machine that performs a simple task in a very complicated chain reaction of different mechanisms. For the purposes of this project, your Art Machine must integrate at least five different mechanisms in its chain reaction of events. The overall task of your machine is to create some form of art. The art can be produced by one mechanism of the machine or any number of the parts can contribute to the final product.

In addition to creating your Rube Goldberg Art Machine, you will need to make a video showing the successful completion of the chain reaction along with explanations of its development and your challenges. (Look over the requirements below.)

Now it's time to start building. Think about motion and mechanisms, look around for some kinetic inspiration, and consider your artistic media. Then begin making, engineering, designing, and hacking.

Requirements/Constraints:

- Your Rube Goldberg machine uses 5 or more separate “simple mechanisms” (see definition to the right).
- You must integrate wind, light, water, gravity, and/or magnetism to power one or more of the mechanisms. You must use at least four of these approaches as “transfers of energy” within your system.
- The machine creates a work of art, be it visual, aural, culinary - the list is endless.
- 2-3 minute video that documents your Rube-Goldberg Art Machine including the following:
 - An introduction of yourself with you on camera.
 - A description of the process you went through to create your art machine, from (1) original inspiration & vision through (2) development and to (3) the finished product.
 - Explanation of your “Edison Moments” (moments of challenge and setbacks which you overcame).
 - A demonstration of the entire machine working continuously and successfully.
 - Edited and soundtracked using the video editing tool of your choice.
 - Post your video to YouTube and submit your information to the GoogleForm <http://goo.gl/forms/CtHvqSPurYl86Qtl2>

The Art:

The type of art and what qualifies as art is determined by you, but you should be prepared to explain the artistic value of your machine's art product.

Simple Mechanism Definition:

For the purpose of this project we will define a simple mechanism as any system of moving parts that transfers an input force and changes the magnitude or direction to create an output force.

- What to bring to your first day of the 2016/17 school year:
 - An example of the art created by your Art Machine.
 - One mechanism or stage from your machine as an example (pick the most creative or the one which you are most proud of).

SAFETY

Dear students-

Any time you are building or creating your first priority is your safety and the safety of those around you. We ask that you work closely with your parental figures to select the tools and equipment you use on this assignment. There are an infinite number of ways to complete this assignment, please pick the safe ones.

Advise and HELP!

Rube Goldberg machines are notorious for taking huge amounts of time. Start early and work consistently on your machine to be sure that it has been completed BEFORE the first day of school. Examples of past projects and other Rube Goldberg machines will be posted on the core website.

IF you are in a panic about this project, and you can't seem to get a part to work or just need a little help, we will be holding two Summer Assignment Work Days near the end of the summer. These will occur on a date TBA at the end of July or in early August. Check the core website for more information.

www.axisstem.org

