

### As a civilisation saver you create the cities of the future.

You could use your civil and environmental engineering skills to keep us safe from flooding, design transport systems and construct hospitals, schools and sports arenas, while minimising the impact on our environment and tackling climate change.







### As a civilisation saver here are just some of the jobs you could do:

### **Structural Engineer**

Structural engineers design and create safe buildings and large structures such as roads. bridges, tunnels, railways, shopping centres and airports. They also protect us from flooding and help supply us with energy.

#### Wind Turbine Technician

Wind turbine technicians keep wind turbines working properly. They carry out routine inspections of wind farms, troubleshoot problems and repair wind turbines. These skills are in demand in this growing field

#### Flood Modeller

Flood risk modellers predict flooding, produce flood maps and find ways to reduce the effects of rainfall. river and sea flooding. They may work for the Environment Agency, local authorities or private sector clients

...plus loads of other exciting careers

#### Useful websites

www.thisisengineering.org.uk www.ice.org.uk/wice www.aoconstruct.ora www.istructe.ora/careers www.citb.co.uk/bconstructive www.neonfutures.ora.uk/areen



Saver





Creator



Electric Dynamo



Pioneer



**Future** Lifesaver



Maker



Marvel



Crusader



Explorer



Coding Legend

### As a coding legend, you make your mark in the digital world!

Software engineers and computer scientists are in demand in all sectors including industry, entertainment and retail. You could be working on artificial intelligence, human-computer interaction, computer graphics, robotics and information security.







# As a coding legend here are just some of the jobs you could do:

### **Software Engineer**

Software engineers design, build and test computer programs. They talk to customers to understand their needs and then help to set up the systems to meet those needs. They also diagnose and resolve system faults.

### **Games Designer**

Often working in a team, games designers plan and create all the elements of a game including the setting, rules, story and characters. They use computer modelling and animation software and create the computer code needed to make the game work.

#### **Computer Scientist**

Computer scientists develop different ways to use technology and design new products such as tablets, laptops and other electronic devices, including central heating controllers and smart TVs.

...plus loads of other exciting careers

#### Useful websites

www.thisisengineering.org.uk www.theiet.org/career www.bcs.org/it-careers/apprenticeships www.mathscareers.org.uk www.digitalworld.net/careers



Civilisation Saver





Crime Preventer



Cure Creator



Electric Dynamo



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Future A Lifesaver



Naterials Maker



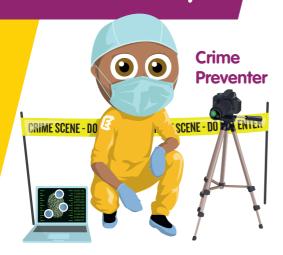
Mechanica Marvel



Sea Crusader



Universe Explorer



### As a crime preventer, you make the world a safer place.

You could work in the fields of security and crime science to help protect us and keep us safe. You could be designing anti-theft devices, improving cyber security or finding the forensic evidence used in criminal trials.







### As a crime preventer here are just some of the jobs you could do:

### **Intrusion Analyst**

Working individually or as part of a team, intrusion analysts review data on physical break-ins or cyber attacks, identify vulnerabilties and interact with customers to tackle problems and improve physical and on-line security.

#### **Forensic Scientist**

Forensic scientists collect evidence at crime scenes to be used in legal trials. Biology helps solve crimes like murder and assault; chemistry is used for burglary and arson; and toxicology is used to detect drugs, alcohol or poisons.

#### **Certified Ethical Hacker**

A certified ethical hacker identifies weaknesses in systems, using the same knowledge and tools as a malicious hacker, but in a lawful and legitimate way. They check the security of computer systems used in government, defence, banking and health records.

...plus loads of other exciting careers

#### Useful websites:

www.thisisengineering.org.uk www.theiet.ora/career www.rsc.ora/careers/future www.rsb.org.uk/careers/makeadifference www.mathscareers.ora.uk



Saver









Creator



Dynamo





**Future** Lifesquer



Maker



Marvel



Crusader



Explorer



Cure Creator

### As a cure creator you're in the business of saving lives.

You could work in the field of biochemical engineering, along with other types of engineers, solving problems that affect people, animals or plants. You could be researching and developing vaccinations and cancer treatments or making foods more nutritious.







### As a cure creator here are just some of the jobs you could do:

### **Biochemical engineers**

Biochemical engineers translate exciting discoveries in life sciences into materials and processes that improve human health and well-being. These include cleaner fuels, new medicines and healthier food and drink products.

#### **Toxicologist**

Toxicologists look at the impact of toxic materials and radiation on the environment and on human and animal health. They carry out laboratory and field studies and can work in many different areas including clinical, forensic, industrial and pharmaceutical

#### Cancer Researcher

Cancer researchers, also known as oncology research scientists, work to discover new and more effective ways to prevent and treat all kinds of cancer

...plus loads of other exciting careers

#### Useful websites:

www.thisisenaineerina.ora.uk www.whynotchemeng.com www.rsb.org.uk/careers/makeadifference www.biochemistry.ora/education/careers www.rsc.org/careers/future



Saver



Preventer



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Dynamo





**Future** Lifesaver Maker





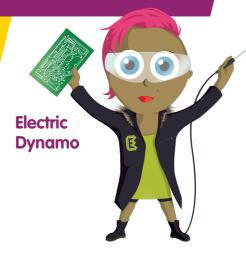
Marvel



Crusader



Explorer



### As an electric dynamo you light up the world.

As an electrical or electronics engineer you could be designing the latest smartphone or robot, creating a state-of-the-art electric car, developing a GPS system or inventing a new way to generate power.







# As an electric dynamo here are just some of the jobs you could do:

#### **Electrical Engineering Technician**

Electrical engineering technicians test, repair and help to design electrical equipment such as railway signals, lifts, heating and air-conditioning systems and hospital machinery.

#### **Robotics Engineer**

Robotics engineers design plans for robots and work with other types of engineers to design and put them together. This might include robots for car production lines, an animatronic dinosaur for an amusement park, or a robot to travel into space or beneath the sea.

### **Electronics Engineer**

Electronics engineers design and develop electronic equipment including computers, TVs, LED lighting, medical equipment and the gadgets of the future.

...plus loads of other exciting careers

#### Useful websites

www.thisisengineering.org.uk www.theiet.org/career www.energyinst.org www.ineche.org/careers-education www.digitalworld.net/careers www.aoconstruct.ora



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### As a future lifesaver the world depends on you.

You could use your biomedical engineering or medical physics expertise in a hospital, a lab or in industry, coming up with innovations that improve our health and quality of life. You could be developing medical devices like MRI scanners, researching tissue for implants, designing prosthetic limbs, and using robots to perform operations remotely.







# As a future lifesaver here are just some of the jobs you could do:

### **Biomedical Engineer**

Biomedical engineers combine engineering and materials technology to improve healthcare. They design medical products such as joint replacements, robotic surgical instruments and equipment to help people with special needs.

### **3D Organ Printing Technician**

Much of the work of 3D organ printing technicians is still in the research and developmental phase, but rapid progress in the field means that printing artificial organs for patients will become extremely important in the future.

### **Medical Phycisist**

Medical physicists improve patients' health. They could be working with doctors on the diagnosis and treatment of specific medical conditions, such as advising on radiation treatments for cancer patients.

...plus loads of other exciting careers

#### Useful websites:

www.thisisengineering.org.uk www.ipem.ac.uk www.rsb.org.uk/careers/makeadifference www.iop.org/careers-physics www.stepintothenhs.nhs.uk



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Crime Preventer



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Naterials Maker



Mechanic Marvel



Sea Crusader



Universe Explorer



# As a materials maker you shape the products of the future.

Working in manufacturing and materials engineering, you could use your skills to work out how to get the best out of all the materials available to us in the safest, greenest way possible, turning raw materials into finished products. You could work with cars, wind turbine blades, sports equipment, packaging and smartphones.







### As a materials maker here are just some of the jobs you could do:

### **Materials Engineer**

Materials engineers explore ways to combine materials to make products stronger, lighter, more effective or more hard-wearing, from computer chips and aircraft wings to tennis rackets and hiomedical devices

### **Product Engineer**

Product engineers are responsible for bringing new products to market, managing all stages of the process from design through to final production. This includes looking at cost, look and feel, functionality and performance.

### **Sustainability Manager**

Sustainability managers help companies take steps towards a greener future, implementing cost-effective measures to protect the environment and meet the needs of present and future generations.

...plus loads of other exciting careers

#### Useful websites:

www.ied.ora.uk www.madeherenow.com www.thisisengineering.org.uk www.iom3.org www.designcouncil.org.uk www.imeche.ora/careers-education



Saver



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**Future** 



Maker Lifesaver





Marvel



Crusader



Explorer



### As a mechanical marvel you keep the world in motion.

You'd work in the field of mechanical or biomechanical engineering. Your work could involve anything from designing Formula 1 cars and building planes to creating artificial heart valves and developing prosthetic limbs. Every machine you can think of relies on the skills of a mechanical engineer.







# As a mechanical marvel here are just some of the jobs you could do:

### **Mechanical Engineer**

Mechanical engineers deal with anything that moves, finding practical solutions to problems. This huge field ranges from nuclear fusion and artificial hearts to building planes and designing driverless cars.

#### **CAD Technician**

CAD or computer-aided design technicians use software to create design plans for buildings, machinery and products. You could work in a wide range of industries from car manufacturing to designing sports equipment.

### **Biomechanical Engineer**

Biomechanical engineers combine mechanical engineering with biology to create everyday products that improve peoples' quality of life. This could include environmentally safe plastics, food, fabrics and medicines.

...plus loads of other exciting careers

#### Useful websites

www.thisisengineering.org.uk www.imeche.org/careers-education www.careersinaerospace.com www.iop.org/careers-physics www.ipem.ac.uk



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Sea Crusader



Universe Explorer

# Meet the future you **Electron Pioneer**

# As an electron pioneer you improve every element of everyday life.

You could use your chemical engineering skills to design and manage processes that turn raw materials such as oil into everyday products such as smartphones. You could be solving problems on a chocolate production line, creating new technologies to combat air or water pollution, or developing new ways to beat cancer.







### As an electron pioneer here are just some of the jobs you could do:

### **Chemical Engineer**

Chemical engineers create processes and products which touch every aspect of our lives from developing smaller, faster computer chips to innovating the way we recycle, treat disease, clean water, make food and generate power.

#### Cosmetic Scientist

Cosmetic scientists are in demand by many companies. They create new cosmetics like make-up, shampoo and sun-cream. They make formulas, test products, control quality and can specialise in areas such as organics.

### **Process Engineer**

Process engineers are chemical engineers who work on developing and improving manufacturing and industrial processes such as producing food, making paints or plastics, refining oil and treating water.

...plus loads of other exciting careers

#### Useful websites

www.thisisengineering.org.uk www.whynotchemena.com www.rsc.ora/careers/future www.tastycareers.org.uk www.energyinst.org



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Maker



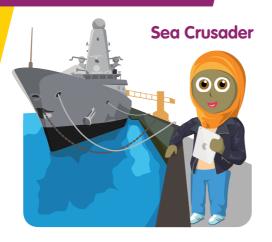
Marvel



Crusader



Explorer



### As a sea crusader, dive into an ocean of possibilities!

You could use your marine engineering skills as part of a team that constructs off-shore platforms, explores the sea bed, designs ships and remotely operated underwater vehicles or even plan lighthouses.







### As an sea crusader here are just some of the jobs you could do:

### **Marine Engineer**

Marine engineers use their technical skills and knowledge to design, build, install and maintain the propulsion systems, steering, engines and other equipment that make boats work. They might work on ships, cruise liners, hovercraft and submarines.

### **Subsea Engineer**

Subsea engineers work on underwater projects such as ocean exploration, remote-controlled underwater vehicles, submarine communications, seafloor mineral mining, oil and gas pipelines and offshore wind power.

#### **Naval Architect**

Naval architects are responsible for ship design. They manage the whole process, from the concept through to the delivery. They manage teams of engineers and work on all types of vessels, from rescue boats to vachts.

...plus loads of other exciting careers

#### Useful websites:

www.thisisengineering.org.uk www.imarest.ora/seavourfuture www.rovalnavv.mod.uk/careers www.ice.org.uk/wice



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### As a universe explorer, the sky's not the limit!

Your aerospace engineering skills could help you design the next generation of aircraft, reduce the pollution caused by air travel, build drones and put satellites in space. You might also work in the transport sector and Formula 1.







# As a universe explorer here are just some of the jobs you could do:

#### **Aerospace Engineer**

Aerospace engineers design, develop and test the performance of civil and military aircraft, drones, satellites, space vehicles and their components. They help to improve safety, efficiency, and environmental impact.

### **Space Structures Engineer**

Space structures engineers design equipment for the space industry, such as launch pads, shuttles and space stations. They have a key role in ensuring the safety of equipment and crews. For example, they might look at the effects of solar storms on the International Space Station.

### **Flight Simulation Technician**

Flight simulator technicians maintain and repair flight simulators which artificially re-create aircraft flight in order to train pilots and inform the design of aircraft.

...plus loads of other exciting careers

#### Useful websites:

www.thisisengineering.org.uk www.careersinaerospace.com www.ras.ac.uk www.iop.org/careers-physics www.stem.org.uk/esero/careers-space www.mathscareers.org.uk



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