

Name: \_\_\_\_\_

## Rube Goldberg Designs

Congratulations!!! You and your team have been hired by TYWLS Design Studios to replace the retiring artist and engineer, Rube Goldberg. Mr. Goldberg was an artist who used a variety of simple machines working together to perform a task, such as turning a page in a book or stapling pieces of paper together. It will be your team's job to continue his work by designing your own "Rube Goldberg" contraption. Good luck!!!

**Task:** You and your team will plan, design and build a "Rube Goldberg" contraption.

### Your contraption should:

- Perform one everyday task.
- Include at least 10 steps, which leads to 5 cause and effect relationships.
- Include a variety of simple machines
- Be stable, can stand on its own and may not be larger than 2 tables.
- Be made using items found at home or borrowed from a friend. *Please do not purchase anything for this project.*
- Be able to be broken down to fit into a storage box or bag.
- Take less than 10 minutes to set up.
- Include a "blueprint" indicating the START and FINISH with arrows tracing the route of movement.

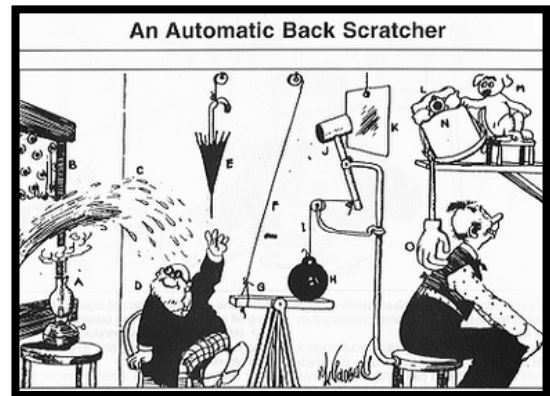
### Everyday Task Examples

- Kleenex Out Of The Box
- Launch A Paper Airplane
- Golf Ball In Hole
- Ring A Bell
- Toothpaste On Brush
- Put An Ice Into A Cup
- Hit A Target With Something
- Turn On A Flashlight
- Switch Something On
- Staple Something

**OR ANY OTHER EVERYDAY TASK YOU THINK OF!!!!!!!!!!!!**

### Due Dates:

Component	Due Date	Date Completed
Proposal		
Blue Print Draft #1		
Built Contraption		
Tested Contraption		
Blue Print Final Draft		
Engineering Documentation		



# Rube Goldberg Designs Rubric

## Project Components:

Proposal     Blue Print Draft #1     Blue Print Final Draft     Engineering Documentation

## Project Rubric:

	Outcome	NY	MS	ES
1	<i>I can use science and engineering skills to create, produce or develop a product that models or explains a scientific concept.</i>	<input type="checkbox"/> My Design implements fewer than 5 cause & effect features <input type="checkbox"/> My design uses fewer than 3 types of simple machines	<input type="checkbox"/> My Design implements 5 cause & effect features <input type="checkbox"/> My Design uses 3 types of simple machines with some repeats (multiple levers)	<input type="checkbox"/> My Design implements more than 5 cause & effect features <input type="checkbox"/> My design uses a variety of simple machines that are not repeated
6	<i>I can collaborate with my peers and adults while participating in scientific discussions while allowing for differing opinions, observations, experiences and perspectives.</i>	<input type="checkbox"/> My group struggles to work together to complete the assigned task  <input type="checkbox"/> We are often off task or need redirection from the teacher	<input type="checkbox"/> My group works together to complete the assigned task.  <input type="checkbox"/> My group sometimes needs redirection or guidance from the teacher.	<input type="checkbox"/> My group works together to complete the assigned task in a manner that puts the group's needs above out individual needs. <input type="checkbox"/> We actively help and advocate for one another to overcome fears and obstacles. <input type="checkbox"/> During class we are on task and focused.
7	<i>I can plan, design and complete a scientific investigation that models, tests or explains a scientific concept or theory while seeking feedback and making adjustments as needed.</i>	<input type="checkbox"/> I do not have drafts attached to the final piece or made no revisions  <input type="checkbox"/> During work periods, I am often off task  <input type="checkbox"/> I have missed deadlines  <input type="checkbox"/> My project has a messy appearance and/or looks like it was put together in a rush.	<input type="checkbox"/> I hand in ALL project components with a few some small edits.  <input type="checkbox"/> During work periods, I am on task most of the time, but may need some teacher redirection  <input type="checkbox"/> I have met ALL of my deadlines  <input type="checkbox"/> My project has a clean and neat appearance	<input type="checkbox"/> I hand in a draft to the final piece. I make significant revisions to the content of the essay to make it stronger  <input type="checkbox"/> During work times; I am on task and needs no teacher redirection.  <input type="checkbox"/> I have met ALL of my deadlines  <input type="checkbox"/> I put a tremendous amount of thought and effort into the appearance of my project
11	<i>I can explain how simple machines are used to make daily tasks easier.</i>	<input type="checkbox"/> I am unable to explain how the simple machines work together to accomplish a specific task	<input type="checkbox"/> I am able to explain how the simple machines work together to accomplish a specific task	<input type="checkbox"/> I am able to blend academic and every day language when explaining how the simple machines work together to accomplish a specific task
12	<i>I am able to explain how forces affect the movement of objects.</i>	<input type="checkbox"/> I struggle with providing accurate examples when explaining how forces affect the movement of objects	<input type="checkbox"/> I am able to explain how forces affect the movement of objects by using examples found in my project and those discussed in class	<input type="checkbox"/> I am able to explain how forces affect the movement of objects by providing unique examples not discussed in class AND by blending academic and everyday language