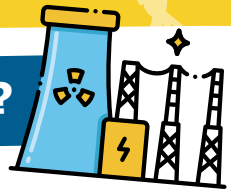
ECITB

When I grow up, I want to be...

Let's learn about engineering construction!

ecitb.org.uk/career-pathways

What is engineering construction?



From the heat that warms our homes to the clean water we drink, people who work in engineering construction design, build and look after the machinery that powers the world around us.

They work in **8 important** areas...

Word buster!

Manufacturing - making things using machines and people.

Sector - a big group of companies that do similar things.

Carbon capture - a process that catches pollution from power stations and factories before it goes into the air.

Fossil fuels - energy sources made from ancient plants and animals that lived millions of years ago. Burning fossil fuels releases gases that are bad for the environment.

Food and drink

From doughnuts (yummy!) to juice, did you know the food and drink sector is the biggest manufacturing industry in the UK?

Oil and gas

Oil and gas still provides most of the UK's energy. As well as keeping us warm, it is used to make things like phones, tablets, shoes and tyres.

Water treatment

Engineering construction workers in the water industry look after the equipment that processes the clean water you drink and the dirty water you flush away every day.

Pharmaceuticals

Building and looking after the machines that make vital medicines is an important job for people working in engineering construction.

Renewables

This sector uses energy collected from nature - like wind, waves and the sun to make electricity. Using more renewable energy means that we can use less fossil fuels that are bad for the environment.

Nuclear

Nuclear power provides lots of the electricity we use every day and does not put harmful carbon dioxide into the environment.

Power generation

People working in the power sector help to build and look after power stations that generate the electricity we all use. Some of them also work on new technologies like carbon capture.

Chemicals

The chemical sector impacts almost every aspect of our daily lives. Engineering construction workers keep the machines running. Did you know that 3D printers rely on the chemical industry?

What skills do you need to work in engineering construction?

People who work in engineering construction have lots of different skills. Here are some of the skills they use every day.

Science, technology, engineering and maths (STEM)
Understanding technology, materials, the environment and using numbers to measure, plan and design.

Creative thinking
Thinking differently to build, fix and design buildings, machinery and structures.

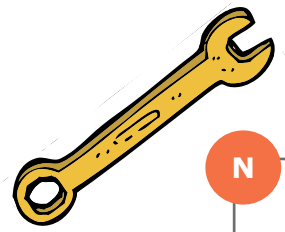
Communication and teamwork
Talking and listening to each other to share ideas and plans.

Attention to detail
From pipefitters to electricians and welders, attention to detail is important to make sure work is done safely and on time.

Pick your path...

Answer each question by choosing the option that sounds most like you! Follow the arrows to see which job might be a good match for the things you enjoy!

Psst! This is just for fun. Answering a certain way doesn't mean you wouldn't be great at other jobs too- the best teams are made up of people with lots of different skills. Everyone has something special to offer!



Do you like building and making things?

N: Do you enjoy helping your friends to work together and solve problems?

Y: Do you like fixing things and finding out how they work?

Y: You could be a... **Project manager.** A project manager makes sure a project is done properly, on time and with the right people and tools.

N: Do you like drawing and designing things?

Y: You could be a... **Designer.** A designer thinks creatively to turn ideas into plans. They might design machinery or an important process.

N: You could be a... **Engineering Technician.** An engineering technician helps engineers by testing and checking machines and buildings to make sure they are safe and work properly.

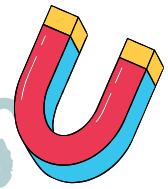
N: Do you like being outdoors or climbing high?

Y: You could be a... **Scaffolder.** A scaffolder builds tall metal frames around buildings and machinery so that people, like welders and electricians, can safely climb up and do their jobs. It's like making a giant climbing frame that helps keep everyone safe!

N: Are you curious about how we get energy from nature?

N: You could be a... **Welder, Pipefitter or Electrician.** They help to build and maintain systems that keep equipment running and people safe.

Y: You could be a... **Wind Turbine Engineer.** A wind turbine engineer makes sure turbines are working safely and efficiently, often climbing up high to check parts, fix problems or install new equipment.



Job detectives!

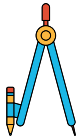
Meet some of the people working in engineering construction. Can you match the tool to the job? *(Answers at bottom of page 8)*

A

B

C

D



E

Tool

Ashley, Design Engineer
Designs and solves problems to make things work safely.

"I like to think creatively and have always been good at maths and science. The best thing about being a design engineer is seeing my ideas come to life!"

Amy, Welder
Uses special tools to melt and join pieces of metal together, kind of like glueing but with heat.

"Every day is exciting working as a welder. I'm proud to help keep important machinery up and running."

Al, Electrician
Works with wires and electricity to help power things.

"I became an electrician because I love working with my hands, solving problems and knowing that what I build helps people's lives every day."

Priya, Project Manager
Keeps everything on track and on time.

"I have always been very organised. I bring lots of different people together to make sure that projects always run on time."

Luca, Wind Turbine Engineer
Renewable power from wind turbines will help us protect the planet.

"Protecting the planet is important to me. After I finished secondary school I became an apprentice and now I help to look after wind turbines that power homes with renewable energy."

Help them build their future

Parent zone!

By encouraging curiosity, creativity and hands-on exploration, you're helping your child discover a world of opportunity in engineering construction. Whether they become an engineer, designer or welder, they'll be part of engineering a better future.

Apprenticeships, scholarships, graduate opportunities and T-levels are all routes your child could take into engineering construction after completing secondary school or university.

You can find out more about pathways into the industry by visiting **ecitb.org.uk/career-pathways**

Start now

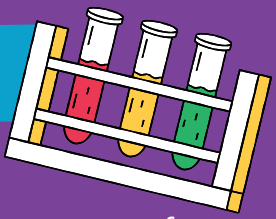
Whilst planning for next steps after secondary school may seem like a lifetime away, there are lots of fun things you can do now to help your child build on key skills and give them a head start:

Be curious together
Encourage STEM learning at home by asking open-ended questions. You could try "how does that wind turbine turn?" or "what powers our lights at home?"

Set up a STEM station
Set up a small area with LEGO or recycled materials. Try making towers or simple machines together.

Join local communities
Look for science, technology or coding clubs, robotics teams and college open days in your local area.

Useful resources for parents



STEM.org.uk
stem.org.uk
Science, technology, engineering and maths learning resources for all ages.

EUK education
eukeducation.org.uk
Insightful resources, accessible funding, engaging activities and more.

WISE
wisecampaign.org.uk/stem-resources-for-children
STEM resources and activities for children to use at home.

James Dyson Foundation
jamesdysonfoundation.co.uk/resources
Fun, hands-on engineering challenges for children aged 7-14 to try at home or in the classroom.

TryEngineering.org
tryengineering.org
A rich international portal offering high-quality engineering lesson plans and programmes for parents, educators and volunteers aiming to inspire school-age children through creative, curriculum-enhancing activities.

Neon
neonfutures.org.uk
Discover workshops, trips and events from leading providers, alongside inspiring case studies and supportive resources.

Answers: Ashley (D), Amy (B), Al (E), Priya (C), Luca (A)

Find out more

To find out more about careers and pathways into engineering construction visit **ecitb.org.uk/career-pathways**