

# Read About Engineering

## DEFINITION OF ENGINEERING

Engineering is the process of creating a solution to solve a problem. The people that do this are called engineers. They use their imagination and knowledge of math and science to solve problems.

*To better understand engineering...*

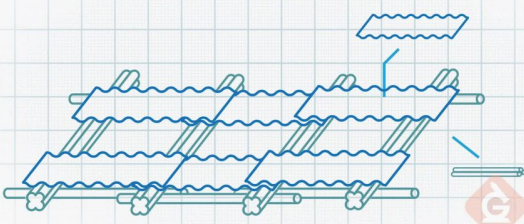
## LET'S BREAK IT DOWN!

**Engineers always work to improve solutions to problems.**

The original light bulb was a great solution to it being dark at night, but the light bulb got very hot. Engineers then made better light bulbs that do not get hot and use less energy.



## PASTA BRIDGE



**It is always a good idea to sketch out a plan.**

A drawing can help engineers think about their design before they start building it. They might get new ideas while drawing and they can think about which steps to do first.

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## Engineers test their solutions.

Testing a solution can help an engineer improve their design. Testing your design is when you can find out if what you imagined will solve the problem in real life.



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## Sometimes a design will fail.

An engineer learns a lot about their design when it fails. They can then improve the design so that it doesn't fail the next time. Each time they redesign their solution, it can get better.

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## There are many different types of engineers.

Some engineers work on designing robots, others work on improving medicine. Aerospace engineers work on designing airplanes and rockets. They all design and build things to solve problems.



## **ENGINEERING VOCABULARY**

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### **Engineer**

Someone who designs, builds and tests things to solve problems.

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### **Engineering**

Using science and math to creatively solve problems.

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### **Design**

A sketch, model or plan for something.

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**Problem**

A challenge that needs a solution.

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**Solve**

To find a solution.

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**Improve**

To make better.

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## **QUESTIONS ABOUT ENGINEERING**

### **What kinds of things does an engineer do?**

Engineers work on solving problems by creating things. Some examples include inventing a light bulb and then improving the design.

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### **Why is it important for an engineer to test things they create?**

By testing things, engineers can figure out how to improve their design.

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### **Why is it important for engineers to have a good imagination?**

They can use their imaginations to come up with lots of different solutions to problems.

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### **What are some steps that engineers go through when solving problems?**

Engineers need to make a plan by sketching ideas. They also need to build their solutions. They need to test their designs and then improve them.

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### **What are some examples of problems different types of engineers have solved?**

Possible Responses: Electrical engineers can build robots; a biomedical engineer can make medicine; an aerospace engineer can design rockets and airplanes.

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### **Why don't engineers get upset when their solution doesn't work?**

They don't get upset or cry because it often takes many tries to find a solution that works. Each time they improve their design and get closer to solving the problem.

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