

Engineering Classes at Santan Junior High

Engineering - Automation and Robotics

Engineering - 3D Design and Modeling



Is Robotics and 3D Design and Modeling classes for me?

Do you like to design things?

Do you like building things?

Are you more of a hands-on learner?

If you answered **YES** to any or all of these questions, then **Robotics and/or 3D Design and Modeling would be a GREAT class(es) for you!**

Robotics and 3D Design

- Hands-on projects.
- Work in PAIRS and/or TEAMS
- Most work completed IN CLASS which means you NO HOMEWORK most days.
- Up and moving around for a lot of the days you are in class.

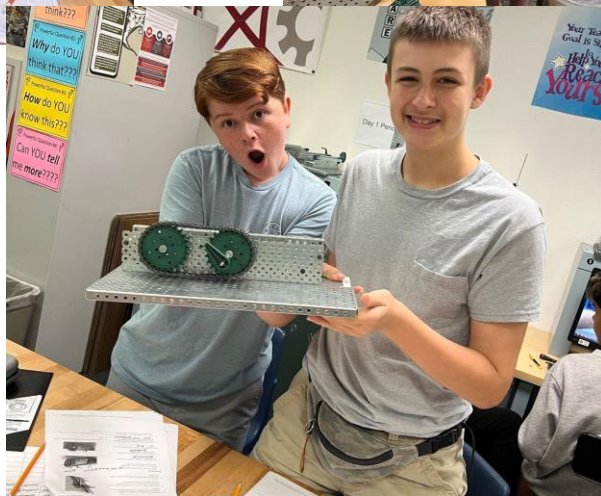
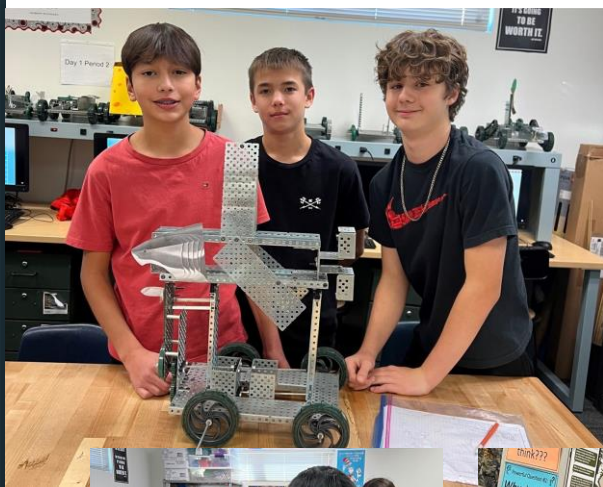
What is Engineering with Robotics?

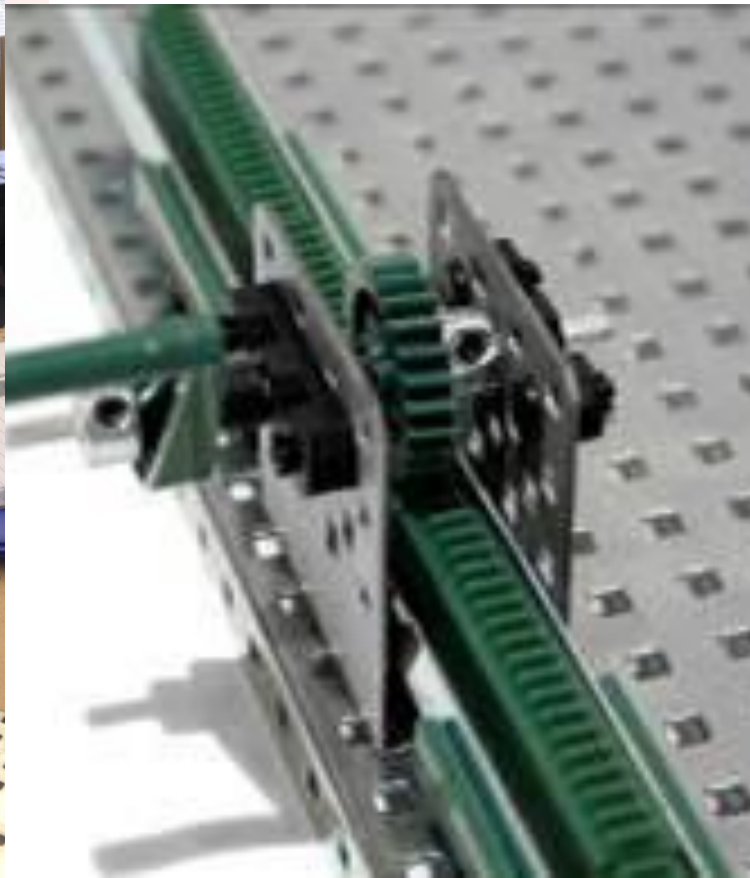
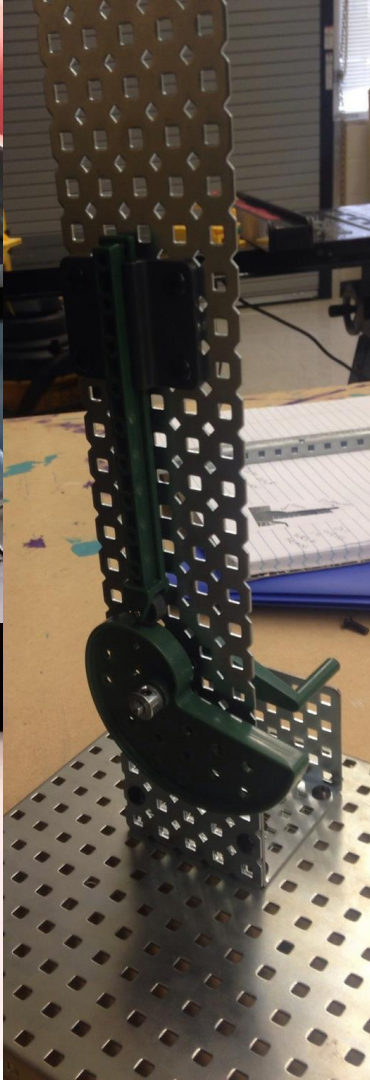
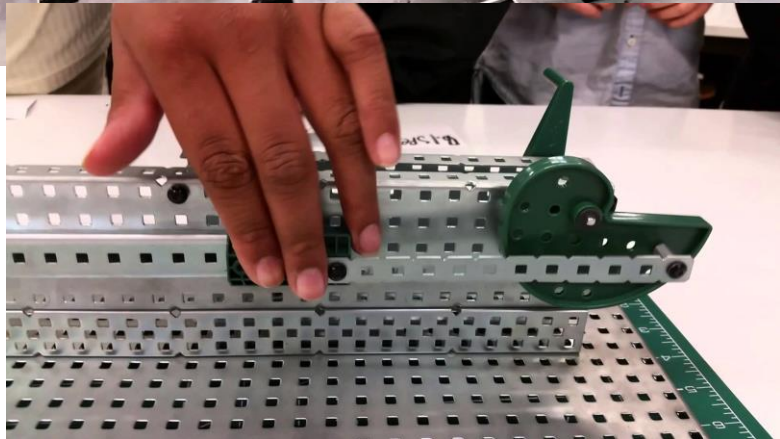
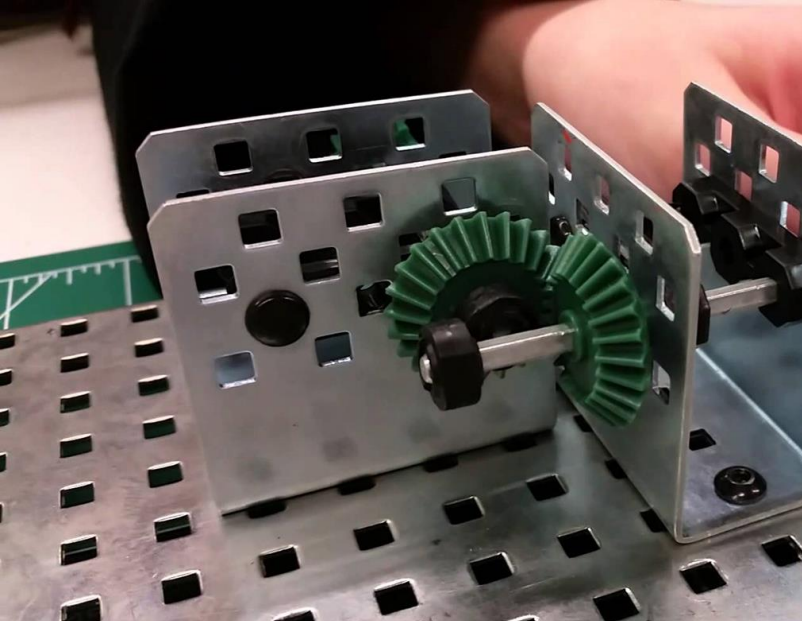
Engineering with Robotics

In this semester-long course we will be learning about a broad range of engineering skills.

Some topics we will cover include:

- Building with VEX parts/pieces
- Mechanisms using VEX parts.
- Making robots that roll!
- Basic Coding with RobotC

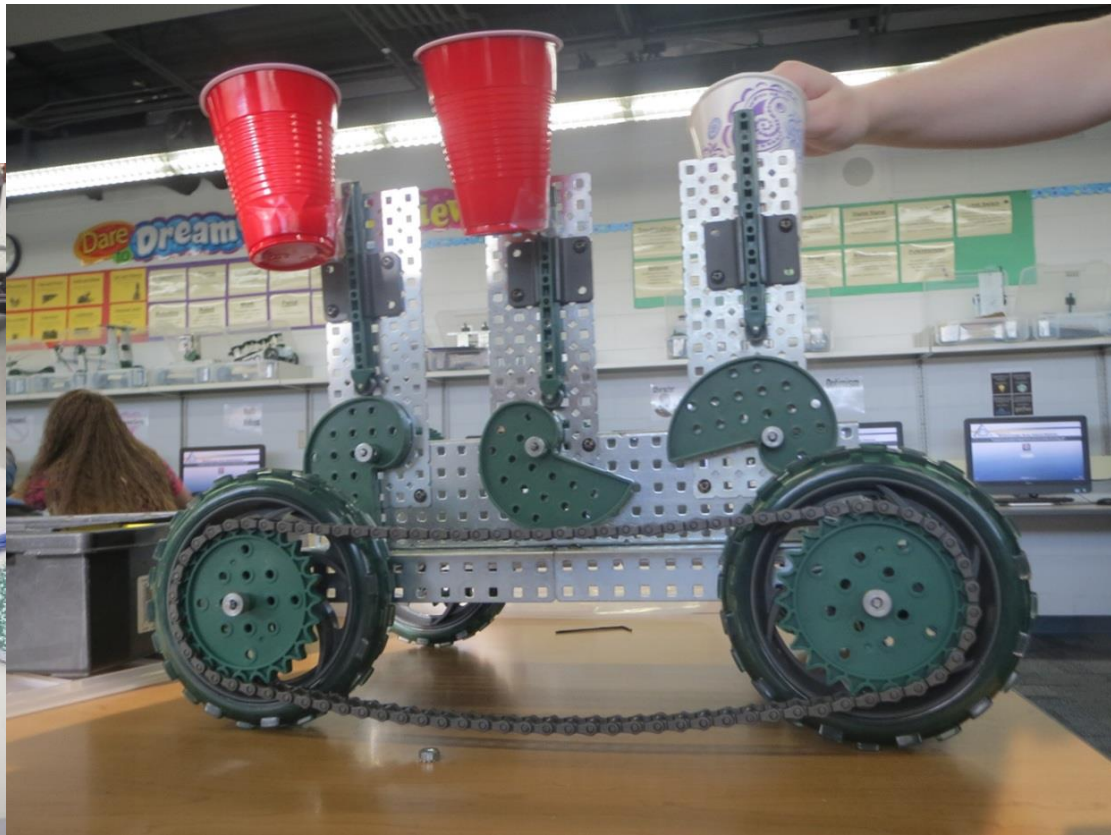
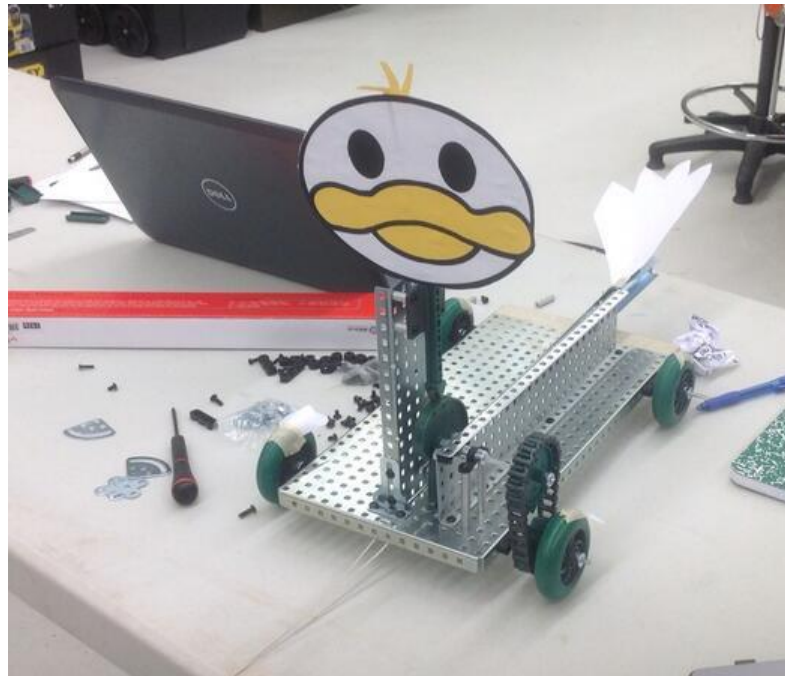






2WD-

Pull Toy Games



Dragsters

The team's challenge is to create and program a robot which can cross a 20 ft distance in the least amount of time possible when a pushbutton switch is pressed to start it.









3D Model and Design

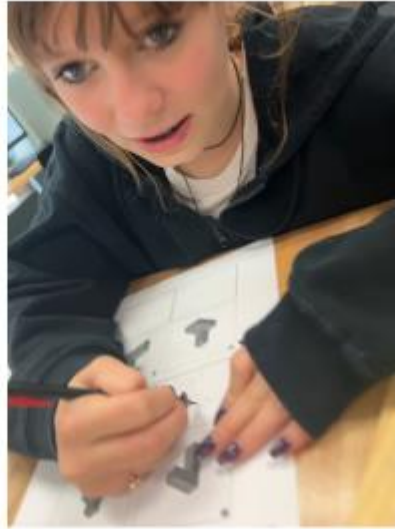
Engineering 3D Design and Modeling

In this semester-long course we will learn about a broad range of engineering and design skills.

Students will start with projects that they will use materials such as cardstock, craft sticks, wooden cubes, etc. to build with. They will also design some projects that will be 3D printed.

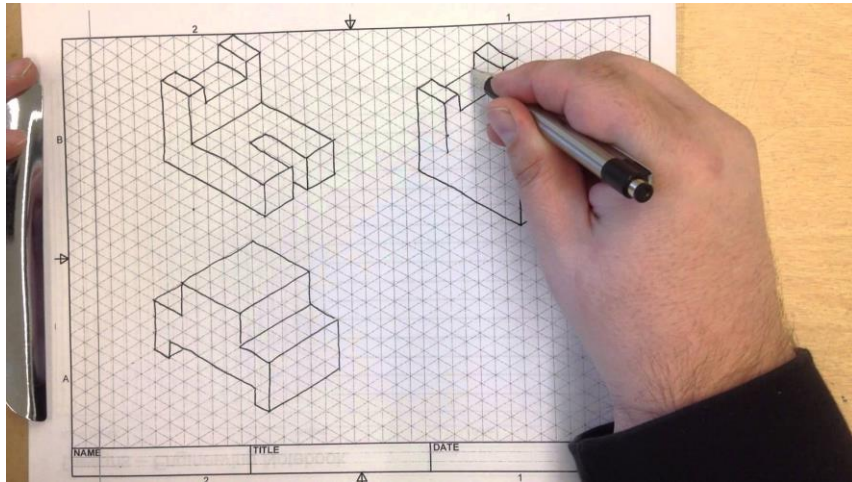
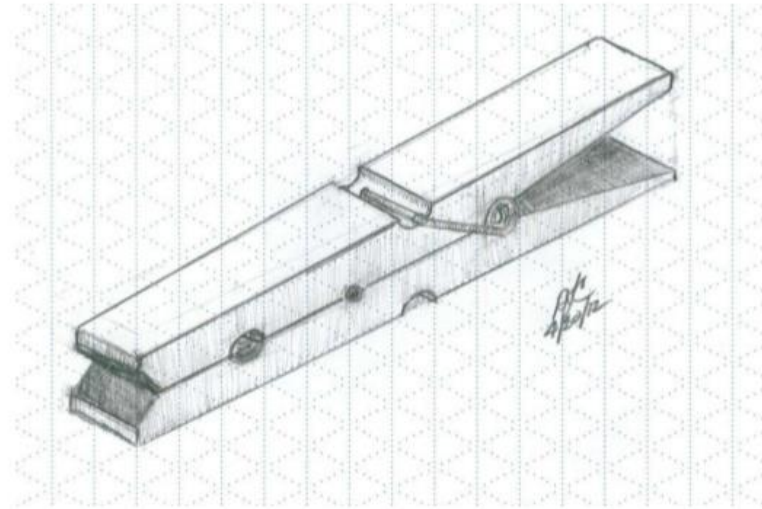
Some topics we will cover include: • Design and Modeling • 3D Design • Engineering on the Space Station • Environmental Engineering

We take an idea, design/sketch it on paper and then turn our 2D models into 3D models by building it, using computer programs to design it in 3D, and/or 3D printing it.

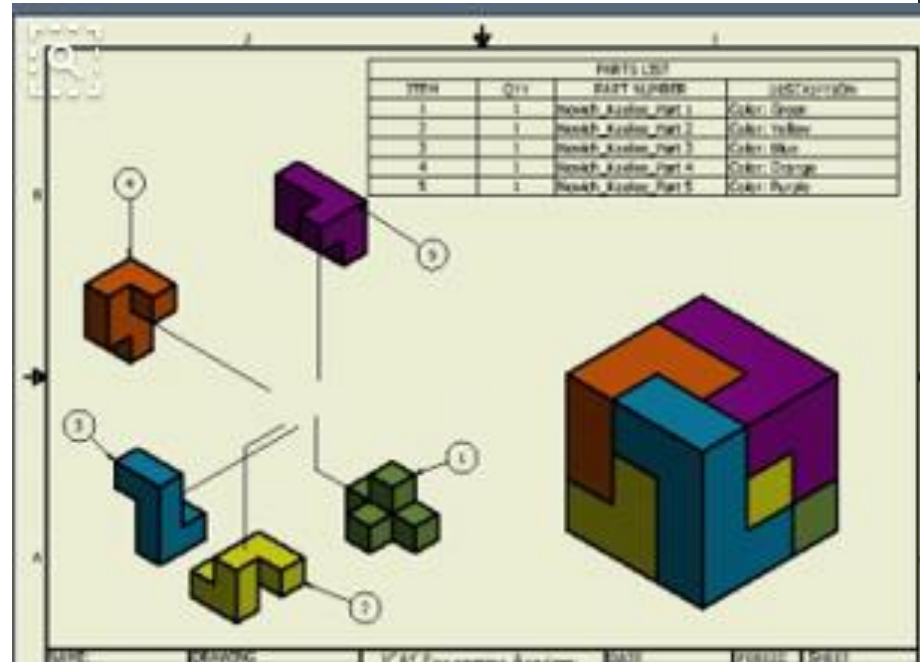
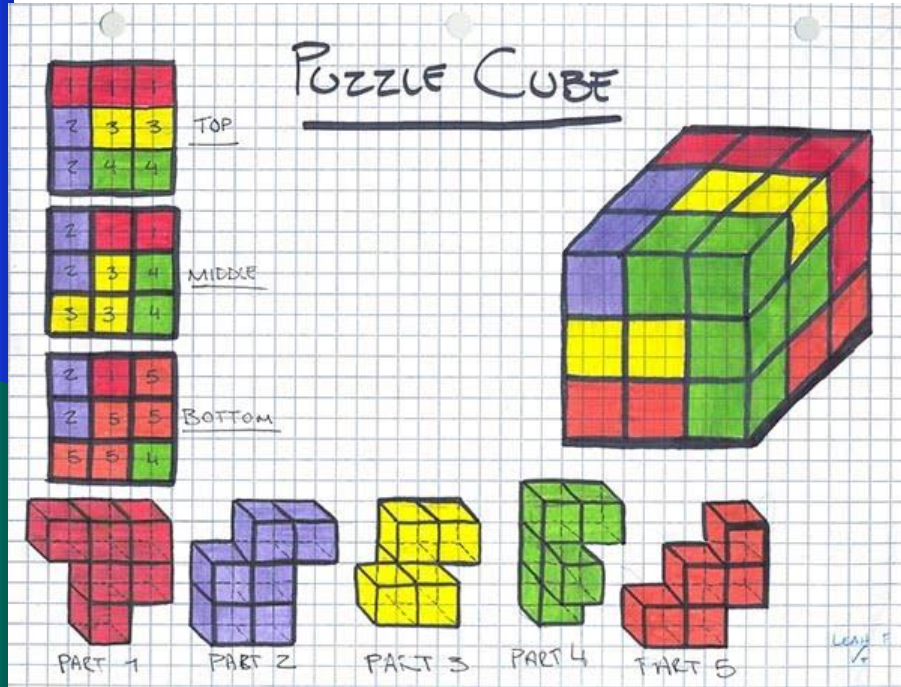


Learning to Sketch using Linking Cube Puzzle Pieces

Isometric Sketch Example



Puzzle Cube Project - Model



Using Linking
Cubes as
guide to build
Wooden
Puzzle Cube





Final Product

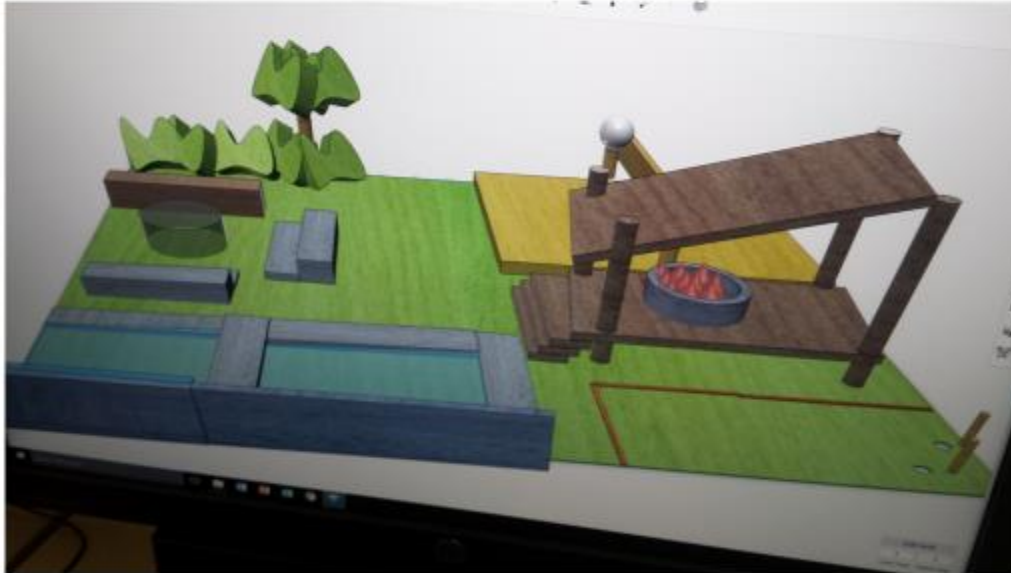
3D Printed Key Chains



Skyscraper(s) & accessories for the town



Backyard Challenge



Frequently asked questions about Engineering class.

Do I have to have experience with Robotics?

NO you don't. If you have never built with VEX pieces or programmed EVER that is OK. We will work together to make sure you understand how everything works and that you are able to code.

We use an online coding program that will help you to do the coding– it is pretty easy to use.

What if I have experience?

That is great. We can take what you already know and expand on that knowledge.

What if I have taken this class before?

That is OK– you can take this class more than once. Just like the previous question says, we will take what you know and expand on that knowledge with new projects.