

# JUDA SCHOOL DISTRICT

4K-12 STE<sup>A</sup>M for Everyone!



*Presenters:*

*Scott Anderson, High School Math and Engineering teacher*

*Mary Larson, Dean of Students, Curriculum Coordinator, Library Media Director*

*Traci Davis, Principal/Superintendent*

# We are... *(most likely like you)*

## → STUDENTS

- ◆ 310 PreK - 12 students in one building
- ◆ Grade sizes range 17 - 36

## → STAFF

- ◆ 1 grade level teacher
- ◆ High school teachers have 6-7 preps
- ◆ Wear several hats!

## → DISTRICT

- ◆ One-third of our student population is open-enrolled!
- ◆ Over 50% free/reduced lunch
- ◆ Small budget - under \$3.5M for the district
- ◆ Recently passed referendum for building and operational



# How we got started...

- Simple conversation starting between the Math & Science staff 2 teachers ;) about showing true STEM Problem Solving - **GETTING EVERY STUDENT THE OPPORTUNITY!!!**
- About reaching all the students (not 1 class) in a hands-on real world mind-set
- About showing students STEM is beyond simple Math & Science

# Why getting started was important....

## → WHY STEAM?

- ◆ More STEAM jobs
- ◆ Science takes back seat to Math/ELA (especially 4k-5)
- ◆ Conversion to NGSS

## → FUNDING CHALLENGES

- ◆ Grants, grants, grants
- ◆ Sponsorship (avoid F -word -- Fund-raising) Business partnerships

## → PROJECTS

- ◆ Rube Goldberg
- ◆ Mousetrap Cars
- ◆ Solar Panels



# Year 1 - Small \$\$

## → King of the Hill!

- ◆ [MIT project](#)
- ◆ Core STEM team working thru all Subject Teachers
- ◆ ~\$300 total for 100 students (\$3 per student)

## → Return-On-Investment

- ◆ Habit of Mind Attitude (before we knew to call it that)
- ◆ Soft Skills!!!
  - Problem Solving
  - Persistence



# Year 2 & 3 ROBOT RUMBLE... & Sumo....

## → Project design

- ◆ What's the goal
- ◆ How to put students in teams - what criteria
- ◆ When do they work on it
- ◆ How do we get students moving & get them leading



# ROBOTS..... What to show... NOTHING!

## Instruction

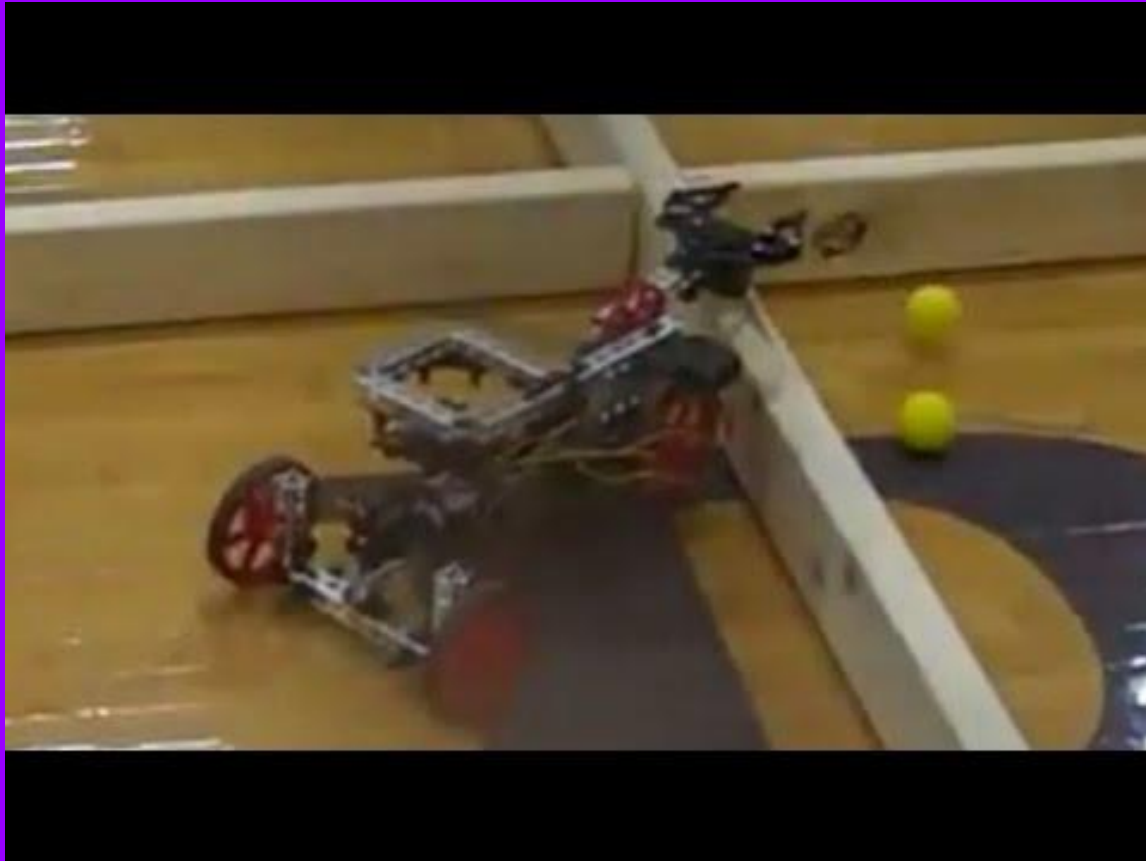
- ◆ Little to none - why???
- ◆ Google doc for questions/answers
- ◆ Homeroom teachers just supervised

## Process

- ◆ Introduce Gear project - work in teams/pairs
- ◆ How many weeks to work time



# COMPETITION ROBOT RUMBLE...





# COMPETITION ROBOT SUMO....



# Changes culture.... Students doing...

→ [Tornado](#)

→ [Rube Goldberg](#)

→ Classes become projects...

- ◆ “Sprint” projects like supporting a book to
- ◆ From small catapults to real [Catapults in Engineering](#)



STEAM event, using paper to elevate a book 1 meter..... #gojuda  
#stemforeveryone



# WE LOVE TO SHARE OUR EXPERIENCES!

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