

Tesla



By: Gerald Arnold, Zachary Barnes, Adam Maxon,
Tollie Abbott

Location: Clinton Arkansas

Team Number: 54416X

Which STEM career or company did you select, and why?

Part 1

The STEM career our group chose was Tesla and here is why.

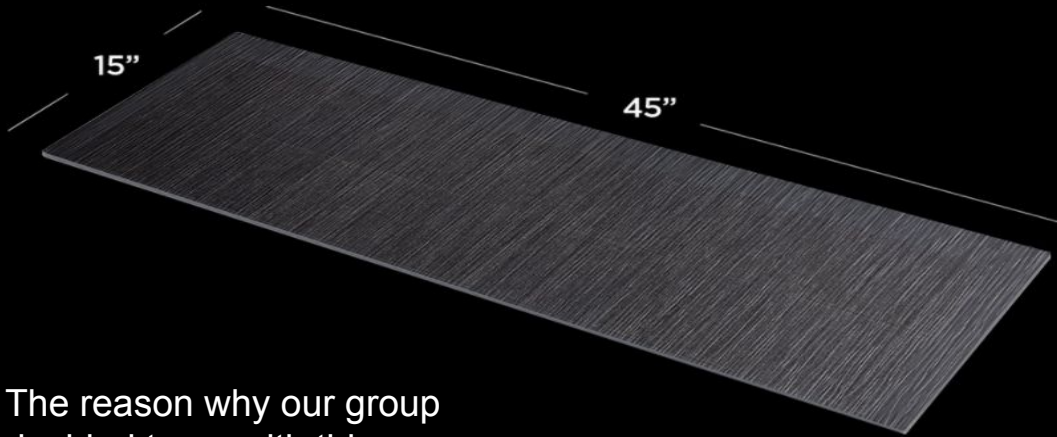
Tesla has made an astounding way of using renewable energy in today's world.

The research and intervention has proved that the energy that is used can be restored instead of running out.

Even though Tesla is a car company, Tesla is not just thinking about their new car.

“To create an entire sustainable energy ecosystem, Tesla also manufactures a unique set of energy solutions, Powerwall, Powerpack and Solar Roof, enabling homeowners, businesses, and utilities to manage renewable energy generation, storage, and consumption.”

STEM Career Part 2



The reason why our group decided to go with this company was due to the inventions coming from Tesla.

Solar Roof Specs

Tile and Power Warranty
25 years

Wind Rating
ASTM D3161 Class F

Fire Rating
Class A (highest rating)

Hail Rating
ANSI FM 4473 Class 3

Roof Pitch
2:12 to 24:12

Inverter Power
3.8kW / 7.6kW
97.5% efficiency

This roof panel for example, has saved money for many Americans. On average, it saves a household \$1,390 a year.

What resources did you find to learn about the career or company you chose?

The Tesla Company has its own website with information. The information that was their talks about how their vehicles and solar panels are durable, affordable, and globally helpful.

Another source I found the description of the different vehicles Tesla makes. The descriptions show how each vehicle was planned, made, and built from the ground up.



How did the career or company you chose apply the engineering designing process?

The engineering designing process is a series of steps that all engineers follow to find and solutions to any problems they are facing.

Tesla's design and ideas for their car came from the ground up. They issued a problem, "What makes electric driving appealing?" and began to design what is now a low end luxury vehicle known as the Tesla.



How does the approach of the professional engineering design match or differ from the approach you used by your team?

At the beginning of designing our robot, we used the basic speed bot build, then tested multiple different designs to see what would be the best.

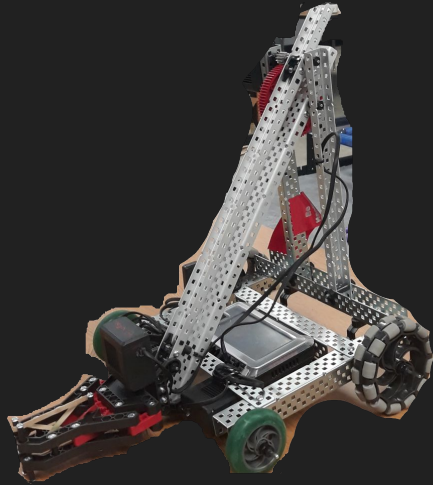
A design that we used was a scoop, if we had a piece that could keep it in balance, it could have worked, but it was too bouncy on the way up. So in the end we decided to scrap our old ideas, and go for a simple claw bot.

Our current bot design is a clawbot, with very few modifications, such as changing the length of the metal piece that connects the claw bot's arm to the bot, so it would be within 18 inches.

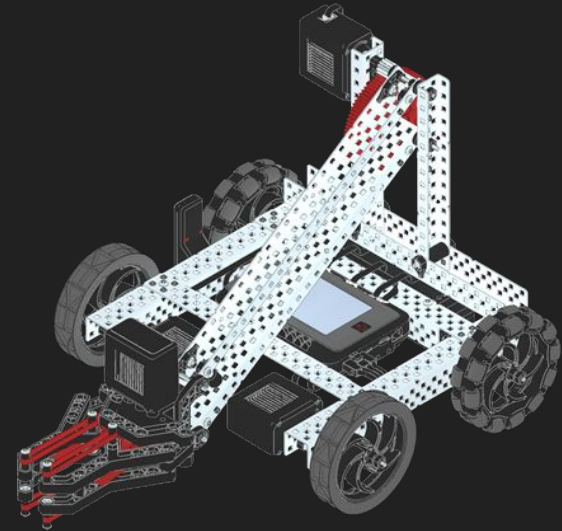
Differences in design

Our clawbot design:

Our clawbot has a longer arm, and a longer piece connecting the arm to the bot



Vex clawbot design



How has participation in Vex Robotics prepared you for a future career?

Vex Robotics has prepared me for a future career if I am going to do anything with engineering, and has shown me that it takes hard work, and time to make something run perfectly. Vex Robotics has also shown me that I should write down what I have accomplished when engineering something, so if I make a mistake, I can go back and see where I made it at.

Adam Maxon

Preparing for the future has multiple aspects that are needed to live in this world. Robotics has helped me follow instructions from a certain hex nut to a certain length screw. The world has instructions that have to be followed and Vex Robotics has taught me to follow instructions.

Gerald Arnold

How has participation in Vex Robotics prepared you for a future career?

Vex Robotics has prepared me by giving me an introduction to the robotics career and how mechanisms work together. I aspire to be a computer engineer and this has gave me a new appreciation for how it really works. It's also taught me a lot of patience as I have constantly had to rethink and redo the robot in order to make it work the way I wanted it.

- Zachary Barnes

Preparing me for a future career, Vex Robotics has given me a chance to learn teamwork. I have learned how to problem solve as a team. I have also learned to take in consideration my teammates ideas to make any project we have better. Vex robotics has adjusted my outlook on teamwork for any future challenge.

Tollie Abbott

Work Cited

About Tesla | Tesla. (n.d.). Tesla. Retrieved November 15, 2021, from

<https://www.tesla.com/about>

Homeowner's Guide to Going Solar. (n.d.). Homeowner's Guide to Going Solar. Retrieved

November 15, 2021, from

<https://www.energy.gov/eere/solar/homeowners-guide-going-solar>

Tesla, Inc. | History, Cars, Elon Musk, & Facts. (n.d.). Encyclopedia Britannica. Retrieved

November 16, 2021, from <https://www.britannica.com/topic/Tesla-Motors>