

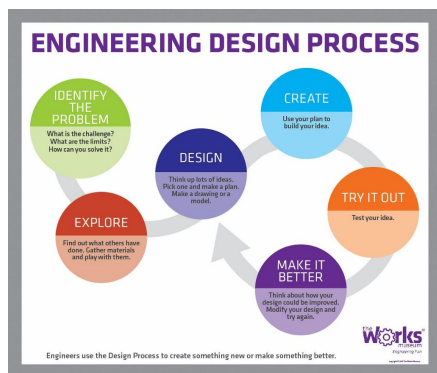


Architects sketching a blueprint

The design process

As in VEX, the design process is also used in building houses. The design process is composed of steps that are usually used by all companies. The first step in the design process is to identify the problem. In architecture, professionals are asked to build a structure based on their client's criteria. On my team we were given an objective in a game. Next, in the design process you have to brainstorm or research the idea and how you plan to solve it. Clients usually provide information about the structure they want you to construct. In VEX we are given time to research the game so we can have ideas of what to input. After brainstorming, you sketch the design out on a blueprint. Architects can either get a sketch from their client or they can draw the blueprint based on the client's wishes. Instead of sketching their design, my team discussed what we wanted to create before we began our design. Then, you have to build your prototype based on the design you chose and the research you did. To create prototypes, architects often rely on CAD software, but they can employ various prototype methods such as stereolithography, laminated object manufacturing, and selective laser sintering (<https://thearchitecturedesigns.com/prototyping>). My team didn't build a prototype, but we talked about the pros and cons while developing instead. The next step in the design process is to test your prototype for the productivity you are aiming for in the final design. This step is used for trial and error to select the most efficient design. In this step, architects examine the different materials that can be used for the structure. They see if the material is costly, durable, and accessible. My team had to choose between aluminum and plastic for our final design. Next, in the design process you have to build the sketch design based on the tests and research you conducted. Architects can't test a design by building it with the final materials so they must rely on sketches and research to make accurate predictions. Before finalizing the plan, architects re-check the blueprint for base structure accuracy because once the build is set, it can't be altered. In VEX we tested our build for functional ability. In the design process, if the design does not work, then you re-design the sketch, build another prototype of that sketch. If that revised design doesn't work you redo these steps all

over again which we use in VEX. Architects must construct structures perfectly, or else the client's criteria will not be met.



The design process

Vex robotics

The reason I joined Vex is to prepare me for the future as an architect. Vex is a program that allows one's creativity to grow exponentially from the experiences they go through. Vex teaches students multiple job responsibilities that professionals do for a living. Participating in VEX robotics will enable me to gain skills as both a designer and a builder, which will enable me to become a more versatile architect. In VEX, before you start a project, you must have an objective in mind. The objective of an architect is to design and construct land structures for their clients. There is no client in VEX; instead, students develop based on the criteria and rules of a game. In order for students to build their structure for the objective they have to think about what they want to create. That is where sketches come in, to give the team a better understanding of what they want to accomplish. Building a structure requires architects to follow those exact steps. Architects draw and sketch their ideas out on paper so they can implement and construct the design without worrying if they got something wrong. My team does not have a design phase, but I can prepare for the future by working as a scribe and drawing out the robot. Then comes the building phase in VEX robotics where students have to then build their design based on their brainstormed ideas or sketches they did. Architects do the same with their designs. During the building phase, we talked about the pros and cons of the idea rather than following a sketch because it matters when the idea along with its pros and cons are heard. Participating in VEX has given me the opportunity to prepare for my future as an Architect.

- Title
- VEX Robotics
- Architect career
- Design process
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