

FC Make It Real Challenge

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Even though 3D printing may seem like a thing from a far off futuristic land, it's not. Even a team of three 7th graders could 3d print a whole part. We made a curved piped tube which would be the arm on an imaginary robot. We made this piece to represent an easy and strong arm. It fits into the robot design by making it easy to reach through the risers to pick them up easily and quickly. As you can see here, we made a hexagon shaped pipe that is very tall. But we didn't get this design in one day, it took multiple tries and multiple changes. One of our prototypes was like a V and in concept would go through the riser easily and without problems. It would do this by going under the first riser bar on the riser and go up through others. But when we tried it, it didn't work as well as wanted. What happened is that we couldn't go through the bars on the riser easily and couldn't go through others. But the pipe worked since at a slightly tilted angle it went through multiple riser bars and could go through 2 risers. For the creation of the two 3D printed objects we used TinkerCAD. We used it to create the "V" like object by getting two wedges and merging them together. For the pipe I took a pre-made pipe and made it taller so it would be more practical. 3D printing has helped us understand more about it and how we may use it in the future. For me I may use this since I want to get into aviation and may make models of a plane engine or other parts. When I may do that I will most likely have to 3D model it and maybe even print a small part. This of course could help my career as being a pilot or an aviation expert by letting me show others ideas or parts of a plane. But it can also help us now in robotics by letting us see what our ideas for a robot could be.

