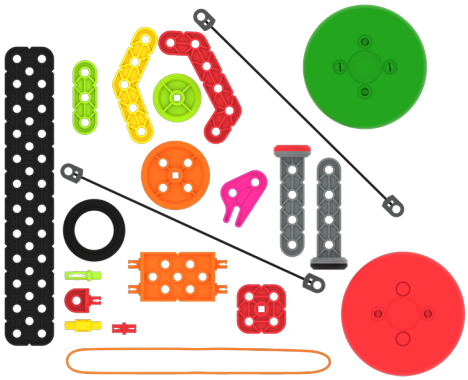
VEX GO Activity

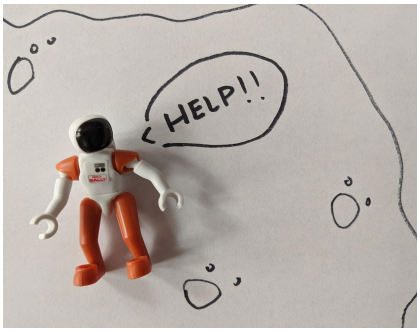


Astronaut Rescue

Design and create a mechanism to rescue the VEX GO Astronaut!

The VEX GO Astronaut has fallen into a crater and needs your help! Use your design skills to create a rescue mechanism using a pulley to lift the astronaut out of the crater and back to safety!

Step by Step



1. First, set up your scene. You should set up your astronaut's "crater" about 30 centimeters (~one foot) down from the table you are working on. You can use a chair, an upside-down box, or something similar. Place your astronaut there, and a VEX GO Field Tile on the table above. Look through the VEX GO pieces, and collect those that you think might help you create a mechanism with a pulley.
2. Keeping the pieces in mind, draw an initial sketch of your rescue mechanism.
3. Build your design, and test it by trying to rescue the astronaut. Write down the answers to the following questions: Is it working? If so, what can you do to make it work better? If not, how can you improve the design so that it works?
4. Modify your rescue mechanism using what you learned during the first build to change one thing, and test it again. Were you able to rescue the astronaut? If you need to try again, that's ok! Keep changing and testing one thing until you have a design that is successful. Be sure to write down the results from each test!
5. Once you are able to rescue the astronaut, do a final drawing of your design, labeling the parts. Give your rescue mechanism a name, and share with a classmate!

'LEVEL UP'

- **Deluxe Mechanism -** A pulley is a simple machine. Can you add another simple machine to your design to make it more effective? Research the types of simple machines, and give it a try!
- **Complex Rescue -** Add distance between the pulley and the astronaut and try a new design, or create a mechanism that can rescue multiple astronauts.

Pro Tips

Pulley Research

- Do some research on different kinds of pulleys and how they work, to help you with your design ideas!

Standard: ISTE (4) Innovative Designer - 4a: Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems.