

Team Journal - Radioactive Reynolds

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Jan 11, 2022

On the first day of our project we came up with our team name: "RadioactiveReynolds" We also sketched our project ideas. All in all no definite ideas were made.

Jan 13 2022

First we watched some videos on Rube Goldberg projects. We came up with the idea to split our project into four separate parts. Each part would be an age of tech, Medieval, Industrial, Modern, Futuristic. Etc. The decapitated head of Ryan Reynolds would be the villain of the story.

Jan 17 2022

Today we worked on ideas for early tech. We came up with the idea to have an aqueduct that flowed into a river with a boat.

Jan 19 2022

Today we continued to work on the same ideas. There was a lot of debate. Nothing was decided upon.

Jan 23 2022

Today we still worked in the early ages. We've come up with the idea of the aqueduct setting off a mechanism that launches a boat. The Boat flows into the river and sets off a motion sensor that sets off the bell tower. The boat falls off the edge of the world into the industrial age.

Jan 25 2022

Today we split up into groups. Myself and Reece tried to work on the industrial revolution. We hit a creative block and were only able to figure out some ideas like trains and such. Meanwhile Carter, Jack and Zephyr worked on prototype mechanisms.

Jan 29 2022

We did not meet.

Feb 1 2022

Today we worked on different things, mostly just prototyping. Not much was done.

Feb 3 2022

Today we recruited a new member: Jaxson. We also made plans to obtain the pegboard we needed to create our four section design.

Feb 15 2022

Today we had everyone back. We made more plans for how we are going to use the pegboard. We scaled our project down for cost reasons. We did a lot of drawing and diagramming for different mechanisms. We reviewed a lot of our old prototypes as well.

Feb 19 2022

I was not present for this meeting. While I was gone the walls were built for the project.

Feb 24 2022

Feb 26 2022

Today we split into groups and started building. Jack & Zephyr tried to cut a pipe. Reece and I tried to assemble a ramp. Jaxson and Carter worked in the Industrial Age.

March 3 2022

Today we continued working on the different ages.

March 12 2022

Today we worked on different mechanisms for age one.

March 18, 2022

Today we did more work on the first three ages.

March 19 2022

Today we've done more work on the second age.

March 21 2022

Today we finalized the first age.

March 25, 2022

Today everyone continued working on their projects. Myself and Jaxson were elected team captains. I spent the whole time turning the journals from paper to digital.

March 26 2022

Today there was a speech meeting so we had to be quiet. Lots was completed on the

different stages. The rocket was worked on for stage three and the minecart for stage two.

March 28 2022

Today was a rush day trying to get things done. We had some tests.

March 31 2022

Today was our last day before the competition. We worked from 2-7 and got pizza. We made our final adjustments.

April 4th 2022

Today we adjusted our machine so that the things they had gone: such as the mousetrap, were fixed.

April 9th 2022

We had a short practice and revised the domino system.

April 15th

We painted a lot more and made more modifications.

April 19th

We split up and worked on making sure the different sections worked together. I worked on revising the team journal

The Machine Cost and Explanation

Our machine cost \$50. We only bought screws and, pegboard. Our machine is 70% recycled. There is a robot that runs on 7.2V, a chemical reaction (sodium bicarbonate + acetic acid (3%)) . Our Machine has four stages for four different stages of human created power on earth. There is a "Rocktopus" in each era that slows down our progress towards infinite energy without waste.

The machine starts with the Early/medieval stage of power. The first stage starts with a marble running down an empty aqueduct. It then hits a windmill where it rolls into a bell tower

and then onto a boat. The boat sails because they used water and wind to power and transport themselves.

The second stage represents the Industrial age/ stage of power. People in that time would use coal and steam power for their machines. The mines below the train are mining coal.

The third stage represents the Modern age / stage of power. There is a nuclear power plant that the car is driving past. The car is using gasoline.

The last stage represents the Future / and whatever will power that age, including solar energy and using science to figure it out. The Rocktopus is defeated!

Major Successes and challenges

One of the biggest problems in the entire project was agreeing on things. Often during the planning stage we had problems with staying productive. We often hit creative blocks during the planning stage and were not able to agree/ stay productive because we would become bored with just trying to think of ideas.

A major success was building the pegboard and when things just worked. For example when we got the first age complete we were all super happy. Another example: While working on the third age we came up with a great chemical reaction. The nuclear reactor which would have an orange balloon inflate and the balloon would have "meltdown" written on it.

Team Reflection

In our planning stages we found that we all had good ideas, but with so many ideas to discuss, at times we were not productive. That problem stayed with us the whole project. In our early stages of building it was great to see our plans come together and get to doing things. It was easier to visualize and improve our ideas. We all chose different parts of the machine to work on, or sometimes with just one partner. Splitting up helped us get more done. We found that we did not test often enough to make sure our steps were working correctly. At times we did not communicate very well with each other.

At the competition we were unprepared. We had not run through the machine enough times and were rushed into finishing the last couple of days. We failed to set up the machine because we gave the wrong jobs to the wrong people and were not positive with each other. We bumped the machine, we were nervous, we did not know what would happen. After our first judge round we figured out how to be a team, working together, and being helpful. Since competing that day, we are more productive and we corrected some mistakes and made it look even better.

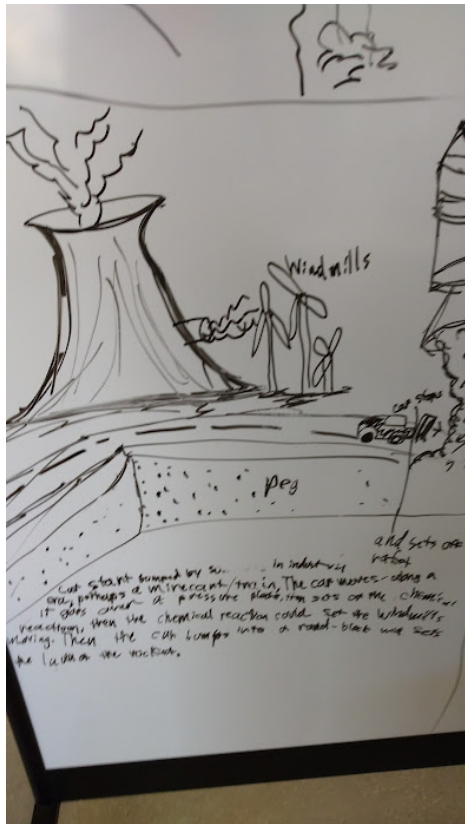
This whole project has been a learning experience in many ways. Failure is a great way to learn, although it can be discouraging. Cooperation and productivity are a key element. We are ready to compete next year with ideas that we have tested this year. We learned more about what didn't work, than what did, and we can't wait to try again.

List of Steps

1. Marble drops down the half pipes and onto a button sensor
2. Button sensor activates the windmill robot and drops a marble into a tower
3. Marble comes out of tower and continues into a boat
4. Boat is pulled along by robot
5. Conveyer belt robot removes block from train wheel, train goes down ramp
6. Train hits lever which rolls a marble down a halfpipe
7. Marble starts dominoes, dominoes start ping pong ball down a ramp
8. Ping pong ball knocks weight off a shelf which pulls down a string
9. String starts chemical reaction and a car down a ramp
10. Car pushes button which pushes weight off a ledge
11. Weight pulls a rocket up to move lever
12. Lever starts marble down a pipe
13. Marble drops onto and activates mousetrap
14. Mousetrap tosses the Rocktopus monster



Reece, Jack, and Zephyr working on era one



Sketches - we started on a large whiteboard using the markers and post-it notes.



Zephyr programming the robot.



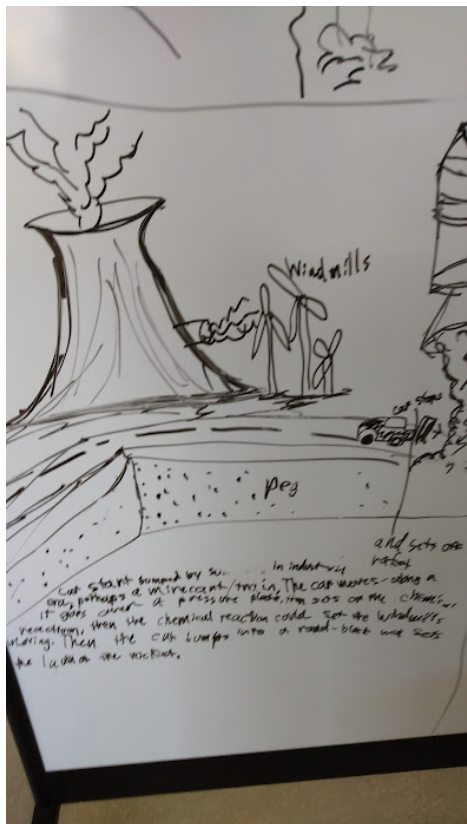
Will working on the boat.



Jack cuts the pegboard from 4ft to 2ft squares using a circular saw.

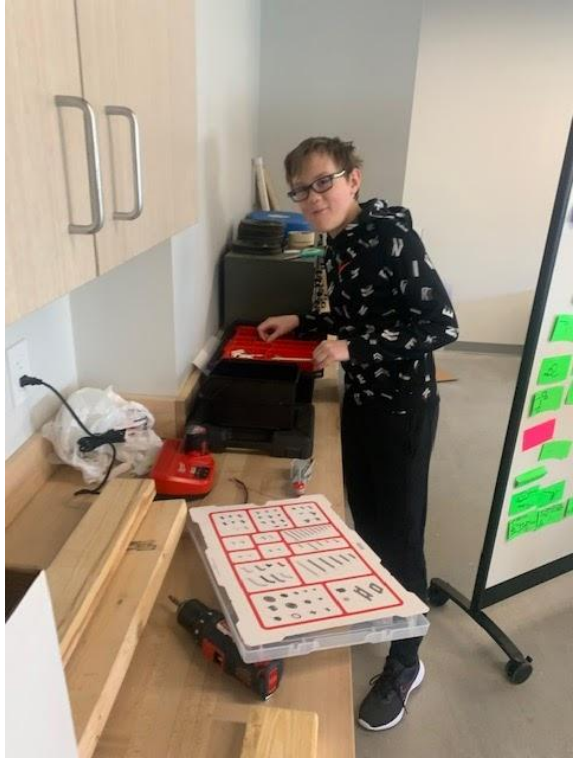


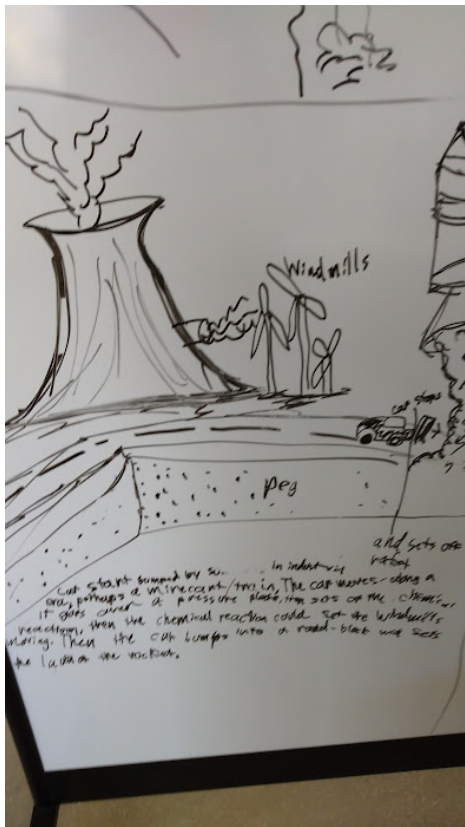
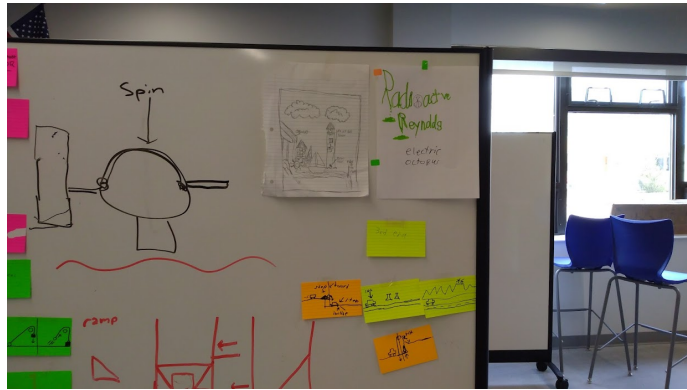
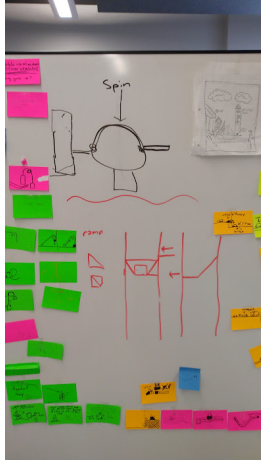
Carter, Jack, Zephyr working on era two.



Sketches of the nuclear plant during the planning sessions.







and sets off
in industrial
Cut starts burning by sun. The cut wastes doing a
dry, perhaps a microwave/oven. The cut wastes doing a
if gets stuck or pressure plate, then some of the chemical
reactions, then the chemical reaction could get the windmills
starting. Then the cut jumps into a road, black was seen
the look of the reaction.

