

Energy Unit Project Rube Goldberg Machine

In groups of 2-3, you will be making a Rube Goldberg machine. Your machine must **complete one of the tasks listed below** and will count as a test grade. Your grade will be based on the number of unique, successful transitions that your machine makes. You may only touch your Rube Goldberg Machine at the very beginning to start your chain of events.

Final Goal

- Pop a balloon
- Turn on a fan or other device
- Fill a cup of water to a specified volume
- Staple papers
- Any other final goal must be approved in advance

Grading

Your project will be graded in three ways:

Project Grade - based on the number of successful transitions will go in the test bin (see below)

Lab Grade: Your group must complete the [Rube Goldberg Project Write Up](#) (1 per group) for a lab grade. The write up is due the day that the project is due.

Daily Work Grade - based on individual use of class time, will go in the daily work bin. Your group must provide either a before/after picture of the work done everyday or a written explanation.

Project Grade

110%	10 successful transitions including final goal
100%	8 successful transitions including final goal
90%	7 successful transitions including final goal
80%	6 successful transitions including final goal
70%	5 successful transitions including final goal
60%	4 successful transitions including final goal
0%	Less than 4 successful transitions and/or does not accomplish

goal

The successful completion of your task counts as one of the transitions. Your transitions must be unique. If you reuse an action, it must be with a different material (ie You can't use dominos twice but you could have two different objects fall into each other). We reserve the right to determine what does and does not count as different.

Your group is responsible for bringing in the materials needed. Your group will not receive a grade until you have removed all the parts of your machine. Computers will only be used on the first day of the project.

Before building your project, your group **must submit a sketch of your design**. You can make changes after your sketch is submitted.

Project Presentation

Your group will have two opportunities to successfully complete your task and the best score will be counted. If one of your transitions fails, you may touch the Rube Goldberg Machine to restart it either at the point of failure or the next transition. Any time you assist the machine will result in a loss of 5%. If there are multiple assists on one transition, you will only be penalized once. There is a maximum of 3 assists per trial.

Retest

You will have the opportunity to retest your Rube Goldberg machine at a later date. If you choose to retest, your score would be the average of your two scores.

Project Timeline (to be filled in by students)

Work Days: _____

Project Due Date: _____