CTE JOURNEYS | HANDBOOKS

Building, Construction, and Engineering

CAREER AND TECHNICAL EDUCATION

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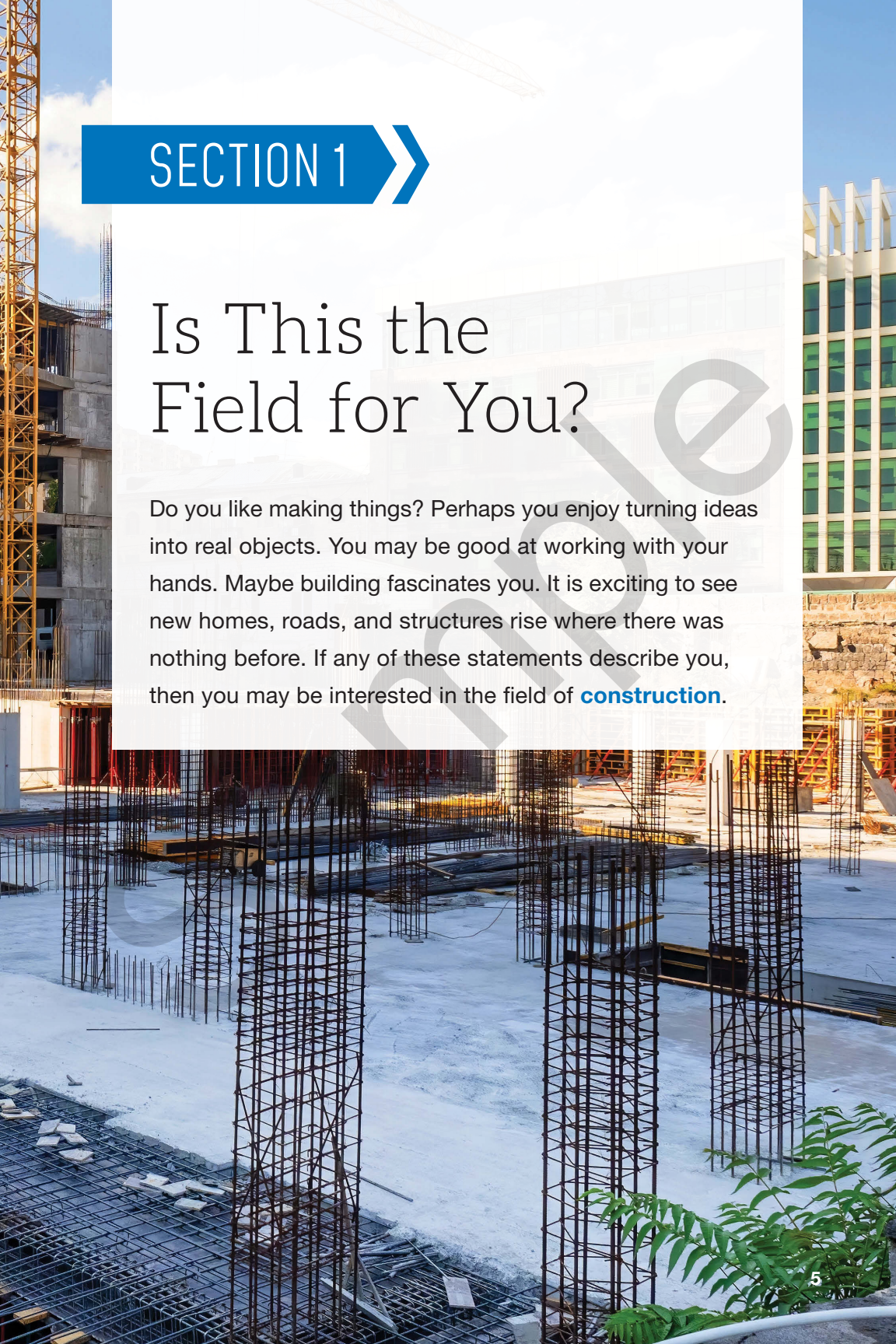


SECTION 1

Is This the Field for You?

Do you like making things? Perhaps you enjoy turning ideas into real objects. You may be good at working with your hands. Maybe building fascinates you. It is exciting to see new homes, roads, and structures rise where there was nothing before. If any of these statements describe you, then you may be interested in the field of **construction**.

Chapter 1 〉

Inside the Industry

Building means creating something new. Construction means making large projects or structures. **Engineering** means designing and planning them. Together, these elements make up a big career field. It includes many jobs. All of them have something in common. They help shape the environment in which we live, work, and travel.

Creating this environment takes many types of work. Some people shape materials. They use machines, tools, and their hands. Others work with electricity, water, and air. There are also people who plan projects from start to finish. They dream up ideas, make drawings, and manage teams. Whether you like working with your hands or your imagination, there may be a job in construction for you.

Humans will always need places to live and work. For that reason, construction is always in demand. It is not limited to new buildings. Existing ones have to be maintained. They need repairs. People also need roads, bridges, and dams. The to-do list keeps growing. This ensures that millions of workers stay busy.

Many people are in this field because they love to build. But there are other reasons. The jobs offer good pay. There are opportunities to advance. Most jobs do not require a degree. Some even pay people to learn while they work. All of this makes construction an attractive industry to work in.

Did You Know?

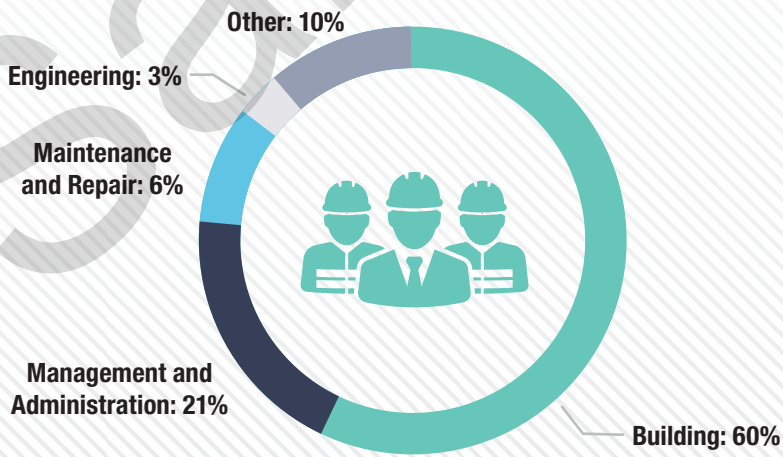
Over 10 million people work in the construction industry in the U.S. That is approximately 1 out of 30 people.

The U.S. spends more than $2 billion per year on construction projects.

$2,000,000,000

Most workers in the construction industry don't have a college degree.

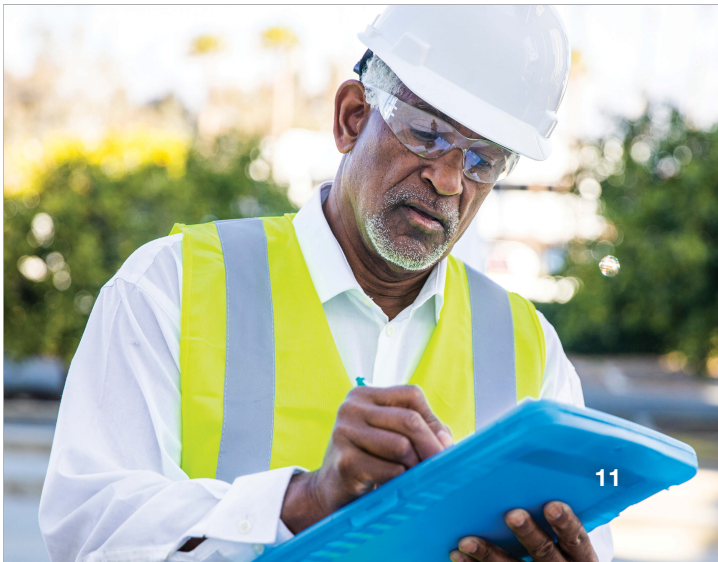
Just over half of construction workers build buildings. The rest do other types of tasks.



Building, construction, and engineering offer a wide range of jobs. They take place in many settings. Each project requires a team with different skills. Here is a close-up look at a few scenes.

Scene #1: A Residential Building Site

This crew is building a housing complex. **Rough carpenters** construct the framing to support floors and walls. **Electricians** and **plumbers** install wiring and pipes. **Cement masons** pour concrete for the foundation and driveways. **Landscapers** prepare the yard and plant vegetation. **Finish carpenters** install flooring and final touches. **Drywall installers** hang wallboard and finish walls. **Brickmasons** can cover the exterior of the house, but they lay brick on the inside too. **Roofers** install shingles. A **project manager** oversees work and makes sure the project is done correctly and on time.



Scene #2: An Infrastructure Project

This team is building a transit hub. The project includes new rail tunnels, parking garages, and mixed-use buildings. **Surveyors** measure distances across land and determine property boundaries. **Equipment operators** use cranes and other machines to lift materials into place. **Ironworkers** build steel supports. **Pipelayers** install underground water mains. **Power line technicians** connect areas to the power grid. **Concrete laborers** spread concrete. A **civil engineer** meets with **building inspectors** to make sure **regulations** are followed.

Scene #3: Company Headquarters

This construction company is building several projects across the state. **Architects** and **designers** are hired to make plans. **Structural engineers** inspect plans for safety. **Project managers** meet with **clients** and team leaders. **Schedulers** plan when different jobs will take place. **Cost estimators** analyze how much time, money, and labor a project will require. **Administrative assistants** communicate with clients, prepare purchase orders, and keep documents organized.