

The Engineering Geologist’s Design Process and their Design Outline for Us

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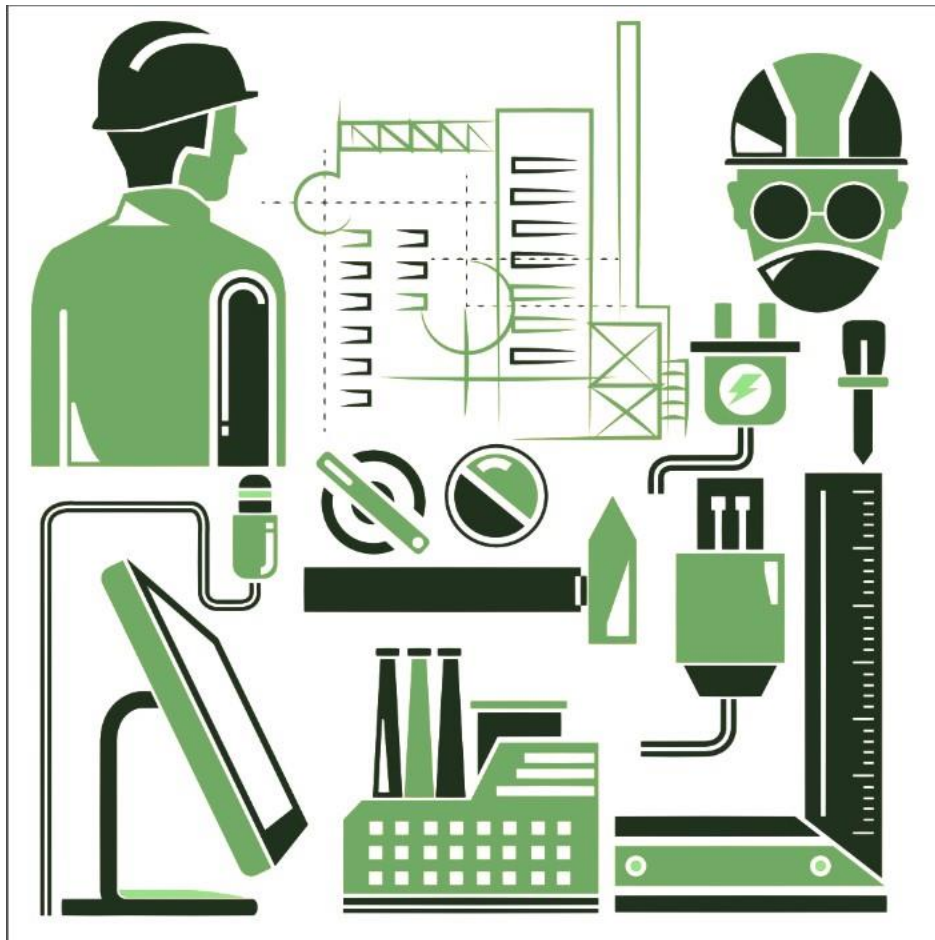
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What are Engineering Geologists?



1 Engineering Geologists perform many examinations of the ground before it can be cleared to be built on. This scientist uses a device to test and observe the problem with the soil.

An Engineering Geologist is a specialized science career that studies earth structures and earth processes to identify potential geological problems that could affect the buildings built above the ground. They test the type of earth, underground systems, and possible water pockets in the environment to ensure the safety of the buildings and the people inside. This career has inspired our design process to be the safest and most consistent in testing, skills, and practice.

It's hard to say that this scientist does all of the design process when working with a team of builders, architects, and meteorologists. Still, we chose an Engineering Geologist for our essay because of their important contribution to the team when designing and building. While every member of the geologist's team is essential, an Engineering Geologist's part is crucial for identifying issues and future problems that could be affected by the earth. Without a role to ensure the safety of the building, who could resolve the minor issues that the other team members don't consider? What some could say is a small role is genuinely essential in the design process.



2 An Engineering Geologist examining a rock for a future construction site. Engineering Geologists need to examine all material characteristics to get correct results.

How are Engineering Geologists Crucial in the Design Process?

At first, we didn't know much about Engineering Geologists, but after looking up dozens of articles and interviews to understand their critical role in the design process we began to understand their critical role. In simplified terms, Engineering Geologists are the safety net in procedures. Ensuring the stability and safety of the project that they work on. They apply the 'problem and solution' part in the design process, which some could argue is the longest and most crucial of the design progression.

These professionals apply the first four steps of the design process in various ways. First, they carefully assess the problem happening to the building (that involves the ground under it), applying the first step, 'Define the Problem.' They test every variable that could be causing the problem (dirt type, underground pocket, erosion, etc.) and record the data they find; Step 2; 'Conduct Background information.' Then, they circle back to their crew of teammates and express their opinion on the matter. Their teammates, in response, will also express their views and talk about the next step, a solution. They and their team use steps 3 and 4; 'Specify requirements' and 'Brainstorm, Evaluate, and choose a solution.' Finally, once the solution is settled, an Engineering Geologist patiently watches the earth and waits for a new problem to occur.

The Design Process:

1. Define Your Problem
2. Conduct Background Information
3. Specify Requirements
4. Brainstorm, Evaluate, and choose a Solution
5. Develop and Prototype a Solution
6. Test Solution
7. Solution does (or does not) meet requirements (If not, repeat Steps 4-6)
8. Communicate Results

Our Team follows this design process, and we believe that Engineering Biologists also use this process from steps 1 to 4.



How is the Engineering Geologists' Design Process Similar or Different to Ours?

Once our research concluded, we saw apparent similarities in design processes. Firstly, our team looks at all variables that could affect the project, just

like an Engineering Geologist. Instead of looking at dirt and soil, we look into the different mechanisms the field contains, the discs, our robot, and the other team’s strategies. Secondly, our team optimizes their social skills to work with their team correctly, like Engineering Geologists. During each phase of the design process, we all make sure to communicate and express our ideas and ideals. Lastly, our team also appreciates the repetitive problem and



- An Engineering Geologist analyzing a potential problem. He is using special software that shows temperature pockets in the earth, so he can identify what material is there.

solution design processes to guarantee the best success of the project. The Engineering Geologists and our team have similar ideals in working on a project and ensuring to stay communicative with our team, just like us.



the same as Engineering Geologists.

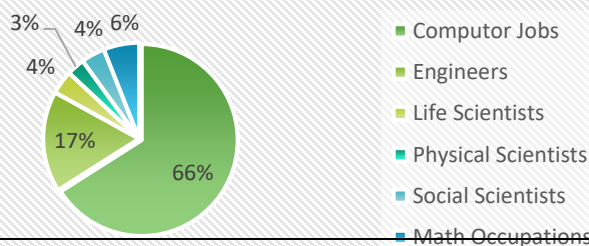
Even though our team’s procedures might be different, our problem-solving steps, social ideals, brainstorming techniques, and teamwork are all

an Engineering Geologist working with their team members to solve their next problem.

How Does VEX prepare Us for Future Careers like Engineering Geologists?

We are prepared for future STEAM careers because of VEX. We learn trial and error, problem and solution, coding, organization, social skills, and much more because of the environment VEX IQ sets up for students. These skills we use daily in VEX are also core skills to STEAM careers like Engineering Geologists. Not only will these skills help students with jobs in the future, but they will also encourage students to go into STEAM careers. This is important because of the recent spike in STEAM job openings in the latest years.

Estimated Job Growth Opportunities 2016-26



3,475,000 estimated job openings were to be open from 2016- 2026.

Citations:

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(*image was modified to fit a green color scheme)

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