

# FRC 3100 LIGHTNING TURTLES

Henry Sibley High School - Mendota Heights, MN



Build Season Week #2 Newsletter  
January 19, 2020



**2020 FRC Safety  
Animation Award  
Winner!**



*Click to watch!*

## 2020 BUILD SEASON

**WEEK 1: 1/04 - 1/12**  
INFINITE RECHARGE Kickoff &  
Prototyping

**WEEK 2: 1/13 - 1/19**  
Design Finalization  
Collector & Begin Robot  
Fabrication

**WEEK 3: 1/20 - 1/26**  
Design Finalization  
Shooter & Climber  
Component Fabrication

**WEEK 4: 1/27 - 2/02**  
Fabrication Completion  
Full Robot Assembly  
Component Programming

**WEEK 5: 2/03 - 2/09**  
Full Robot Program  
Integration &  
Autonomous Routine

**WEEK 6: 2/10 - 2/17**  
Drive Team Tryouts  
Final Preparations  
Week Zero Event

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# About the Team

## Who We Are

Hello! For those of you who are new here: Welcome! We are Team 3100, The Lightning Turtles. We are a FIRST Robotics Competition team, and this will be our 11th year in FRC. We are a team dedicated to educating people in FIRST, and giving them the tools they need to move on to be leaders in whatever they do.



Team 3100 is comprised of 29 students, with members ranging from 8th through 12th grade, and 41% being female. We have 9 mentors from 4 different companies and team alumni. This year our team has 7 rookies, and 4 new leads.



Winning this award would not have been made possible without all the hard work, and dedication of Bailey Hart and the rest of our Media Division. With helpful input from the Media Division, Bailey designed and animated all of the characters, props, and scenes. Because of her hard work, Team 3100 will have honor of accepting the FRC Safety Animation Award sponsored by UL at our Duluth Regional.

## Safety Animation Award Winner

Team 3100 won the 2020 FRC Safety Animation Award sponsored by [Underwriters Laboratories](#). Our Safety Animation will be played at every regional and district competition worldwide as well as during the Houston and Detroit World Championships.



Safety Animation  
2020

## Robot Fabrication

This week Team 3100 began the metal fabrication processes for making the different parts of the Conveyor. Students took CAD drawings, and used them to cut the assigned parts to length using the Bandsaw and Manual Mill.

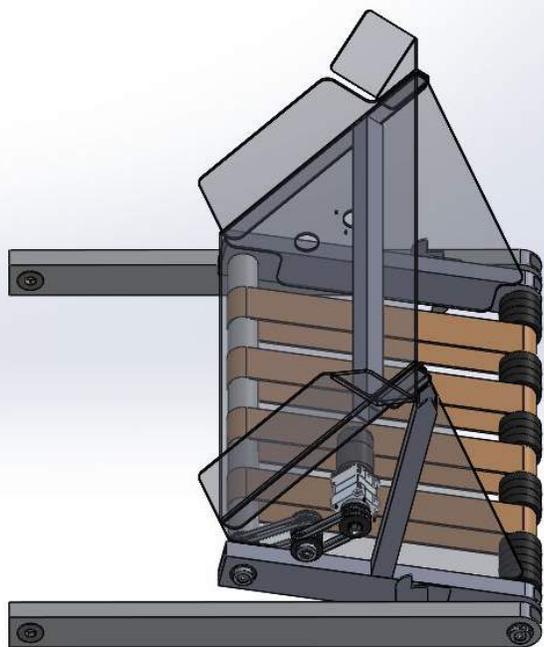


## Finals Week!

This past week, students have been studying for and taking their final semester exams. Because of that, many of our members were unable to attend some of the meetings. However, we would like to give a big thank you to everyone who was able to come in and work on their division projects! Great work, and we look forward to seeing everyone work hard these next few weeks of Build Season!

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## Design Finalization

Team 3100 is once again developing a CAD model of our robot and its parts. Our current design features a shooter which will allow us to score this year's game pieces. The model also includes a game piece collector that will be capable of gathering balls from the ground and from the player station. The overall CAD model of the robot is nearing completion, and should be finished within the coming days.

# Spotlight & Prototyping

## Student Spotlight!

Kai is a new member this year, and is in the Programming and Build Divisions. They joined because their dad was a sponsor and decided to try it out, but they quickly fell in love with it.



Kai loves everything about robotics! Their favorite parts include getting to use the machines, and learning new things. The most interesting things they've learned to use are the Orbital Sanders and the Drill Press. FUN FACT: Kai wants to be a mechanical engineer when they graduate.

## Climber Prototypes

Team 3100 plans for our robot to include a climbing mechanism, which will allow us to gain a large number of points by attaching to the balancing rung at the end of the game. Currently, we have designed two different types of climbers, and are prototyping both in order to get a better idea of which type will help us to achieve our goals. These prototypes are nearing completion, and a decision for our climbing mechanism will be reached soon. Further details on Team 3100's robot design and components will be released when our official announcement is made later this season.



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