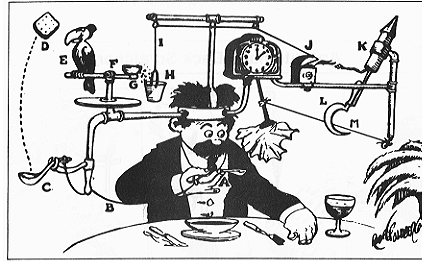


Rube Goldberg Design Challenge



Due May __, 2022

Team Name: _____

Student Names: _____

Task to complete: _____

TASK: Solve a problem or complete a task by creating a Rube Goldberg machine. You will record a video of your machine and narrate each step, naming the simple machines and forces used along the way.

Points	Task (points will be awarded for each task ONCE)
5	Acceleration
5	Deceleration
5	Incline plane
10	Applied force
10	Screw
20	Wheel and axle
20	Lever
20	Pulley
20	Calculate potential energy
30	Circuit
20	Successfully completes task

Penalties: Receive a penalty EACH TIME one of these events happens.

10	Touch a component of the machine
20	Start Over
25	Take Longer than 90 Seconds to Complete (-1 pt for each additional second needed)
20	Improper material usage (using materials incorrectly, destroying or breaking materials)
25	Not Cleaning Your Workspace at the End of Class

Rules:

- Each member of the group must participate and make a contribution to the project.
- At the end of each day, your group must complete a google form to show what you have completed that day. This will be part of your final grade.
- Machine must fit on one table top and have a base so it is easily cleaned up and stored (cardboard base, trifold board, etc).
- If your group is too noisy or cannot stay focused on your own path after three reminders, your group will be disqualified and be given a different assignment to complete.

Materials:

You are welcome to bring in any materials of your choosing or to use the materials provided by your teacher. Combining your own with Heather's materials is also okay.

Steps:

- Get together with your group. Come up with a team name.
- Draw a blueprint of your design plan in the space provided. Include a materials list. Make sure it is neat, clear, and each element is labeled. Each task from the list that your machine will complete should be clearly labeled on your blueprint. When you are finished, this must be signed off by Heather before you begin building.
- Begin building. Make sure to review the rules and guidelines listed in this assignment.
- Test your prototype and make any necessary improvements.
- Record a video of your machine using an iPad.
- Edit and narrate your video. **Every student in the group must be included in the video in some way.**
- Be ready to share your design in class on _____.

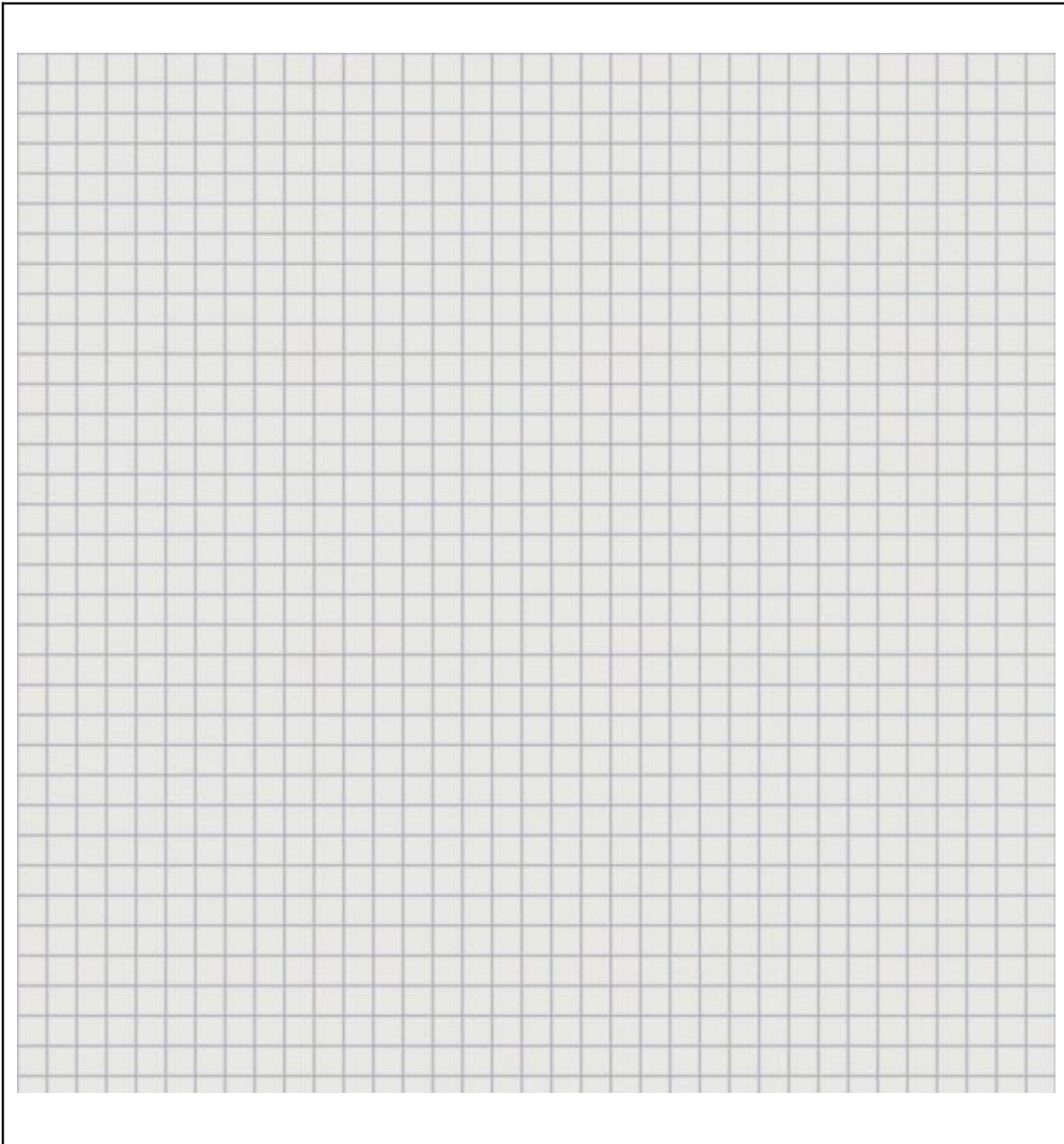
Deadlines:

Task:	Deadline:	Completed?
Decide on a team name and review guidelines with your group	5/2	
Have blueprint with materials list signed	5/9	
Build and test prototype	5/16 - 5/23	
Final video due	5/27 (subject to change)	

Create your blueprint/ design idea below. Include a materials list and clear labels.

1. What is the problem you are trying to solve with your Rube Goldberg Machine?

2. This is a silly and overly complex way to complete a simple task. Who will benefit from this machine? How could this be useful in the real world?



Ms. Smith's signature: _____

Materials Needed: (also name who is responsible for finding or bringing materials)

CRITERIA FOR SUCCESS (your grade):

Criteria for Success:

	4	3	2	1
<u>Science content:</u> I can demonstrate understanding of force, motion, and simple machines.	My project clearly shows, labels, and thoroughly narrates each step.	My project shows, labels, and accurately explains each step.	My project shows, labels, and briefly explains each step. My understanding is not clear.	My project does not show or explain each step.
<u>Craftspersonship:</u> I can turn in high quality work on time.	I met all deadlines. I did my part to support the progress of my team from start to finish. I helped others in my group stay on-task. My work is polished and high quality.	I met all deadlines and asked for extra time when necessary. I strived to create a high quality final product. I stayed on-task.	I met most deadlines. I strived to create high quality work. I stayed on-task with some reminders from my group and teachers.	I did not meet the deadlines. My work was not high quality and is unfinished. I needed a lot of reminders to stay on-task.
<u>Collaboration:</u> can effectively work with a team to accomplish a goal.	I participated effectively as a team member. I listened to others' and shared my own ideas. I worked hard and ensured all members of my team had opportunity for input throughout the project.	I participated effectively as a team member. I listened to others' ideas and shared my own ideas.	I struggled to participate effectively as a team member. I struggled to collaborate with others and listen to their ideas.	I did not participate effectively as a team member. I struggled to listen to others' ideas and did not offer my own ideas.