

ENGINEERING

Lexile 630

Engineering is a **profession** that uses **science**. A profession is a job. Science is a way of learning about the world by watching and testing. Engineers use science to build things. They may build large or small machines or buildings. They may build just about anything. They also work to solve many kinds of problems. The work of engineers affects everyone in many ways.

Engineering has been around for thousands of years. It keeps growing over time. Today, engineers work in many **industries**. Industries are kinds of businesses. There are many kinds of engineers. Each kind has special skills and ideas. They are important for many different reasons.

What Is Engineering?

Engineers use different kinds of scientific ideas and skills to build things. They may build machines like computers or factories. They may build structures like buildings, bridges, and airports. Engineers in different industries have different tasks. They must build different kinds of things. These things are meant to solve problems and make life better. To do this, engineers must learn all they can.

Engineers must use many different skills and ideas to solve problems. They may use different kinds of science. Some of these sciences are math, **physics**, and **technology**. Physics is the study of matter and energy. Technology is the knowledge needed to make special tools that people use to solve problems and make life easier. Engineers use these and many other sciences each day.

Engineers may do all sorts of tasks. Some help to plan new projects. They might draw or build models of a new building. Other engineers help with the building itself. They may show workers how to safely create large structures. Engineers may also help after something is built. They may test new machines or fix any problems with them.

Kinds of Engineers

There are many kinds of engineers. They all have special tasks and jobs. These tasks and jobs require different skills and ideas. Most engineers study and train to become a certain kind of engineer. One kind of engineer is a **mechanical** engineer. Mechanical has to do with machines. These engineers build all sorts of machines. They may build machines that do work for people. They may build engines to power cars, or factory machines that make new products.

Another kind of engineer is a **civil** engineer. Civil engineers make large structures. These structures are often buildings that people live and work in. Engineers may build houses, schools,



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or malls. They even build skyscrapers and other very tall buildings. The structures may also be bridges or roads. Engineers help to build airports, dams, and many other structures.

Electrical engineers deal with **electricity**. Electricity is a kind of power. People use electricity to power many kinds of tools and machines. Electrical engineers have made all kinds of electrical **devices**. Devices are machines. They have made computers, TVs, and radios. Some engineers only work with computers. They make the programs that tell computers to do different tasks. These engineers are called computer engineers.

Another important area is **environmental** engineering. Environmental means having to do with nature. These engineers may work in forests or near rivers. They may make new structures or machines. They may solve problems having to do with plants or animals. Many of these engineers work to protect nature. They look for ways to clean the air and water and save living things.

Engineering Through Time

Engineering has been around for thousands of years. In ancient times, engineers made the first wheels. They made basic machines like levers and pulleys. They also made great ships and buildings. People today are amazed by all the things engineers built long ago.

Engineering became even more important through time. In the 1700s, people began using more machines. They used machines for farming. They built the first real factories. They used machines to make their lives easier. Engineers built many of these machines. They also built wonderful new buildings and structures.

Becoming an Engineer

Many students learn to be engineers every year. Students begin by learning about math and science. In high school, they may start taking special classes to help them. Some students may get engineering jobs when they finish high school. Most students go on to college or other schools after high school. They learn and train hard to learn even more about engineering. Some students study for many years. They may get high **degrees** in engineering. Degrees are levels of learning.

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■ By Mark Dziak

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COMPREHENSION TEST

Multiple-Choice Questions

1. Electrical engineers would most likely build
 - A. bridges.
 - B. malls.
 - C. cars.
 - D. computers.
 2. The main subject for engineers to study is
 - A. science.
 - B. art.
 - C. history.
 - D. business.
 3. Where would an environmental engineer most likely work?
 - A. on a highway
 - B. in a park
 - C. in a factory
 - D. in a school
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Fill-in-the-Blank Questions

4. Tools that make life easier are often called _____.
5. _____ engineers are most likely to build a skyscraper.
6. Different businesses are known as _____.

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Fill-in-the-Blank Questions

4. Tools that make life easier are often called technology.
5. Civil engineers are most likely to build a skyscraper.
6. Different businesses are known as industries.