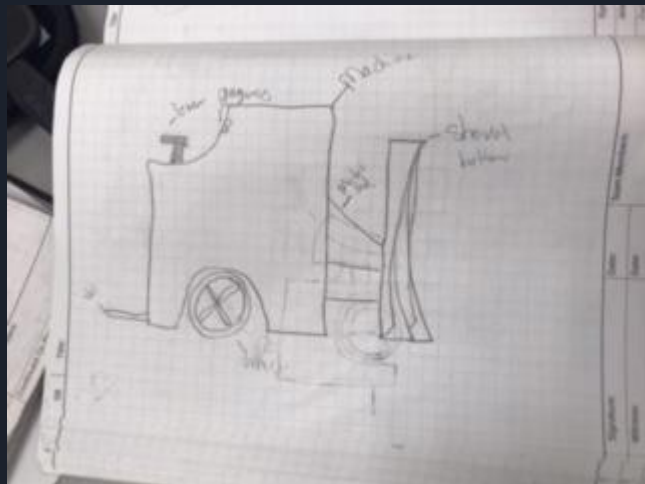




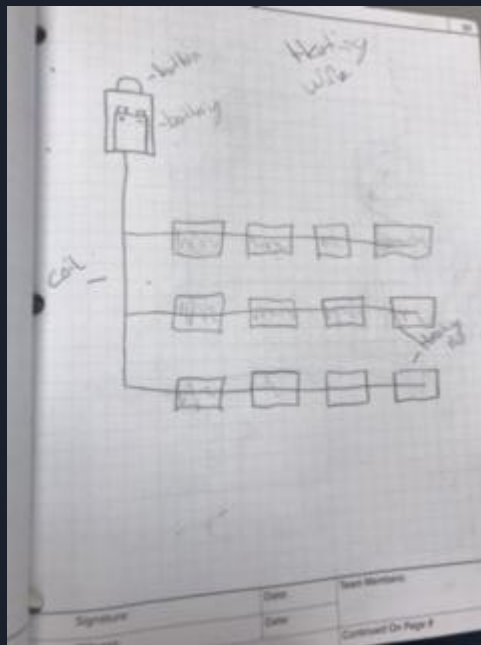
# Heated shovel

Ridycc.J, Jordan.G

# 3 Ideas



Snow Machine



Heated Wires



Heated shovel



# Research

Me and my associate have done our research on google looking for any heated shovel for snow and ice on driveways and we have not found any alike our product but we have found ways to make our product and make it better. These products that have already been made follow the same concept but are a little different. Both products are used to remove snow but they function differently so we took some of their ideas and used it in our final prototype.

## Measurements

The height of the shovel is 48 inches based off of the height of a average shovels. The length of handle is 3" followed by the shaft is 29". The bottom of the shovel is 18" by 14". Lastly the thickness of the shaft is 1.5". All these measurements are based off real normal sized shovels fit to comfort any customer.

## Links:

[https://www.google.com/search?q=heated+shovel&rlz=1C1OKWM\\_enUS982US982&source=lnms&tbm=isch&sa=X&ved=2ahUKEwiBh-](https://www.google.com/search?q=heated+shovel&rlz=1C1OKWM_enUS982US982&source=lnms&tbm=isch&sa=X&ved=2ahUKEwiBh-)

## Design Brief Blank Document



### Client:

Anyone who has problem removing ice from driveway.

### Designer(s):

Ridycoc Jared and Jordan Goldman

### Problem Statement:

Ice on driveways is problematic to driveway owners. The ice is dangerous and it is hard to remove. There are few existing products that are used to remove ice and snow off of driveways. Currently the existing products to remove ice are time consuming and expensive.

### Design Statement:

Brainstorm, Design, create and test a device that removes ice from driveways with ease.

### Criteria & Constraints:

- Due Date: April 24
- Battery Powered
- 45" long
- Blade is made out of metal
- Handle and shaft is made out of wood
- Wire Resistors
- 50" Copper wire
- Switch

### Deliverables:



- Sketches

- Prototype
- List of materials
- ~~One-page file~~



# Decision matrix



<b>Names:</b>	<b>Solve</b>	<b>Ease</b>	<b>Other</b>	<b>Total</b>
<b>Heated Shovel</b>	4	4		16
<b>Heating Wire</b>	3	4	Lots of Wire used	12
<b>Machine Ice Remover</b>	4	1		4



## Student Voice

### Content:

One thing I found challenging about this project was finding a material that won't melt but is durable enough to pick up snow and ice

### Culture:

This can change my community by helping neighbors and friends remove ice from driveways with ease

### Social emotional

I feel very excited after working on this project because since I was very little around the third grade I made a smaller cheaper version of this project. I'm Excited because I always wanted to reinvent this idea so we can put more time and effort in it.

### Metacognition

The most challenging part of this project was finding the right material and finding enough voltage to heat up the wire to generate heat.



# Evaluate solution

Currently there is no product such as the heated shovel. There are products that are based off the idea of our invention but not anything as the same style or materials. Our product is a normal sized flat shovel with heating wires attached at the end of the shovel. These wires are used to heat up the ice and snow making it easier to shovel snow. One way we could improve this idea would be to make the shovel adjustable for all sizes. Another idea would be to make the shovel work without manual labor and make the product work with a push of the button. Two other ideas are bluetooth operated for music and add a strap for people who like to carry the shovel with more ease.

# Final Sketch and Idea

