

# Report: Team 6

## **Inquiry and Analyzing**

- We are team 6 in the design cycle challenge, our group members are Yeepoon, Adi, Saffron, Lily and Ray. We may had to find many solutions such as the wooden frame and the tape track! But at least we know for sure that on friday (DCC day) we shall have **SUCCESS!**
- We had researched and found our most precious Goldberg Machines that we have got our inspiration from it! We had used Google and YouTube to find ways that we could improve on! Our most precious way was from YouTube the account who made/post the video was “Hevesh5” his video was called “Insane Domino Tricks”!
- Design Specification:  
Materials
  - Domino
  - Wood
  - Tape (core)
  - Box
  - Books
  - String
  - Hanger
  - Balloon (un-blown/no air)
  - Marble
  - Future board
  - Tape
  - PVC pipe
  - Cut plastic bottleObjects (get together of the object)
  - Tape track
  - Tape core (without tape left)
  - Box with books narrowed at the back!
  - Wooden Frame
  - Large wooden dominos!
  - Hanger
  - String (hanging down from frame and string tied to balloon)
  - Marble tracks (PVC pipe with cut bottle tied to the front)
  - Domino bridge (3 bricks block up together)
- Bibliography MLA format

## **Developing Ideas**

- Idea Number 1: First we have decided to used the dominoes to power up a slope and hit a Marble which will role into some more dominoes which will fall over a book and makes a big block fall into a see saw with a ping pong ball! The ball then will launch like a canon and fall into a triangle with a hollow bottle! The ball will go through the bottle and down into a PVC pipe. The ball then goes out the PVC pipe the other side, and hits a marble which will continue to the other groups!

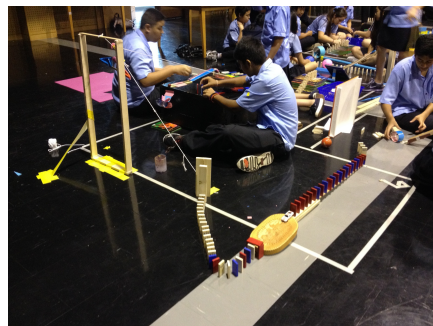
Idea Number 2: Now we have decided to use the dominoes

for the start line, but after the dominoes had gone up the slope instead of hitting the marble we chose to hit a car (55' Shelby Mustang, Hot wheels) and do some modification for the body kit. Then we decided to let the car go down a basket that is 45 degrees angle down to the ground! Then after the car fall down from the basket it should hit the dominoes, the dominoes has been arranged curve. The dominoes will hit a larger dominoes and push over a book which will fall over the rope that is tied with a balloon! The balloon has been tied with a hanger, the hanger has been tied with a rope hanging from a frame. When the balloon has been released the hanger will slide down into the dominoes that has been lay out on a box in straight line. We let the last domino lay out on the box hit the marble down from the box. Then we let the marble continue to the next group.

Idea Number 3 (before the actual one we chose): We have decided to start with the dominoes again but without a slope we will still let a dominoes hit the car. But we have added a track for the car made by future board and some wood! We then do the same order as "idea no. 2" until using a book to fall on top of a string. We used the old glued see saw wood by putting the see saw part of and only having 2 pieces of wood sticking together instead! And also instead of letting the marble fall from the box we decided to also lay and arrange the domino all over the box like a U-turn. Then letting it hits a marble, and let the marble role into the PVC pipe! And when the marble roles out from the PVC pipe and then hits some domino.

- Idea Number 4 (Actual idea) Domino which will start at the beginning of our space, then we continue the machine with a tape! The tape will get pushed by the domino (behind) which makes the tape goes down the track and hit the other part of domino. These domino have been arrange in a curved to make a right turn into a large wood domino! When the small domino have curved into those large brick domino, those will have the job to fall down and trip a rope! This rope has a balloon tied to it, the balloon is connected with a hanger, but the rope has been tied with a wooden frame and some books! But because of gravity the hanger is hang with a rope which will lead the hanger down all the time so we add a balloon to lock the hanger. The hanger will fall and hit the domino lay out on a box! This box has holes through the side, so we took a PVC pipe and put it through 2 holes! One side of the PVC pipe we have added a cut bottle which will catch a marble ball that will be pushed by dominoes into this pipe! Then the marble will role out of the pipe from the other side and role down the track behind the box. Then let the marble hit the domino and continue to the other groups!

## Creating The Solution



- We have found many errors and things that we can solve, we found them by testing them if we test them 2 times and they do not succeed once we try to find other materials that can help or replace the fail materials instead! Then we test the new materials and if they're worst we will try and do the same procedure.
- As you can see, our group as represent our Rube Goldberg machine with our visual theme by painting the domino red and blue just like the atoms (visual theme). First we had painted all of the domino, but when we actually test them out. We ran out, so we had to get more

domino and we didn't had time to painted them all.

## Evaluating

- I think our team scored “8” for achieving our goal.  
Description: This was because our cooperation together, if we didn't changed or improved our machine we wouldn't have our succeed/success today. Everything we think and tested that could be improved/modified would be modified immediately.
- During the process of building the Rube Goldberg machine, and these were the changes we made through out the whole process:

Change 1: When something in our machine doesn't work, we shall have to replace it or modified the object every possible way we could. Such as the Car (55' Shelby Mustang), first it'd always was stuck through the lock between the basket and the pile of wood. When we actually found out the cause (body kit was too low, which made the rear wheels stuck. So we had to put tape on the body kit next to the rear wheels which helped the car became more slippery to launch it's self down the basket.

Change 2: After “Change 1” our group were also start having difficulties with the basket it self. The surface of the basket was too rough and spun the car of the basket, because the car with the new modification was even more slippery without its rear wheel grip. So then, we tried to replace the basket with a future board, with 2 wooden round wood on the sides (like a track). But the car with the 2 woods surrounded wouldn't fit on the future board, so we replaced the car with a core from a tape. We chose the material as tape because they were round like the cars wheels and they're large so that they would ran on top of the tracks (future board), instead of having them surrounded by the tracks (inside). Then it will hit the domino ahead on the track.

Change 3: Now after “change 2” has finish we shall start with a wooden frame our group made, with a see saw clayed with a ping pong ball (on the ground). Then the domino (carried on from change/step 2) would dominated the book. Which will fall on a scissor which will cut the rope that it holding the frame to the ground. When the rope is cut, the frame that's tied to the rope will be released and hit the see saw. The see saw would hit the ping pong ball up high and fall into a pipe. When it gets out of the pipe, it will carry on...

But when we actually test it the domino would not have enough potential energy to push the ball to the ground. Even if it could the book would not have enough power (potential energy) to make the scissors cut the string. If the string would be cut then the frame goes and hit the see saw, the ping pong ball flies and fall down inconsistently or inaccurate to fall into the PVC pipe. So this is our change: go up and look at “idea number 4 (actual idea)”.

- Our group thinks that our machine could be improved by having our object made/etc. More neat, we can also color our domino (red and blue) more neat as well because when we put those painted domino down (when they dried) they are like layers. They are very scary to put them down on a 45° (degrees) angle because they will fall down or shake around and hit the other domino arranged. The wood's surface also wouldn't be the same as well, because the acrylic paints were more slippery than the actual KIS wood domino. We would also like to improved on our wood pile. I think we could've glued/sticked it together so that it would never come apart.

Team 6 (Norwegian Boombox) = Yeepoon, Adi, Saffron, Lily and Ray