



Employment  
and Skills  
Board

careers and opportunities in  
**MANUFACTURING &  
ENGINEERING**  
ESSEX 2017-18



Did you know that [the UK is actually the 11<sup>th</sup> strongest manufacturing nation in the world!](#) The advanced manufacturing and engineering sector is massive, but we've broken it down into the different industries below that you could pursue an exciting career in. Have a look at some of the unique opportunities that this sector has to offer and learn loads of impressive facts in this [interactive](#) factsheet

AEROSPACE



AUTOMOTIVE



TECHNOLOGY



**IMPORTANT ENGINEERING  
INDUSTRIES IN ESSEX**

CHEMICAL



HEALTHCARE



MACHINERY



PHARMACEUTICALS



TOYS



FOOD & DRINK



ENERGY



DEFENCE

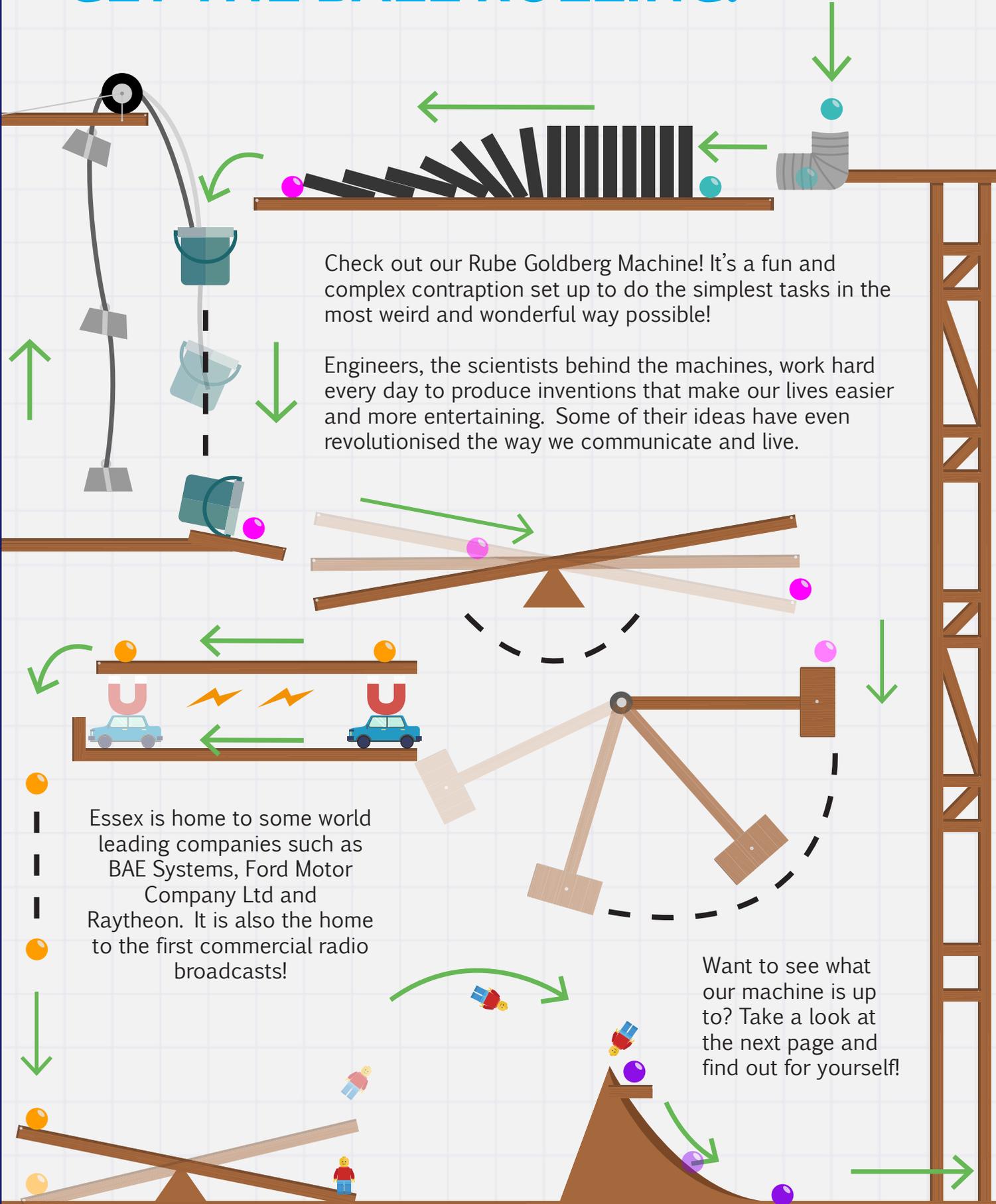


**SEEING GREEN FROM SPACE!**



Chelmsford-based engineering company, Teledyne e2v, are manufacturing image sensors for the European Space Agency so they can study plant health and stress from space!

# IT'S TIME TO GET THE BALL ROLLING!



Check out our Rube Goldberg Machine! It's a fun and complex contraption set up to do the simplest tasks in the most weird and wonderful way possible!

Engineers, the scientists behind the machines, work hard every day to produce inventions that make our lives easier and more entertaining. Some of their ideas have even revolutionised the way we communicate and live.

Essex is home to some world leading companies such as BAE Systems, Ford Motor Company Ltd and Raytheon. It is also the home to the first commercial radio broadcasts!

Want to see what our machine is up to? Take a look at the next page and find out for yourself!



# WHAT'S OUT THERE FOR ME?

There are hundreds of opportunities available in this sector. We will only show you seven for now, but take a look at some of the different roles in advanced engineering and manufacturing and search online for [Tomorrow's Engineers](#) if you're looking for something else within this sector!



### Aerospace Engineer £28k - £45k+

Sounds cool right?! Well, it is. Participate in flight test programmes, apply science and technology to create aircraft equipment and even design aircraft mechanics on computer systems. Aerospace Engineers help create the safest and most efficient aircraft.

### Automotive Engineer £22k - £30k+

Design, develop and produce! The world of vehicles is waiting for its next Automotive Engineer to build prototypes and test performance and safety features. They also get to inspect and test drive vehicles and need to create the latest designs to suit their customers, their company and government requirements.



### Mechanical Engineer £20k - £28k+

Most industries rely on a form of mechanical systems and mechanical engineering to produce and repair a whole host of products. We're not just talking about engines either - we mean from the most intricate, to the most powerful creations: mechanical hearts, production processers and medical robots.

### Chemical Engineer £29k - £35k+

Like a real magician, these people use science and chemicals to change the build of things to make products... like changing oils into plastics! Chemical engineers have to make sure their lab is completely clean and regulated in order to make the best parts ready to be manufactured.



### Product Manager £30k - £40k+

With every project someone needs to oversee its production and execution. Product Managers ensure that things are in order from health and safety and regulation requirements to ensuring team targets are met. They oversee the product from assisting the plan to the big launch!

### Electronics Engineer £21k - £29k+

Phones, nanotechnology, robotics or sound - the choice is yours! All of these areas have Electronics Engineers to develop solutions to problems using technology and monitor the day to day operations of its construction. Your laptop didn't build itself, you know!



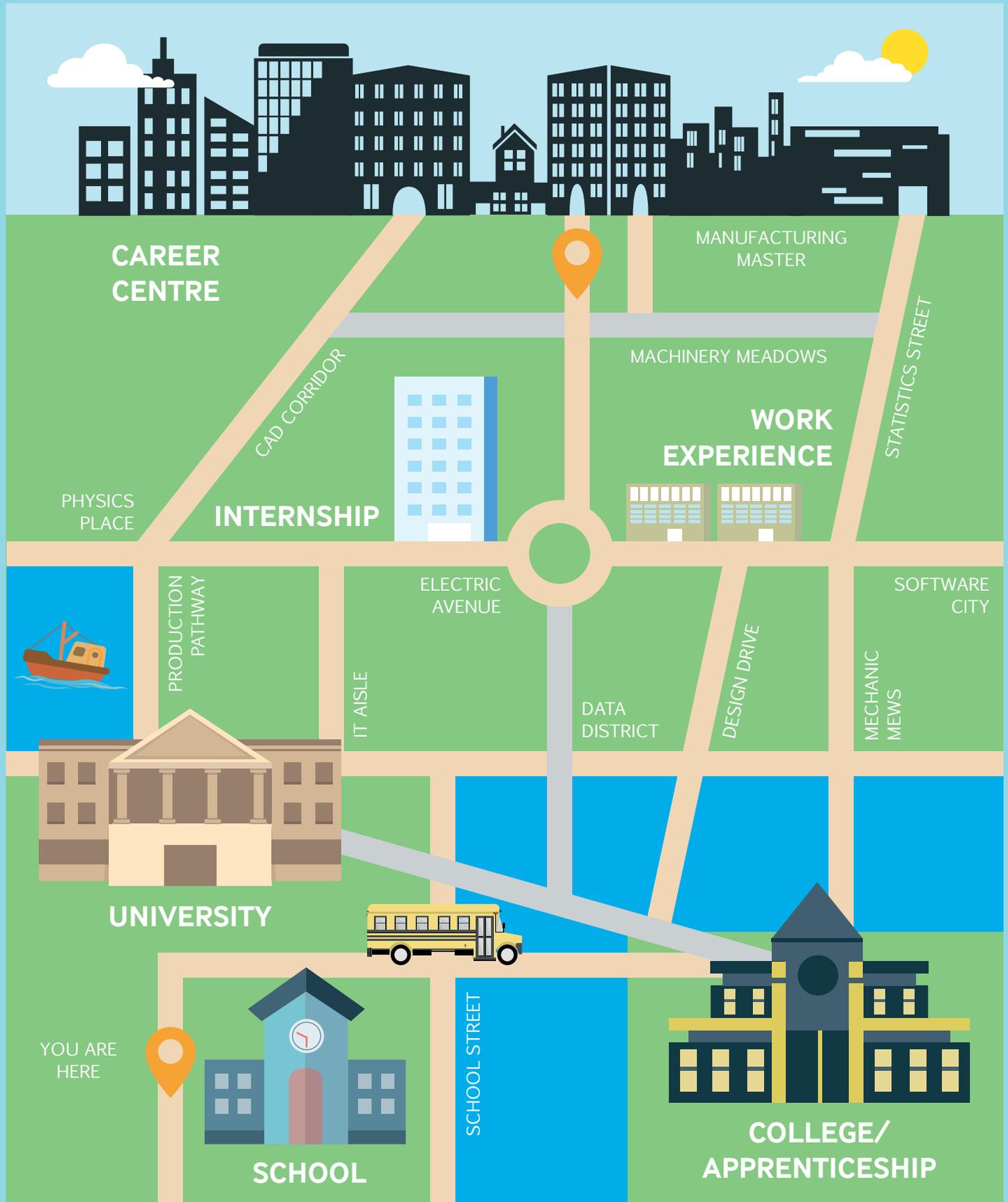
### Engineering Geologist £21k - £23k+

Any idea how to build a 25 mile rail tunnel underwater? This was one of the big challenges when creating the Eurostar tunnel between England and France. Engineering Geologists solve engineering problems involving geological hazards and ground conditions, making sure the whole project will be successful.

# SKILL CITY



Here's a little guide to give you an idea of some of the skills that will get you to the top, whatever sector you're into. Remember that there are no dead-ends! Employability skills are crucial in your rise to an awesome career so the fastest way to the top is to get experience and learn as much as you can!



# 49,500+



employed in the sector in Essex.

# 4,300+



enterprises in the sector in Essex.



There were over 15,500 job postings across the sector in Essex in 2016.

Production and Process Engineering is in particular demand in Essex. This occupation has been identified as a national shortage occupation for three years since 2013.



This sector really values every qualification, so how you enter the industry is up to you. Whether you take an apprenticeship, a BTEC, an NVQ, or go to University, there are plenty of opportunities to get into this sector.

## WHERE IN ESSEX?

Gear up for a look at some of the amazing advanced manufacturing and engineering companies in your area, and see how many vacancies were posted across Essex in 2016.

### VACANCIES BY DISTRICT



### LOCAL BUSINESSES

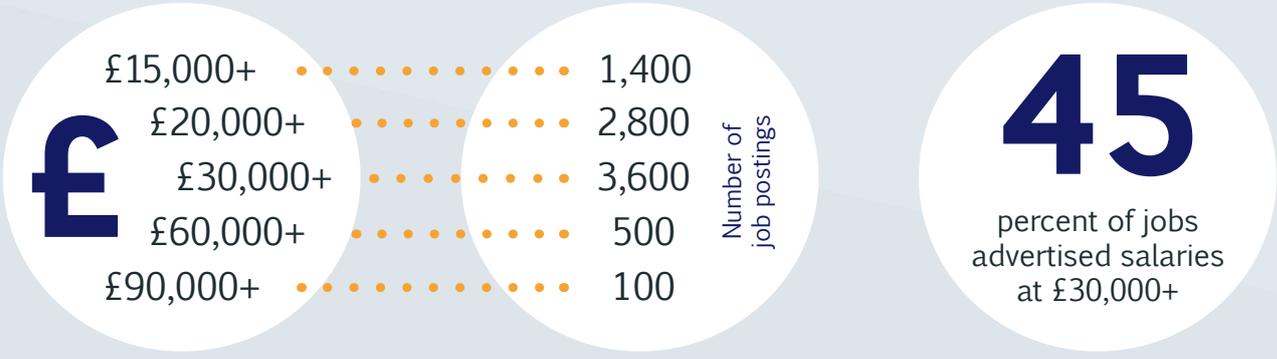
- |  |   |   |
|--|---|---|
| <b>BASILDON</b><br>-Alucraft Ltd.<br>-Konica Minolta<br>-Leonardo                            | <b>BRAINTREE</b><br>-Crownlea Group<br>-FSE Foundry<br>-Precision Aero space Eng. | <b>BRENTWOOD</b><br>-Knight Precision Engineering<br>-LSA Civil Eng.<br>-Revolve Eng. |
| <b>CASTLE POINT</b><br>-APH3G Ltd.<br>-Electroglass Ltd.<br>-Elmsleigh Engineering Ltd.      | <b>CHELMSFORD</b><br>-AECOM<br>-Denward Manufacturing<br>-Teledyne e2v            | <b>COLCHESTER</b><br>-4D Engineering<br>-K J King Metalwork<br>-Millrite Engineers    |
| <b>EPHING FOREST</b><br>-Atkins Electrical<br>-Ponting Engineering Ltd.<br>-Wedge Civil Eng. | <b>HARLOW</b><br>-Air Industrial Equipment Co.<br>-GSK<br>-Raytheon               | <b>MALDON</b><br>-Beckwith & Son Engineering<br>-Maldon Marine<br>-RM Engineering     |
| <b>ROCHFORD</b><br>-Mistral Eng.<br>-Rochford Engineering Co.<br>-Scientific Electro         | <b>SOUTHEND</b><br>-Hi-Tec Sports UK<br>-Ipeco Holdings<br>-Olympus KeyMed        | <b>TENDRING</b><br>-A&R Engineering<br>-DDSL Ltd<br>-Dicol Precision Eng.             |
| <b>THURROCK</b><br>-ET Marine & Industrial Eng.<br>-Joseph Gallagher<br>-ST Engineering      | <b>UTTLESFORD</b><br>-BPH Rail & Civil Eng.<br>-Inflite Group<br>-Maleon          |   |

# ADVERTISED IN ESSEX

OCCUPATIONS

Design Engineer | Electrical Engineer | Welder | Metal Worker  
**Chemical Operative | Routine Inspector | Engineering Technician**  
 Production Manager | Process Engineer | Planning Technician

SALARIES



TOP SKILLS ESSEX EMPLOYERS ARE LOOKING FOR...

Validation | Welding | Wiring | Analogue Design | Hand-Tools  
**Technical Support Packaging | Mathematics | Machining | CAD**  
 Electrical Design | Business Management | Software Testing | C++

## WHAT NOW?

Sounds good, right?! So what can you do to kick start your awesome career in advanced manufacturing and engineering? There are lots of places for you to find out more:

- Imagineering - [imagineering.org.uk](http://imagineering.org.uk)
- e2 - [young-engineers.co.uk](http://young-engineers.co.uk)
- Tomorrow's Engineers - [tomorrowsengineers.org.uk](http://tomorrowsengineers.org.uk)
- Womens Engineering Society - [wes.org.uk](http://wes.org.uk)

Also, remember that gaining skills through experience is really important. Whether you are on a college course, an apprenticeship, or undertaking voluntary work, employers will always want to hear about your knowledge and skills!



# MY SKILLS, MY FUTURE!

When you're applying to become an apprentice, to start further education or to get your first job, you'll need to talk about your skills and experience. Whatever it is you want to do, you have a lot more valuable skills than you might think.

Take a look at our ideas list and see if you are doing any of these things right now. If you're not, consider some of these ideas to boost your CV. Remember, this is just a small guide, there are hundreds of unique things that you are probably doing already that teachers and employers will be interested in hearing!



## MY SKILLS LIST

### HOBBIES

Having a hobby is a good way to show that you're active outside of school and that you have lots of interests:

- Acting & arts
- Doing sports
- Model Making
- Photography
- Programming
- Singing & dancing
- Cooking & baking
- Drawing & designing
- Painting
- Playing an instrument
- Reading
- Travelling



### ACHIEVEMENTS AT SCHOOL

There are many ways for you to be involved in your school and the next person you apply to will want to hear how you spent your time there!

- Gifted & talented student
- High attendance
- Prefect or school council member
- Sports or activities club member
- Good Grades
- Improved student
- Schools volunteer
- Star pupil

### RESPONSIBILITIES

Having responsibilities might not always be fun, but it shows you are mature, trustworthy and capable. For example, you might be:

Caring for siblings or a family member

Babysitting or in charge of household tasks

Part of a team or group project



### WORK EXPERIENCE

From voluntary work to learning from others in a work environment, there are many things you can do to boost your skills and get ahead of the game. Why not try:

Volunteering at a local company or charity

Getting advice from companies you are interested in

Arranging work experience during your holidays