



**Who can help?
Ask an Engineer!**

Gizmoe, I have a problem. Who can help?



Ask an engineer!



Who are Engineers?

Engineers are moms and dads, brothers and sisters, and your neighbors, too. Someone you know might be an engineer!

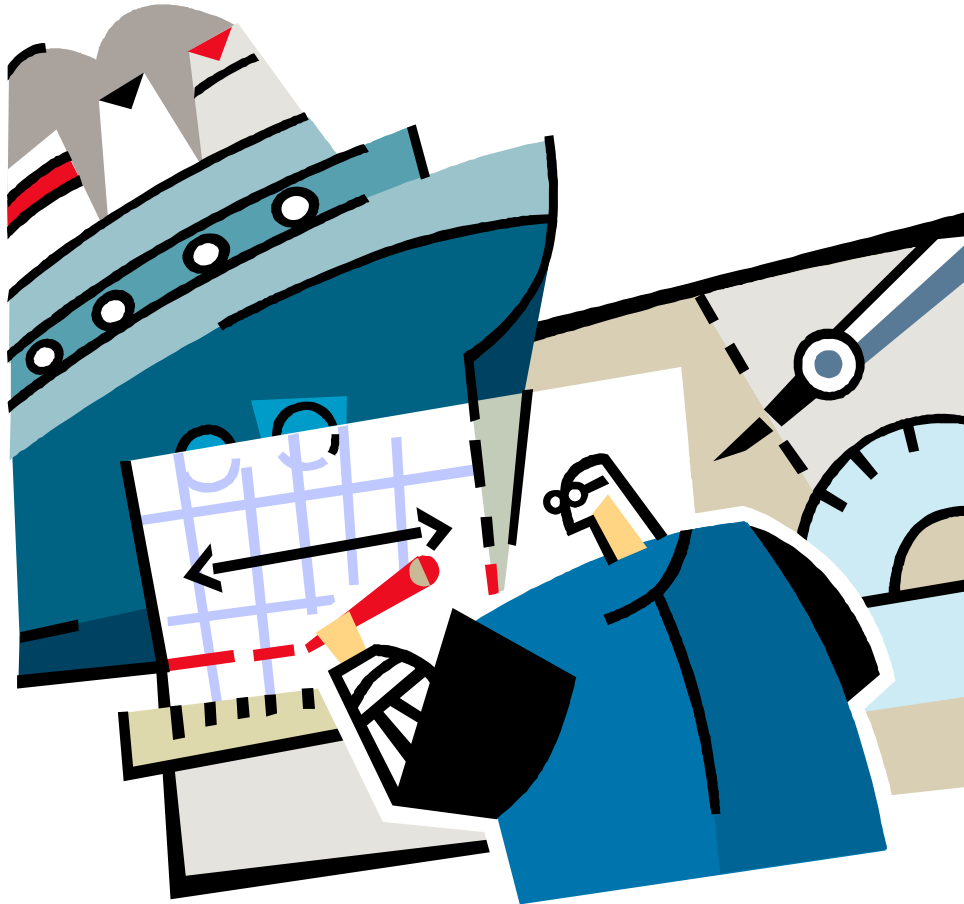


What do Engineers do?

Engineers do many things. They use math and science to solve problems. They invent useful things that are big and small. They draw plans, study, try out, and make things we use everyday.



I want to cross the ocean. Who can help?



An Ocean Engineer can help!

Ocean Engineers design ships to cross oceans safely.



Gizmo Says: Ocean or Marine Engineers design things that can help people use the oceans and its resources effectively and wisely.



I need a safe place to live in the city. Who can help?



A Civil Engineer can help!

Civil Engineers help builders know where and how to build safe buildings for us to live and work in.



I need to cross this river, but I don't want to use a boat. Who can help?



A Civil Engineer can help here, too!

Civil Engineers design and build bridges to help us cross rivers with cars and trucks.



Gizmoe Says: Civil Engineers use math and science principles to design and help build structures such as buildings, bridges, sports stadiums, and dams.



I need to get to school, but it's too far to walk. Who can help?



A Mechanical Engineer can help!

Mechanical Engineers design and test cars that allow us to get quickly and easily to the places we need to go.



Gizmoe Says: Mechanical Engineers often like to take things apart to see how they work. In school Mechanical Engineers learn how to design many mechanical systems, such as those that run cars, air conditioners, refrigerators, and much more.



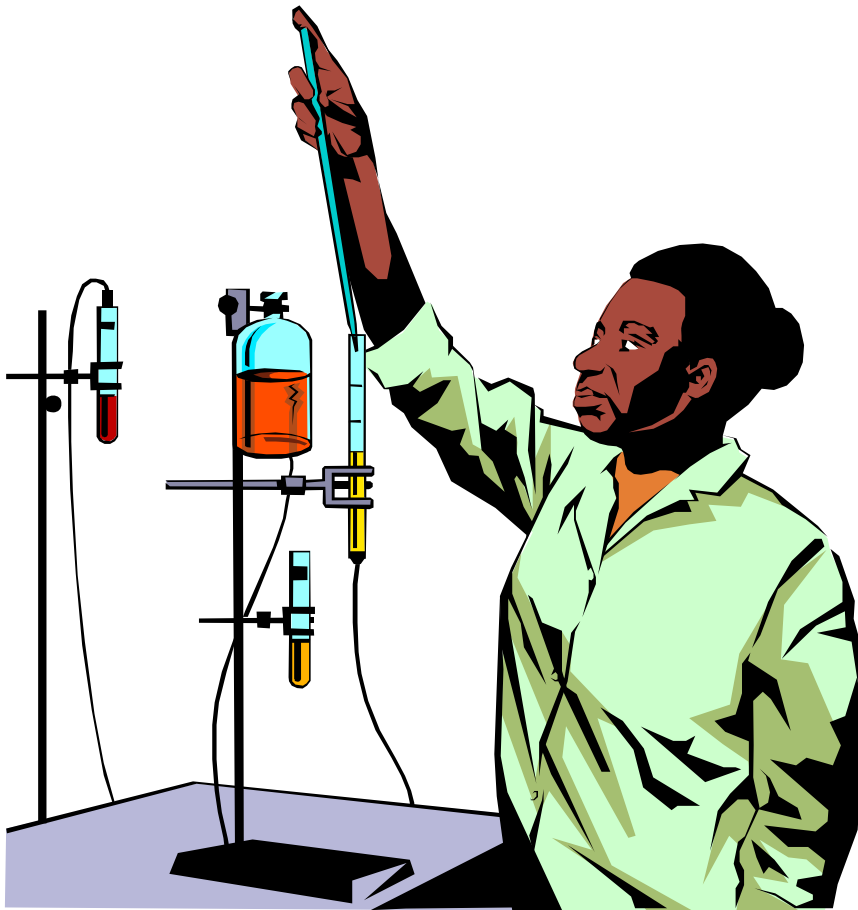
I'm thirsty when I take a walk. I want to take some water with me. Who can help?

A Chemical Engineer can help!



I would like my painting to have beautiful colors. Who can help?

A Chemical Engineer can help here, too!



Chemical Engineers help make the plastics that are used to make water and soda bottles.

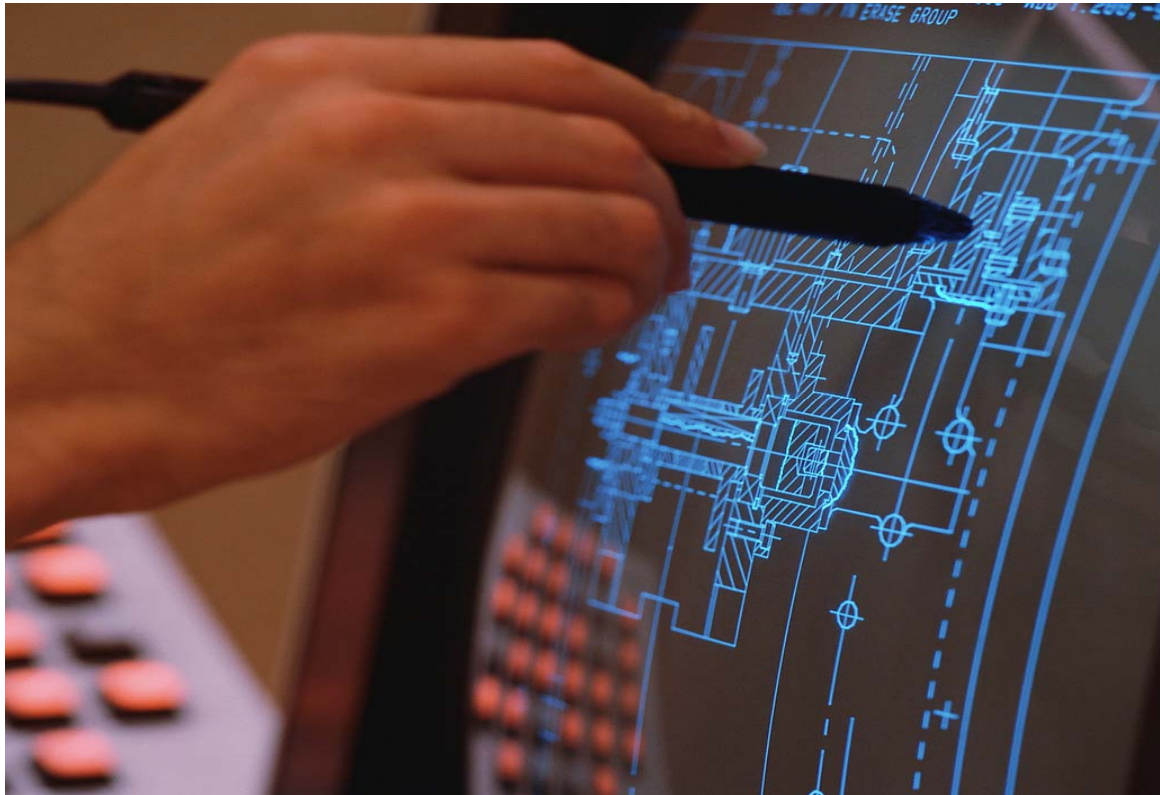
They also find and make the ingredients to mix the right color of paint for your home, cars, and even the picture you make for Mom or Dad.



Gizmoe Says: Chemical Engineers work with many varied processes such as developing formulas for paints and plastics. They can work with chemicals that are ingredients or work to design and test products for everyday life.



I want to play a video game. Who can help?



A Computer Engineer or Electrical Engineer can help!

Computer Engineers design video games for fun and learning.

Electrical Engineers design, test, and build computers and video game systems.



Gizmoe Says: Computer Engineers and Electrical Engineers design and build things like telephones, computers, microwave ovens, computer chips, and video game systems. They work with some of the world's newest technology to help make life easier.



I want to explore space. Who can help?



**I want to visit my
grandparents, but
it's too far to drive.
Who can help?**



An Aerospace Engineer can help solve both of these problems.

Aerospace Engineers design airplanes so that they stay in the air and get you safely where you're going. Aerospace Engineers also design and build rockets, telescopes, and space shuttles to help us explore space.



I'm hungry and I need food for my family. Who can help?

An Agricultural Engineer can help!



Agricultural Engineers have ideas and tools to grow food more easily.



Gizmo Says: Agricultural Engineers help the world to use plants, soil, and water. They work to grow healthier, stronger plants that fight hunger and disease. Agricultural Engineers show us how trees are useful and how we can protect them.



I am not feeling very well and need some medicine. Who can help?

A Bioengineer can help!



Bioengineers help make medicines and tools for doctors.



Gizmoe Says: Bioengineers, or Biomedical Engineers, solve problems found in living things such as disease and illness. They help make new body parts for people and animals that need them. Bioengineers help solve problems in the environment like waste and pollution.

I want to build a robot. Who can help?



Engineers can help!



Engineers teach students how to plan, test, build and compete with robots in the FIRST program. Everybody learns and has lots of fun.

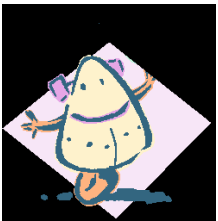


Gizmoe Says: A robot, like many of the things we have shown in this book, is a *complex system*. This means many types of engineers work together to make them. Robots have electrical, mechanical, and computerized systems. Some robots work on farms, in factories, outer space, deep oceans and mines. Some robots even work in surgery! Robots, like engineers, work to solve problems and make life easier.



There are lots of problems to solve. Who can help?

Engineers can help!



Gizmoe Says: There are many other types of engineers. Take some time to learn more about engineers and the engineering marvels of the world. Maybe **YOU** will help solve the problems of tomorrow!

Who are we?

We are a group of students from 14 different high schools who enjoy the challenge of designing, building and shipping a robot within a 6-week time frame. This teaches us many things such as teamwork, various areas of engineering, computers and construction. Our team name is MOESM, which stands for Miracle of Engineering, and our team number is 365. Our mission is to bring engineering and science into the lives of young people through robotics. We hope that through our books and literacy efforts we can carry our message to younger children that “science is cool for everyone from 3 to 365!”

We belong to a national organization called FIRST[®] - For Inspiration and Recognition of Science and Technology. (www.usfirst.org)

Middle school students can also participate in FIRST LEGO[®] League competitions and elementary students can join Junior FIRST LEGO[®] League. For more information please visit:

<http://www.moe365.org/lego/FLLmain.html>.

Or visit <http://www.usfirst.org/jrobtcs/flego.htm> for more information on all of FIRST LEGO[®] League.

For more information on our team, events and contact information please visit our award winning website: www.moe365.org