

Simon Oshev

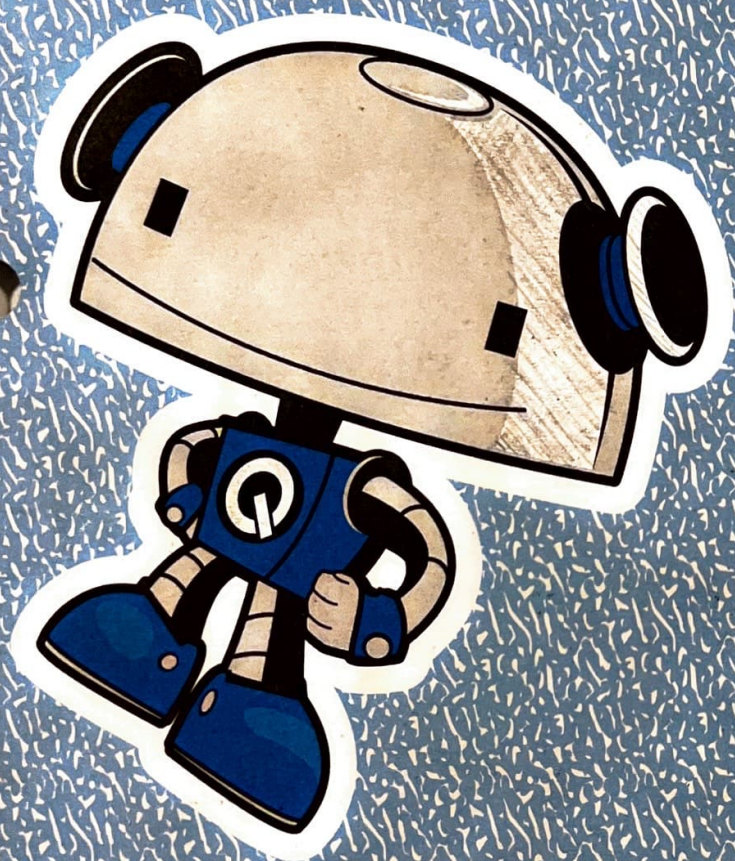
Gurmehr Chadha

Emma Gherman

Gavin McKean

Neil Poddar

Iris Huang



team number: 76268A

team name: Mengis

school:

start date:

end date:

 **GEARING**
UP
FOR **SUCCESS**

Brainstorming

Invite a student to lead the session, and help them stay on task by repeating the title of the sessions when they stray from the objective. Appoint a student to record all of the information on a whiteboard, large paper on the wall, on the computer, or directly into this engineering notebook. Begin with **What Not How**: Let students come up with **what** they want to the robot to do, **not how** they plan to do it. The design process will follow after the strategy has been developed and agreed upon.

Our robot's goal is to acquire the disks from the 3 towers.

Puncher - the puncher would help us shoot the disks under the bar and score points.

Intake - the intake helps us spin the purple tower wheel to get the disks out.

Actuator - the actuator helps us lower the blue tower to drop our disks in the storage.

Game Strategy

Nr 11

VEX IQ 2022-2023

Team Presentation

"SLAPSHOT"



Team Name Imengs

Team Robot Design Concept Presentation

Lead team member to provide overview of Team & Robot Concept
All team members need to participate in presentation

Introduce Team members

Review Design Process

ROBOT CONCEPT

Review different systems; To Include

Drive base

Gear, Chain / Mechanical advantage? Drawing concept

Systems review - pros / cons

1 Robot is complete

2 drives correctly / accordingly

3 No storage for purple tower disks

4 to work to push down full blue tower

5

Sensors

1 Distance - is not that useful for this project

2 Touch Led - to make it turn the color of the tower it senses

3

4

GOALS

VEX IQ 2022-2023

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ROBOT CONCEPT

Review different systems; To Include

Drive base

Gear, Chain / Mechanical advantage? Drawing concept

Systems review - pros / cons

- 1 Pro: its fully built
- 2 Con: doesn't work for the purple tower.
- 3 Pro: controls are functional
- 4 con: too weak for the blue tower
- 5 Pro: it can get the desk

Sensors

1

2

3

4

GOALS

VEX IQ 2022-2023

Team Presentation

"SLAPSHOT"



Team Name iMenges

Team Robot Design Concept Presentation

Emma, Simon, Mehr, Neil, Iris, Gavin

Lead team member to provide overview of Team & Robot Concept

All team members need to participate in presentation

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Review Design Process

ROBOT CONCEPT

Review different systems; To Include

Drive base

Gear, Chain / Mechanical advantage? Drawing concept

Systems review - pros / cons

- 1 Everything is working
- 2 Shooter/kicker is not accurate
- 3 Driving is good
- 4 Collection system is not always working correctly
- 5 Coding is good

Sensors

- 1 Touch LED for shooting
- 2 Sensor to see when the storage is filled up
- 3
- 4

GOALS

Win

VEX IQ 2022-2023

Team Presentation

"SLAPSHOT"



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Lead team member to provide overview of Team & Robot Concept
All team members need to participate in presentation

Introduce Team members

Emma, Gavin, Simon, Iris, Mehr, Neil

Review Design Process

ROBOT CONCEPT

Review different systems; To Include

Drive base

Gear, Chain / Mechanical advantage? Drawing concept

Systems review - pros / cons

1 Pros: We have a driving robot

2 We have a working actuator, intake, and storage

3 Cons: Our puncher semi-works because of not enough power or too much power

4 Sometimes the disks do not land properly in the storage

5 Our storage only gets the blue tower

Sensors

1 If we have a distance sensor we could get the right amount of distance to pull down the blue tower

2 We could use the bumper switch to find where to stop on the pole

3

4

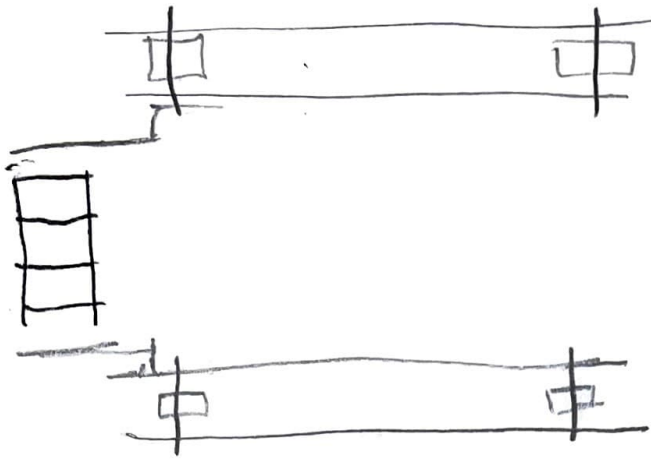
GOALS

Some goals we have is to perfect the puncher, so it shoots properly. Another goal is to make sure that everyone gets a feel of the robot and understands how to drive it.

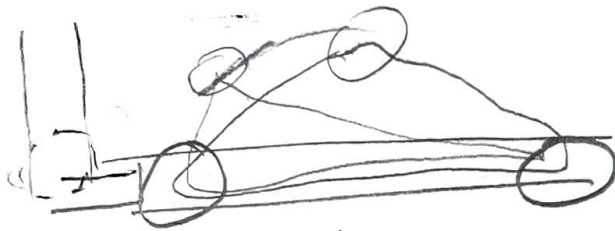
CHAIN

Gear RATIOS

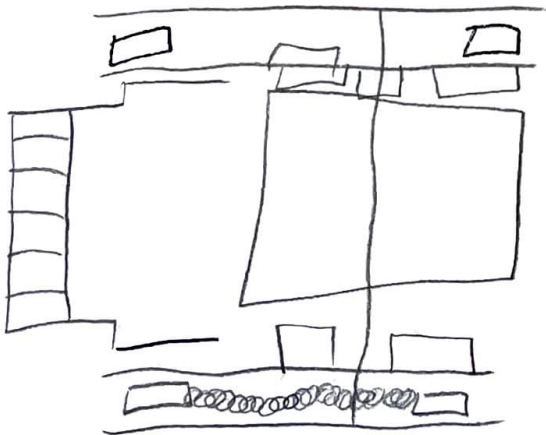
FRAME SUPPORTS

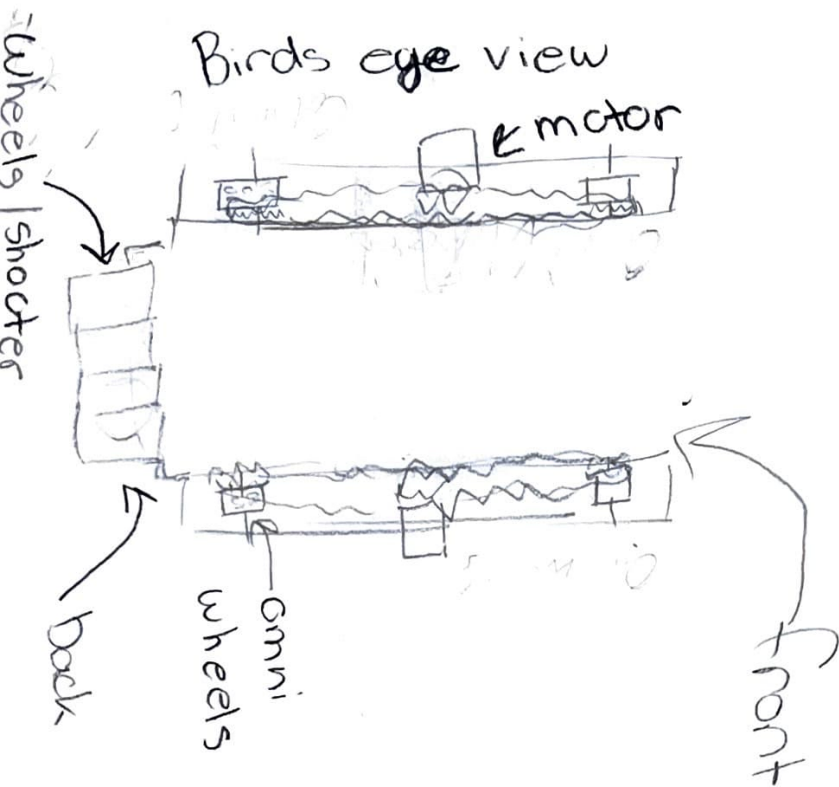


BASE

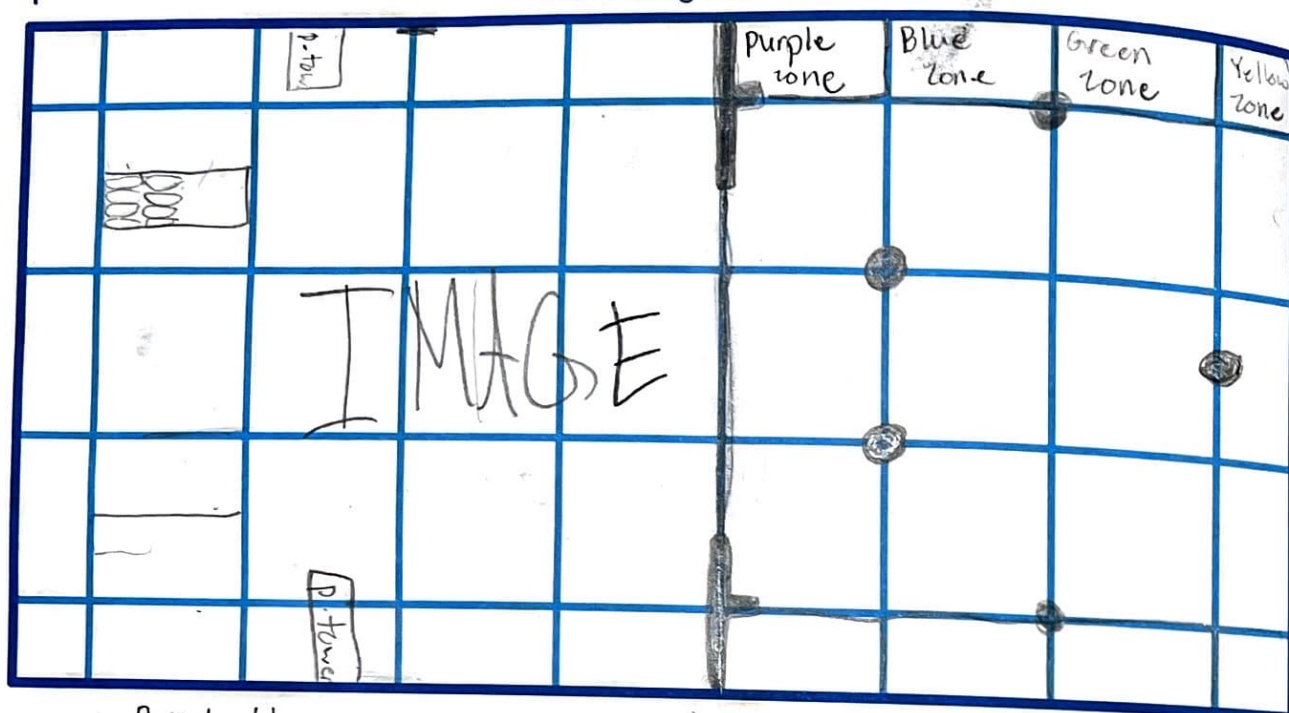


SIDE / GEARS





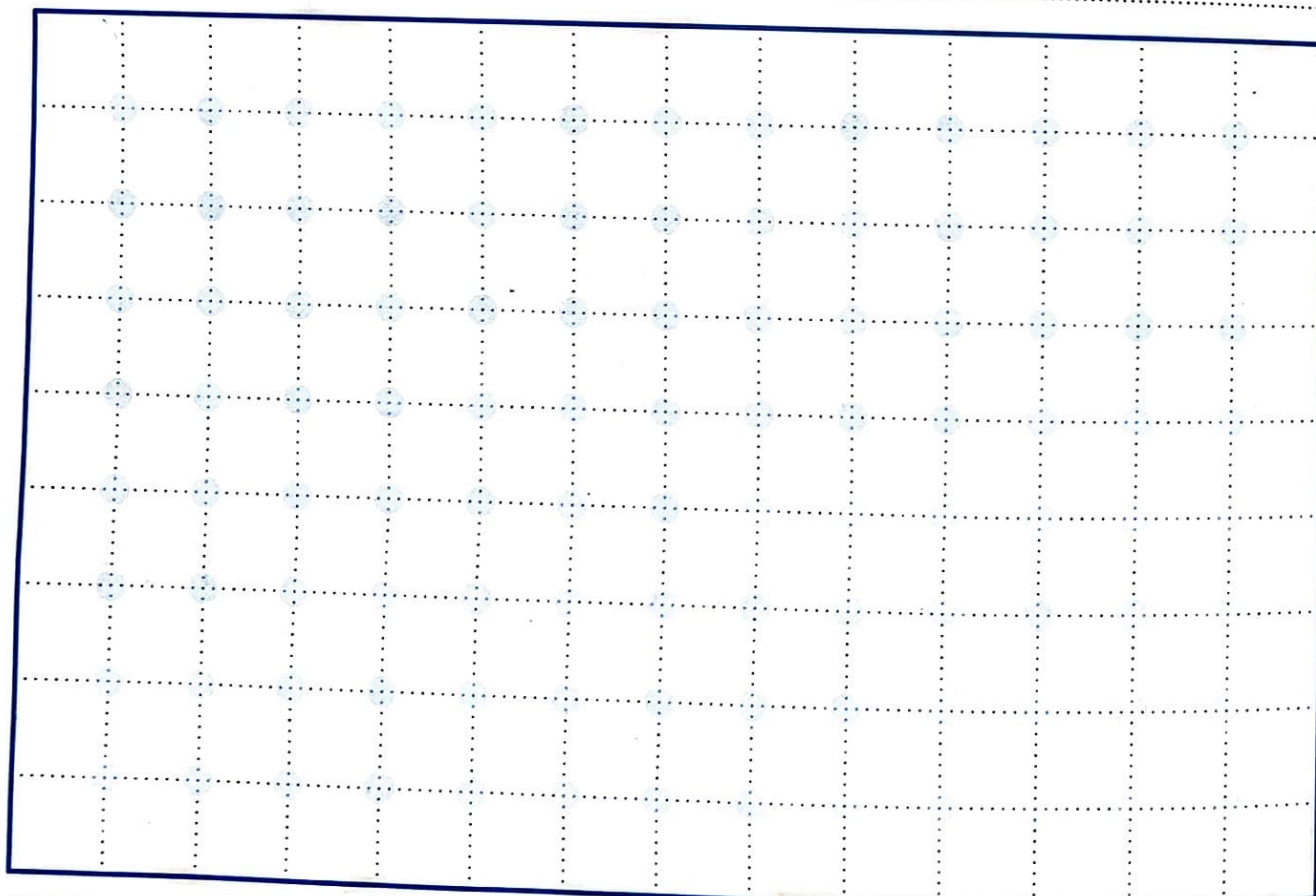
Field Diagram


☐ Think

☐ Do

☐ Test

Build the puncher and make it work effectively



name

date

What do engineers do? Engineers make things possible! They use math and engineering science to create and build the products, buildings, and structures we see every day.

2

picture of puncher

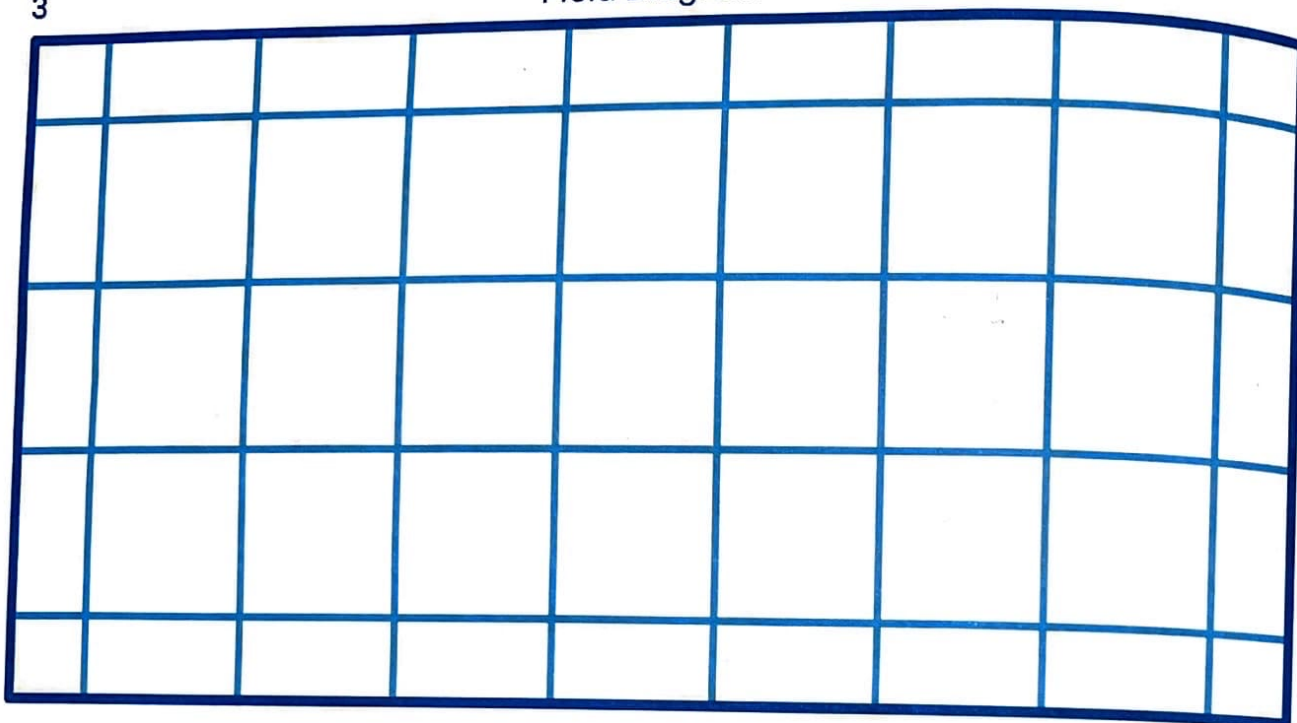
Our team is currently building a puncher...

The puncher goes under the storage and

Constantly shoots any disks inside.

name

date

☐ Think☐ Do☐ Test

Prediction - We plan to mount the brain, and start programming the robot. Also we wanted to start driving the robot, so we can get used to the controls.

Estimated time to mount intake and brain: 30 minutes

At the end - We mounted the brain and we placed the intake. Next week we hope to start programming and driving the robot.

Actual time to mount brain and intake: 1:30 minutes

I think we took too much talking and going off topic

name

date



Keep your parts organized. It will save time when you are building!

9/9/2012

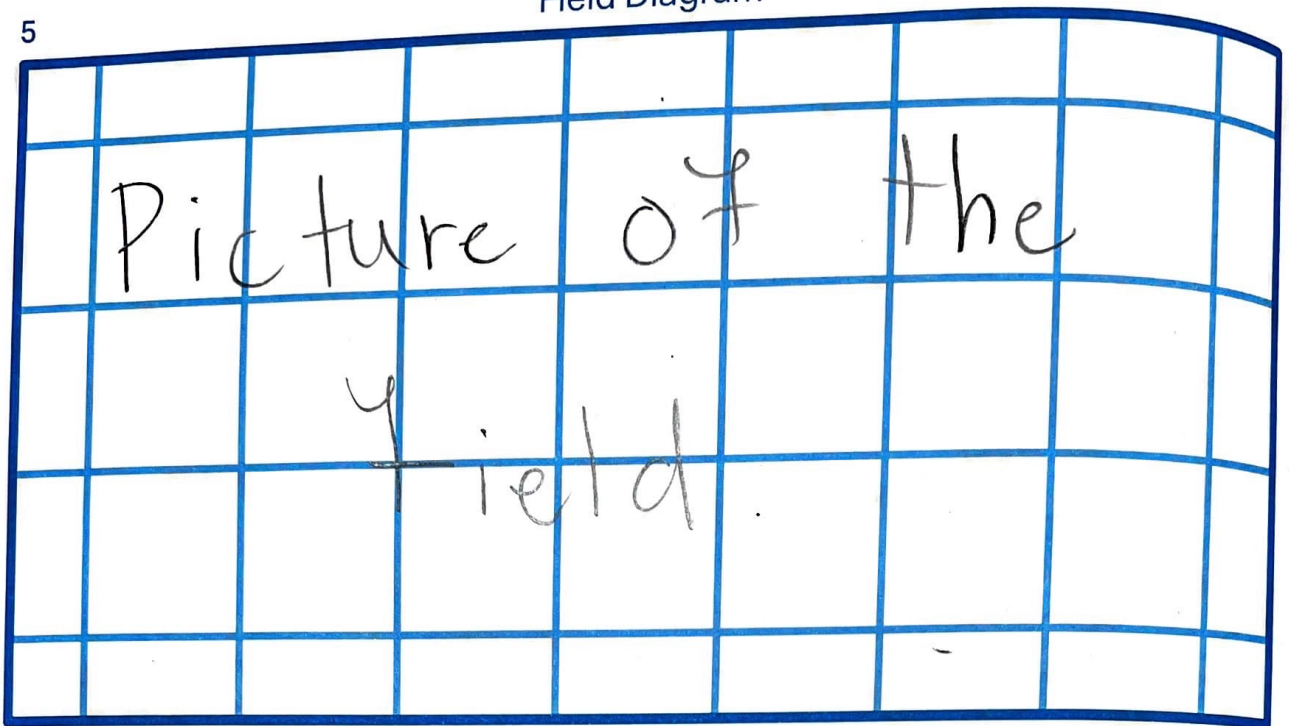
Picture of intake

Picture of Robot and intake

We are figuring out where to put the brain.
We added the intake on the side of our
robot. The intake is used to get the disks
out of the purple tower.

name

date

☐ Think☐ Do☐ Test

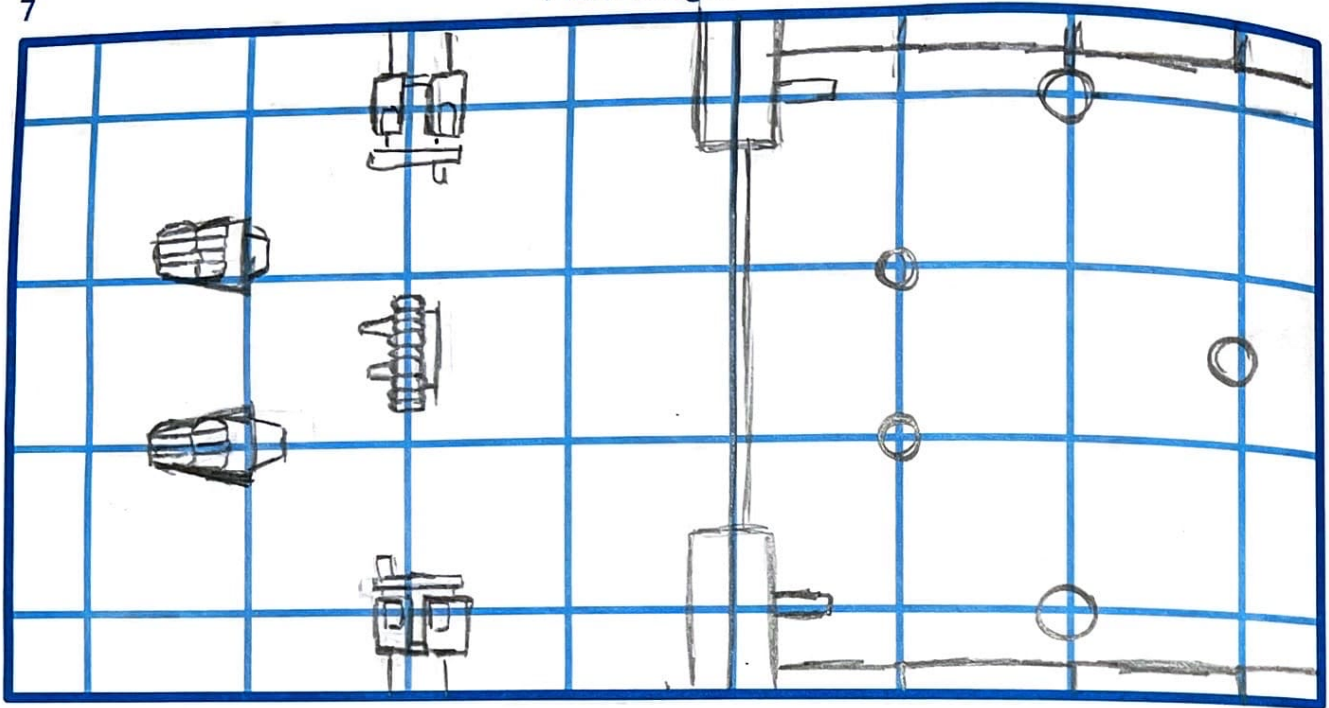
Prediction -

We plan to make to blue towers accessible. We also plan on getting our robot on the field and get used to the controls.

Acomlishments: finished building the robot, coded controller for front + back movements.

name

date 9/16/22

☐ Think☐ Do☐ Test

Predictions-

We plan to put the brain on the robot, and place the intake. Also figure out permanent team name. We need to fix the actuator to make it durable.

name

date 9/23/22

Picture of actuator

Description - The actuator pulls down or pushes up the blue dispenser.

Accomplishments: We placed the brain, and placed the intake for the purple tower.

name

date 9/23/22

Today test practice							

☐ Think☐ Do☐ Test

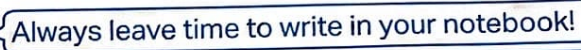
Predictions: We plan on starting to driving the robot. Make strategies.

Accomplishments: We got the robot to drive. The motors didn't come off.

Goals: Stabilize parts of the robot because the motor keeps falling out. ✓ Done. Stabilized the motor by putting plates around it.

name

date 9/30/22



Definition-

Test Practice

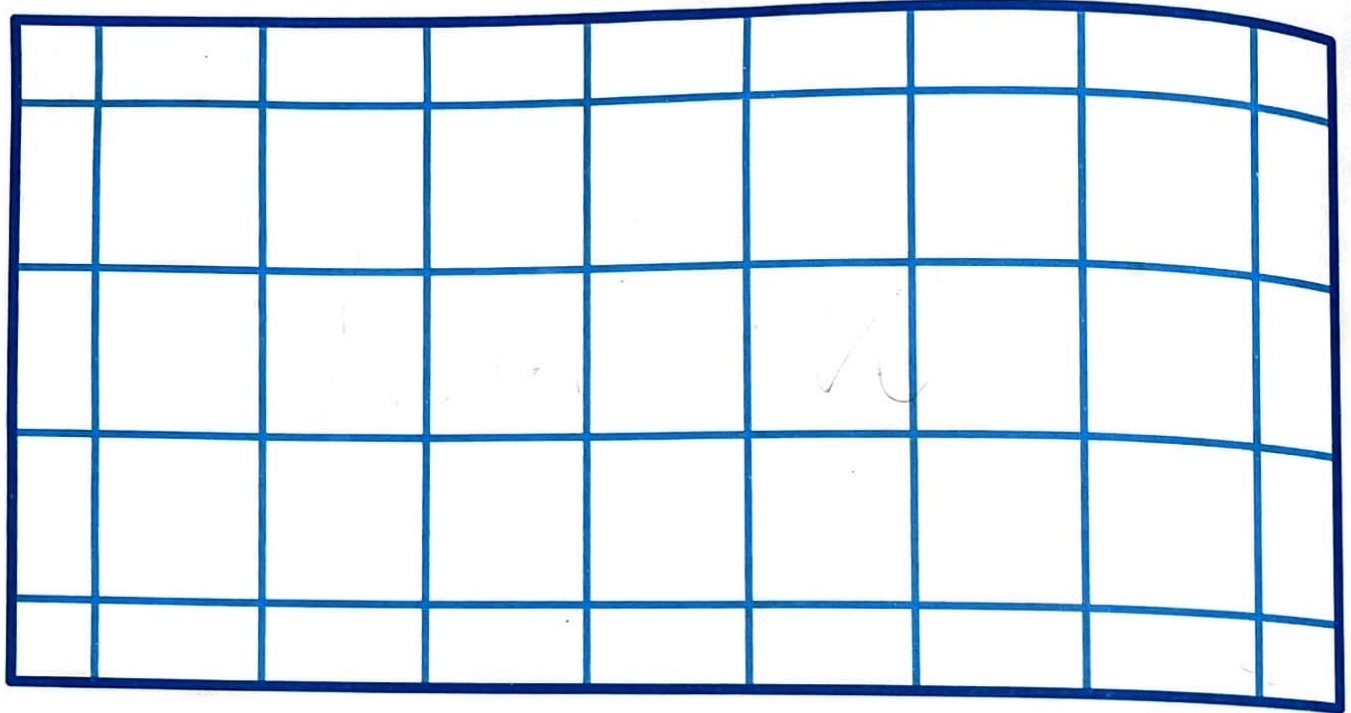
Points-

Shots -	1	2	3	4	5
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The puncher was too weak because it only shot around 5 inches, and there was not enough tension. So we tightened the rubber band for tension.

name

date 9/30/2022



- ☐ Think
- ☐ Do
- ☐ Test

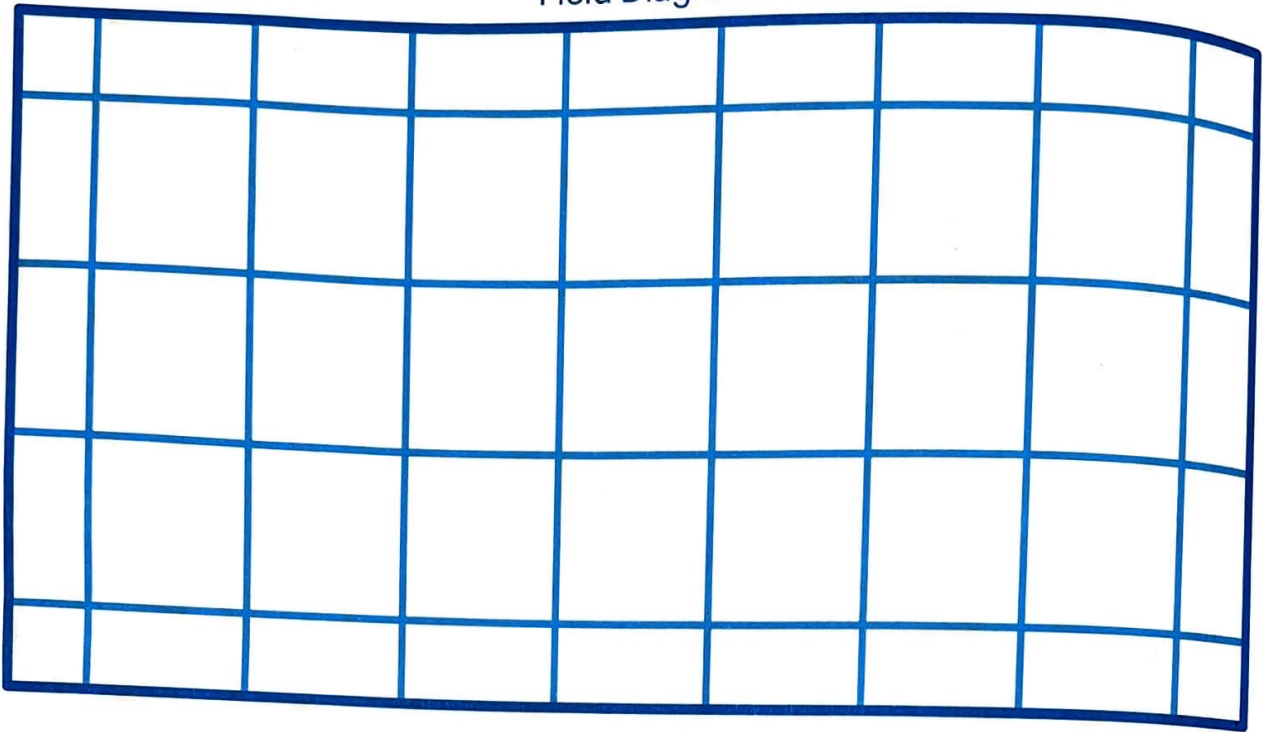
goals The puncher is too high up, and
the disks go under. Elavate brain because
it might be in the way of the drive chains.
We have to reenforce the funnel sides.

Accomplishments

create a scissor lift to touch the other side
for double points. Puncher lowered, brain secured,
front of funnel secured.

name

date 10/7/2022

☐ Think☐ Do☐ Test

goals-

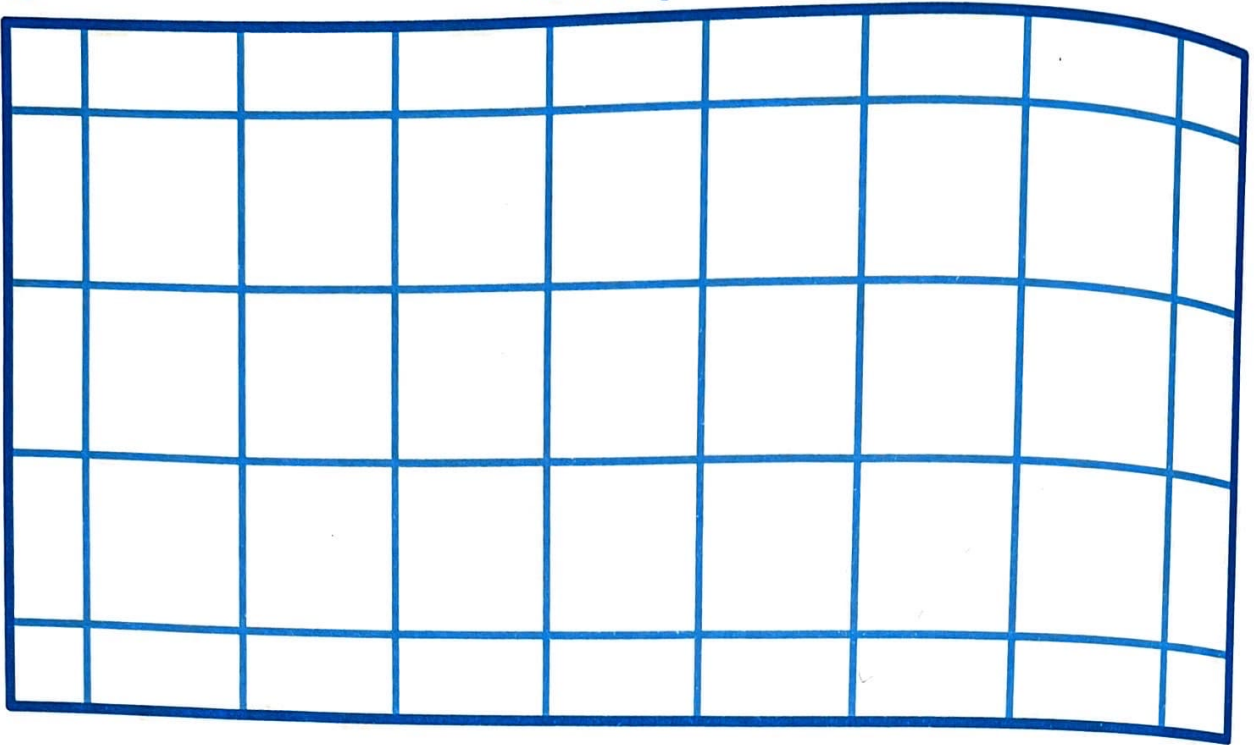
make the robot more stable, secure mechanisms. □ build a working arm reach over the fence. □ fix the purple tower

Acomplishments-

try and fix the catcher for purple tower.

name

date 10/14/22

☐ Think☐ Do☐ Test

goals - our goal is to make sure that the disks are aligned when they fall into the storage.

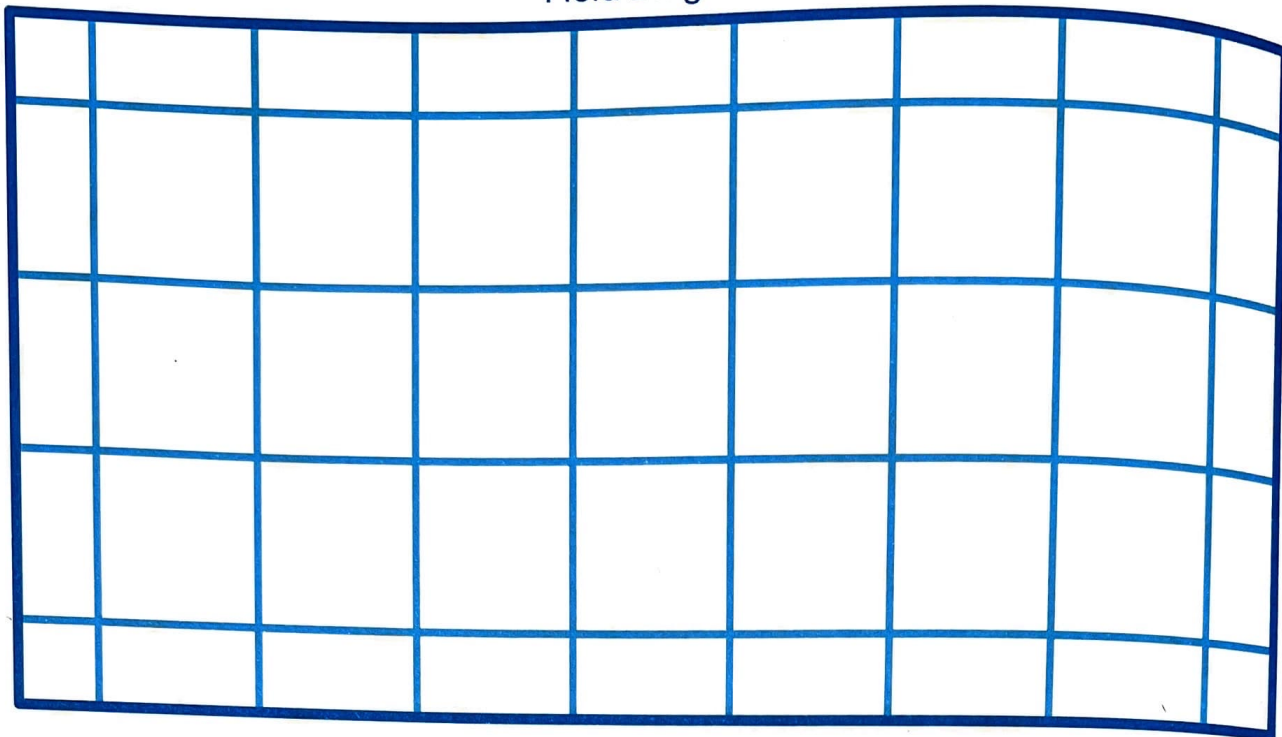
Accomplishments -

we had everyone practice driving the robot.

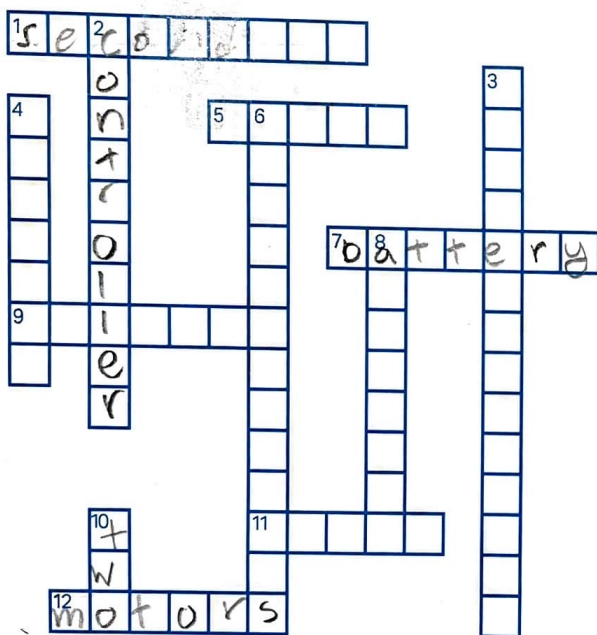
We got the disks in the blue tower to fall in the robot.

name

date


☐ Think

☐ Do

☐ Test
**Across**

1. In Highrise, number of cubes on the field
5. In Highrise, this is used to mark the low goal
7. Be sure this is charged before your match
9. You need two of these for your team
11. In Highrise, there are how many cube colors
12. No more than 6 on a robot

Down

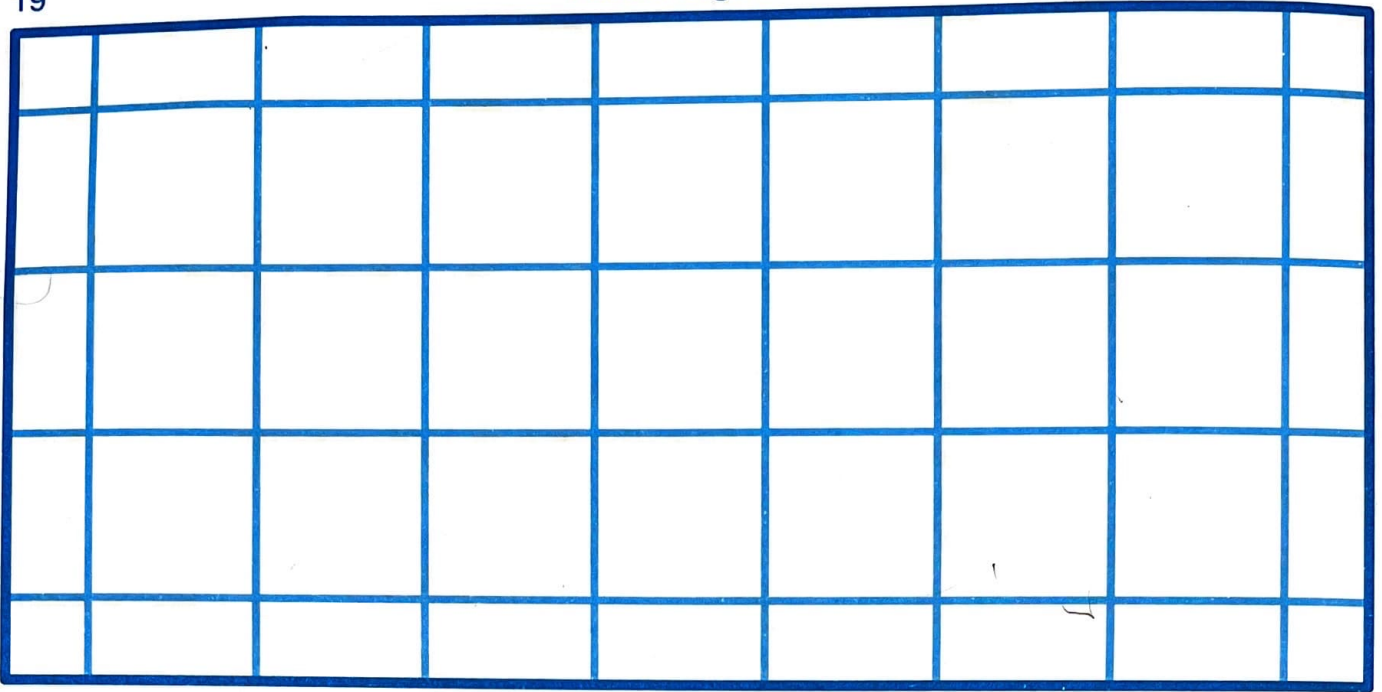
2. Pass this before you play
3. Where drivers stand during a match
4. There are 60 of these in each match
6. Two of these need to be on your robot
8. Two teams that work together
10. Number of robots on the field during a Teamwork Challenge

goals: get everyone to be familiar with driving

Accomplishments: We did practice, and timed ourselves to see how many points we can score in a minute

name

date



- ☐ Think
- ☐ Do
- ☐ Test

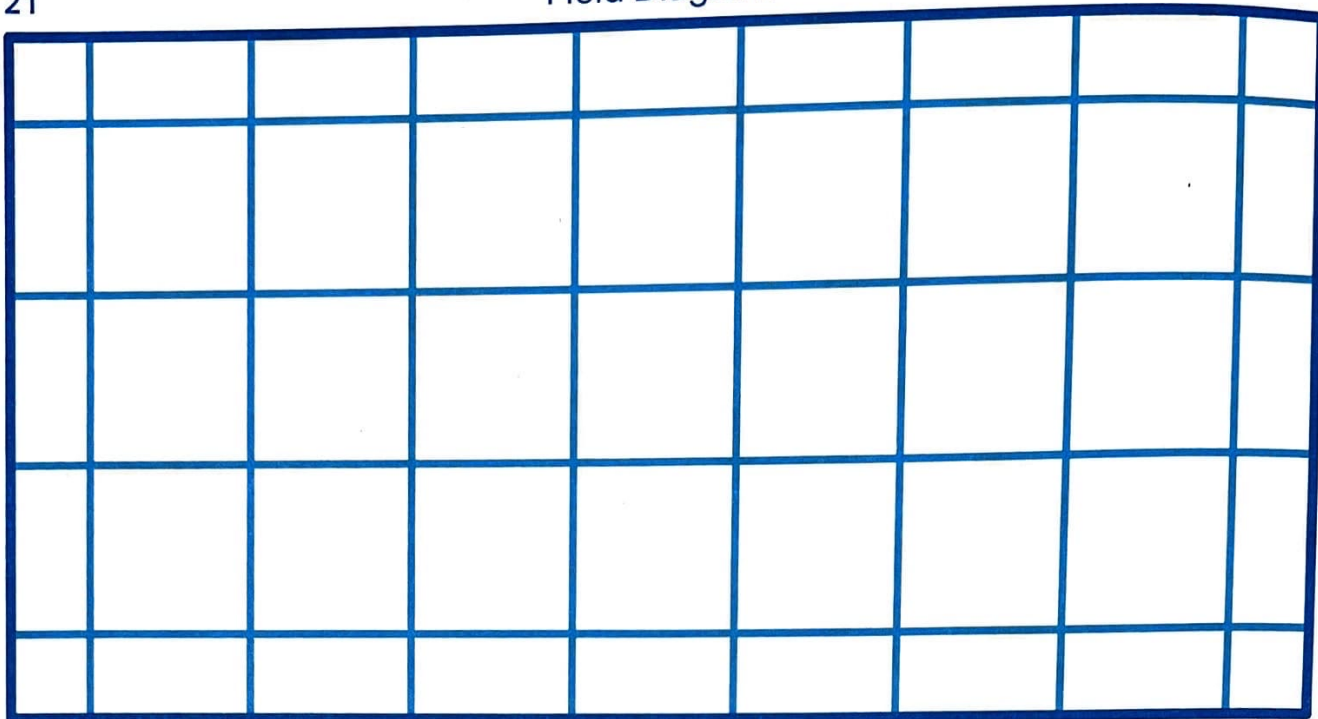
GOALS: continuation of working on driving skills. Get **GOAL** start working on V2. Try + get the base planned out today.

ACCOMPLISHMENTS:

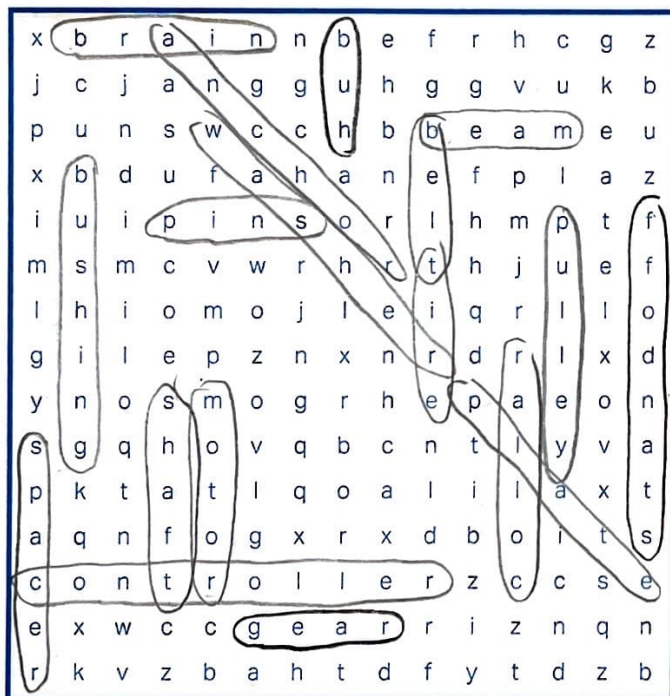
Started the wheels for V2.

name

date


☐ Think

☐ Do

☐ Test


VEX IQ Hardware

Find and circle these words. They run up, down, across, and diagonally.

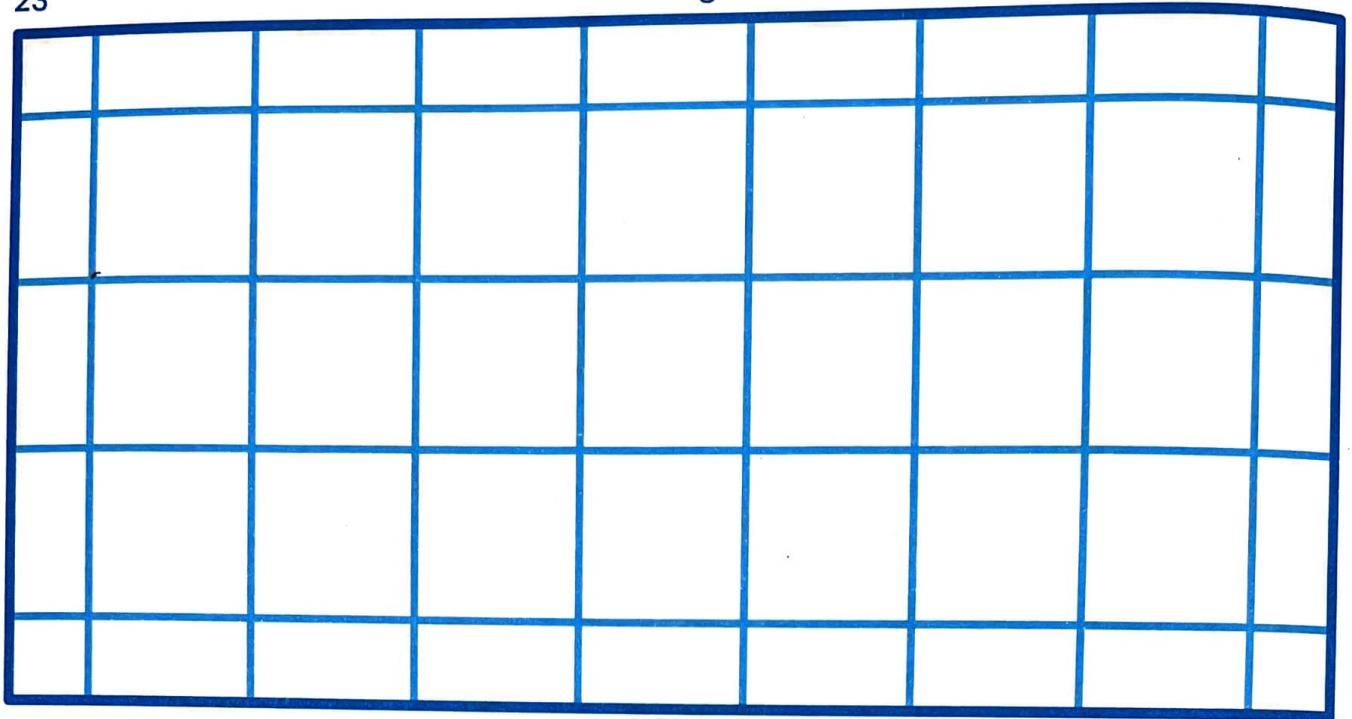
beam	pins	collar
bushing	spacer	belt
motor	controller	hub
plate	standoff	shaft
washer	pulley	gear
brain	anchor	the

GOALS: practice skills
and continue the V2.

ACCOMPLISHMENT:
Someone fixes alot of
the bugs on V1. The
drivebase is finished on
V2.

name

date


☐ Think

☐ Do

☐ Test

GOALS:		ACCOMPLISHMENTS:	
V2	V1	V2	V1
finish the drive pr-dump tray.	drive pr-actice fix	The V2 has accomplished the drive base. V2 has also accomplished making the shooter	The V1 accomplished fixing the tunnel system. The disks would constantly land side ways and unable to shoot.
finish the drive base.	bugs.		

name

date 4/11/22

☐ Think

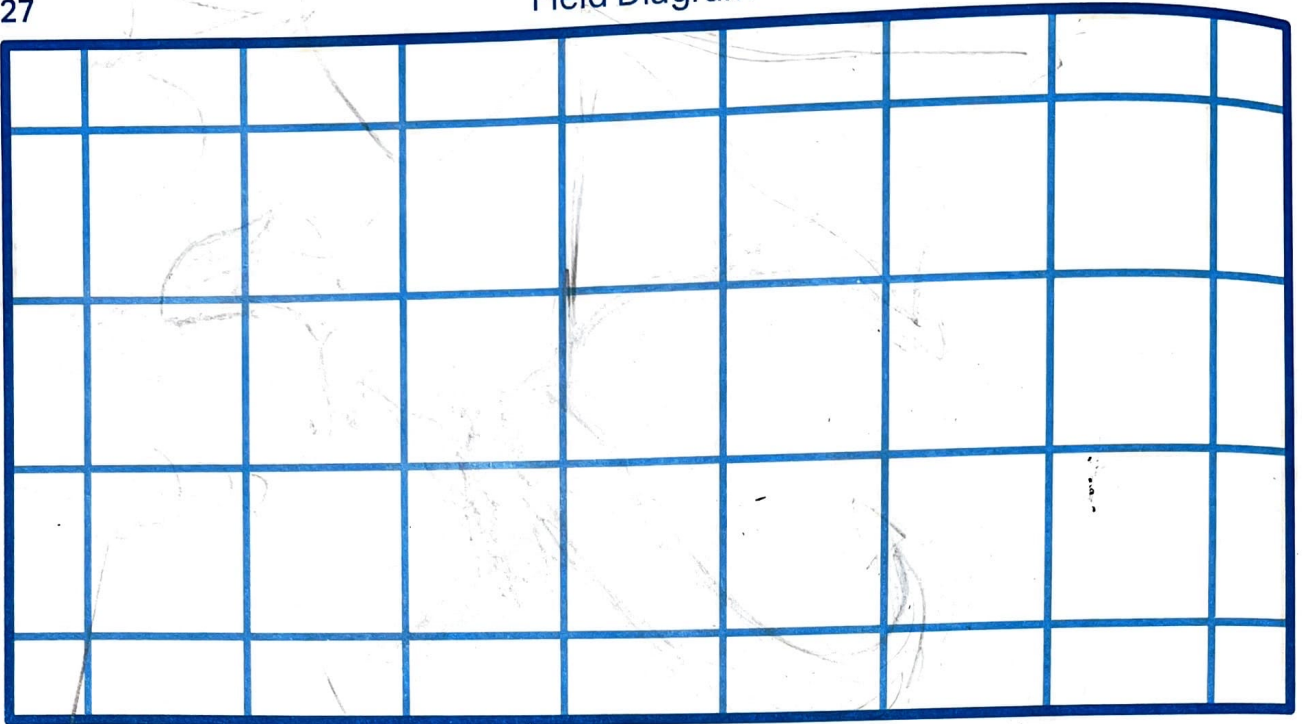
☐ Do

☐ Test

GOALS		ACCOMPLISHMENTS	
V1	V2	V1	V2
get protel ce in.	Build shovel and intake intake	finished the sissor lif mech.	

name

date


☐ Think

☐ Do

☐ Test

GOALS

V2

Connect V2 tray.
get it on the field

ACCOMPLISHMENTS

V2

Connected V2 tray

name

date