I'M A SPACE PERSON

Guide for

Teachers, Parents, and Carers

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www.spaceperson.co.uk

About the Project

Guided by educational research, we are supporting young people to realise that they can be a space person.

While many young people find space an interesting topic, they don't necessarily see it as relevant to their own life or providing realistic and accessible career opportunities for people like themselves. The Imperial College London **I'm a Space Person** project highlights a diverse range of careers across the space sector, making these relatable through the personal qualities involved in these roles.

Background

Young people's career aspirations towards broad sectors don't significantly change over time past the age of 10, with enjoyment of school subjects not translating into what they aspire to be.

Educational research[1] has shown that while young people find STEM (Science, Technology, Engineering, and Mathematics) subjects interesting and important, this doesn't seem to translate into STEM career aspirations. A key barrier behind this is whether young people see these fields and career opportunities as being for people like themselves. These perceptions form as early as primary school and remain relatively stable with age.

Careers education at both primary and secondary levels can help. It can show that STEM subjects are relevant to many careers, not just becoming a scientist. It is important, however, that pupils see an equal representation of careers and role models to overcome damaging stereotypes about the types of people who pursue STEM-related careers.

Our Approach

I'm a Space Person is a set of careers postcards and resources for upper primary and lower secondary school pupils, along with their teachers, parents, and/or carers.

Our careers postcards provide a balanced representation[2] of the diverse range of careers available within the space sector, unlike many other sources of space careers information. We link each job highlighted to **personal attributes**, which any young person should be able to relate to regardless of their background. This is based on a successful approach developed by our partners, NUSTEM[3]. By encouraging young people to pick these attributes before revealing a career associated with them, we hope to challenge the stereotypes that exist around space careers.

1 https://www.ucl.ac.uk/ioe/departments-and-centres/departments/education-practice-and-society/aspires-research
2 https://doi.org/10.5194/gc-5-119-2022
3 https://nustem.uk/careers/

Teachers

An easy way to embed careers information into the classroom.

Knowing what a subject is used for has been found to encourage pupils to choose that subject for further study and enables them to make informed decisions about their career path[4]. Integrating careers information into lessons is an easy way to achieve this and aligns with the Gatsby benchmarks of Good Career Guidance[5], especially benchmark 4 on linking curriculum learning to careers.

Our postcards are a simple and easy way to introduce your pupils to different careers and employers. Each career is mapped against the Key Stage 2 and 3 national curricula in England, helping you provide context and applications for the concepts pupils are learning during lessons.

Don't forget as well that teachers are one of the main factors that either encourage or discourage a pupil from further study in a particular subject[6]. We hope that using these resources enables you to create a supportive environment within your classroom for pupils to consider potential space-related career paths that they can relate to.

4 https://www.ucl.ac.uk/ioe/research/featured-research/upmap-publications
5 https://www.gatsby.org.uk/education/focus-areas/good-career-guidance
6 https://www.ipsos.com/en-uk/wellcome-trust-monitor-wave-2

"A lot of what I learn scientifically at school is fascinating, but for me, I can't see a use. Maybe I'm just blind; maybe I am using all these things, but apart from knowing in a quiz... I don't see many other practical uses."

Parents and Carers

Help your children realise their qualities and what jobs these can enable.

Most young people consider family to be among the most useful sources for thinking about what they want to do as a career[7]. This makes it important for parents/carers to be involved in careers education and able to provide informed advice. The Gatsby benchmarks of Good Career Guidance[8] recommend in benchmark 1 that a stable careers programme should be known and understood not just by pupils and teachers, but also by parents/carers.

For these reasons, our resources are also provided to parents and carers. We encourage you to explore the printed and digital resources outside of school, having conversations with your child about their qualities and what sorts of careers they might thrive in.

7 https://www.ipsos.com/en-uk/wellcome-trust-monitor-wave-2
8 https://www.gatsby.org.uk/education/focus-areas/good-career-guidance

Space Job Categories

There are a huge number of different career paths in the space sector.

The UK space sector has over 45,000 roles (0.14% of the UK workforce), which support over 125,000 jobs. We have classified the different types of careers possible into **10 broad categories**. These are based on results from the 2020 Space Census[9], the first comprehensive demographic statistics on the UK space sector.

Business
Jobs vital to the successful running of a business or organisation.

Computing
Using a computer and writing programs for it to process data or perform calculations.

Education
Teaching either by passing on knowledge or fostering skills development.

Engineering
Applying scientific principles to design and build machines, structures, and processes.

Health
Providing medical services or goods for maintaining or improving people's health.

Law & Policy
Jobs which deal with the rules of society or government guidelines.

Management
Planning, organising, directing, and controlling things or people.

Sales
Activities that lead to the selling of goods or services.

Scientific
Studying the structure and behaviour of the physical and natural world.

Other
Jobs that don't easily fit into the other categories mentioned.

9 https://spaceskills.org/census-demographics

STEM Attributes

What are the qualities needed by people who work in the space sector?

Young people typically have limited knowledge of careers in the space sector, or STEM-related careers in general. This means they may find it difficult to picture themselves doing these jobs. Showcasing attributes helps a wide range of pupils identify with a job and the characteristics needed for it. Often young people will already possess these attributes.

These 16 STEM attributes were developed by NUSTEM, following on from work by the WISE Campaign and Royal Academy of Engineering. They are well spread across the different jobs we highlight.

Collaborative
Collaborative people work together with others.

Committed
If you show commitment, you can be relied upon to do the things you have promised.

Communicative
Communicative people are good at sharing information and ideas with others.

Creative
Creative people make new things and have original ideas.

Curious
If you are curious, you want to learn new things.

Hard-working
Hard-working people put all of their effort into finishing activities and projects.

Imaginative
If you are imaginative you can think of new and interesting ideas.

Logical
Logical people can solve problems by thinking through them in a sensible order. They understand how one action can lead to another.

Observant
If you are observant you are quick to see things, you are able to spot fine details, and you are good at paying attention.

Open-minded
Open-minded people are willing to listen to new ideas and respect other people's views and opinions.

Organised
Organised people are good at planning to make sure that they finish things.

Passionate
Passionate people have strong feelings about things that interest them.

Patient
If you are patient, you are able to stay calm when faced with problems.

Resilient
Resilient people can quickly recover from difficult or challenging situations.

Self-motivated
Self-motivated people like to do things for themselves without being told how to do them.

Tenacious
If you are tenacious, you are able to stick with something difficult until it is finished.

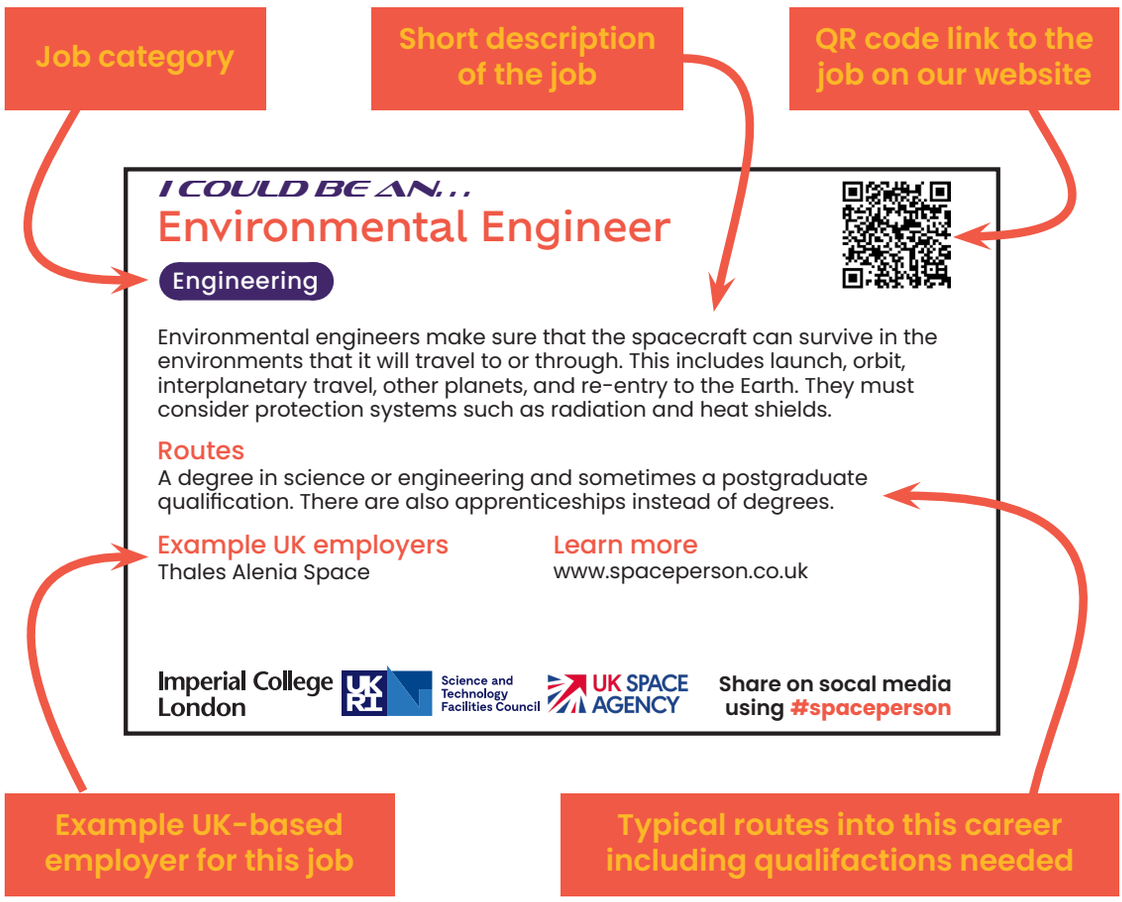
The Postcards

Each postcard contains on example career in the space sector with key information about it in an easily accessible design.

Format

The front of each postcard contains 3 of the STEM attributes as well as an illustration based on the different space job categories.

The back of each postcard reveals a space career that suits the qualities from the front. Listed are the job's title, category, a short description, routes into that career, and example employers in the UK. There is also a QR code linking to that job on our website, which contains further information such as how the job relates to topics in the Key Stage 2 and 3 national curricula in England.



How to use

If you have the full set of postcards, we suggest laying them out on a table or stand with the front (illustration) side facing up. Young people should be encouraged to choose the postcard that they relate to the most based on the attributes and illustration. You may want to describe what the different attributes mean, using the accompanying **Attributes Sheet**. They may want to discuss which (three to five) personal qualities describe them best with their friends, family, or teachers. By taking the postcard and turning it around, a space career that suits the young person's qualities will be revealed. You can then talk about the career with the child. Ask them if it's a space career that they were aware of and if they could see themselves doing it, based on the attributes they chose. Finally, let the young person take their chosen postcard with them.

We hope that taking their chosen postcard home to parents or carers will prompt further discussions about careers. This may involve exploring other space careers together on our website or sharing their child's qualities on social media and championing that they can be a space person.

The flexibility of the postcard format means that they can also easily be used in displays, incorporated into lessons, or sent out to families.

Space Career Lists

All our highlighted space careers sorted by job categories, personal attributes, and links to the national curriculum in England for your reference.

For full information about each of the careers highlighted, please see our website:

www.spaceperson.co.uk

By Job Categories

Business
Communications
Cost Estimator
Finance
Human Resources
Supply Chain
Technical Recruiter

Computing
Data Scientist
Flight Software
Ground Software

Education
Museum Curator
Science Communicator
Space Journalist
Teaching Fellow

Engineering
Environmental Engineer
Structural/Mechanical Engineer
Systems Engineer

Health
Flight Surgeon
Space Nutritionist
Space Operations Nurse
Space Psychologist

Law & Policy
Policy Maker
Space Lawyer

Management
Business Development
Innovation Manager
Project Manager
Risk Management

Sales
Product Assurance
Satellite Sales
Space Travel Agent

Scientific
Astrobiologist
Astrophysicist
Earth Observation
Planetary Geologist
Weather Data Analyst

Other
Artist
Space Command

By Attributes

Collaborative
Communications
Environmental Engineer
Finance
Flight Software
Policy Maker
Product Assurance
Risk Management
Satellite Sales
Weather Data Analyst

Committed
Ground Software
Space Travel Agent
Structural/Mechanical Engineer
Systems Engineer
Technical Recruiter

Communicative
Astrobiologist
Business Development
Communications
Human Resources
Innovation Manager
Policy Maker
Science Communicator
Space Journalist
Space Psychologist
Space Travel Agent
Supply Chain
Teaching Fellow

Creative
Artist
Business Development
Ground Software
Museum Curator
Planetary Geologist
Satellite Sales

Curious
Data Scientist
Earth Observation
Planetary Geologist

Hard-working
Cost Estimator
Data Scientist
Flight Software
Policy Maker
Risk Management
Systems Engineer

Imaginative
Astrophysicist
Data Scientist
Innovation Manager
Satellite Sales
Space Nutritionist
Teaching Fellow

Logical
Communications
Cost Estimator
Finance
Flight Software
Ground Software
Space Lawyer
Supply Chain

Observant
Earth Observation
Environmental Engineer
Flight Surgeon
Museum Curator
Planetary Geologist
Project Manager
Risk Management
Space Journalist
Structural/Mechanical Engineer
Technical Recruiter

Open-minded
Astrophysicist
Product Assurance
Space Nutritionist
Space Psychologist
Technical Recruiter

Organised
Cost Estimator
Earth Observation
Museum Curator
Product Assurance
Science Communicator
Space Lawyer
Space Nutritionist
Space Travel Agent
Structural/Mechanical Engineer
Supply Chain

Passionate
Artist
Astrophysicist
Environmental Engineer
Human Resources

Patient
Astrobiologist
Finance
Science Communicator
Space Command
Space Operations Nurse
Systems Engineer

Resilient
Astrobiologist
Flight Surgeon
Human Resources
Space Command
Space Operations Nurse
Space Psychologist
Teaching Fellow
Weather Data Analyst

Self-motivated
Artist
Business Development
Flight Surgeon
Innovation Manager
Project Manager

Tenacious
Project Manager
Space Command
Space Journalist
Space Lawyer
Space Operations Nurse
Weather Data Analyst

National Curriculum Key Stage 2

Pupils aged between 7-11 years old, school Years 3-6.

Maths

Number
Cost Estimator
Finance
Innovation Manager
Project Manager
Risk Management
Satellite Sales
Supply Chain
Systems Engineer

Fractions
Cost Estimator
Finance

Measurement
Structural/Mechanical Engineer

Geometry
Structural/Mechanical Engineer

Statistics
Astrophysicist
Cost Estimator
Data Scientist
Earth Observation
Finance
Weather Data Analyst

Ratio and proportion
Structural/Mechanical Engineer
Supply Chain
Systems Engineer

Algebra
Cost Estimator
Finance

Science

Living things and their habitats
Astrobiologist
Earth Observation
Flight Surgeon
Planetary Geologist
Space Operations Nurse
Space Psychologist

Animals including humans
Flight Surgeon
Space Nutritionist
Space Operations Nurse
Space Psychologist

Properties and changes of materials
Environmental Engineer
Flight Software
Museum Curator
Weather Data Analyst

Earth and space
Astrophysicist
Environmental Engineer
Flight Software
Flight Surgeon
Ground Software
Museum Curator
Space Nutritionist
Space Operations Nurse
Space Psychologist
Teaching Fellow
Weather Data Analyst

Forces
Environmental Engineer
Flight Software
Ground Software
Structural/Mechanical Engineer
Systems Engineer

Evolution and inheritance
Astrobiologist
Planetary Geologist

Light
Astrophysicist

Electricity
Ground Software
Systems Engineer

English

Reading
Communications
Human Resources
Risk Management
Space Lawyer

Writing
Business Development
Communications
Human Resources
Innovation Manager
Planetary Geologist
Policy Maker
Product Assurance
Risk Management
Science Communicator
Space Journalist
Space Lawyer
Space Travel Agent
Teaching Fellow

Speaking
Business Development
Communications
Flight Surgeon
Human Resources
Innovation Manager
Museum Curator
Policy Maker
Project Manger
Risk Management
Satellite Sales
Science Communicator
Space Lawyer
Space Operations Nurse
Space Psychologist
Space Travel Agent
Supply Chain
Teaching Fellow
Technical Recruiter

Other

Art and design
Artist
Museum Curator
Science Communicator
Space Travel Agent

Computing
Astrophysicist
Data Scientist
Earth Observation
Flight Software
Ground Software
Weather Data Analyst

Design and technology
Business Development
Environmental Engineer
Innovation Manager
Product Assurance
Structural/Mechanical Engineer
Technical Recruiter

Cooking and nutrition
Space Nutritionist

Geography
Astrobiologist
Earth Observation
Planetary Geologist

History
Policy Maker
Space Journalist
Space Lawyer

Foreign language
Policy Maker
Space Command

Physical education
Space Command

National Curriculum Key Stage 3

Pupils aged between 11-14 years old, school Years 7-9.

Maths

Number
Cost Estimator
Finance
Innovation Manager
Project Manager
Risk Management
Satellite Sales
Supply Chain
Systems Engineer

Algebra
Cost Estimator
Finance

Ratio, proportion and rates of change
Cost Estimator
Finance
Structural/Mechanical Engineer
Supply Chain
Systems Engineer

Geometry
Structural/Mechanical Engineer

Probability
Risk Management
Weather Data Analyst

Statistics
Astrophysicist
Cost Estimator
Data Scientist
Earth Observation
Finance

Biology

Structure and function of living organisms
Astrobiologist
Earth Observation
Flight Surgeon
Space Nutritionist
Space Operations Nurse
Space Psychologist

Material cycles and energy
Planetary Geologist

Interactions and interdependencies
Space Psychologist

Genetics and evolution
Astrobiologist

Chemistry

The particulate nature of matter
Astrobiologist
Weather Data Analyst

Atoms, elements and compounds
Astrophysicist
Planetary Geologist
Weather Data Analyst

Pure and impure substances
Museum Curator
Planetary Geologist

Chemical reactions
Astrobiologist

Energetics
Environmental Engineer

The periodic table
Astrobiologist
Planetary Geologist

Materials
Environmental Engineer
Flight Software
Museum Curator
Structural/Mechanical Engineer

Earth and atmosphere
Earth Observation
Environmental Engineer
Museum Curator
Planetary Geologist
Weather Data Analyst

Physics

Energy
Systems Engineer

Motion and forces
Environmental Engineer
Flight Software
Ground Software
Structural/Mechanical Engineer
Systems Engineer

Waves
Astrophysicist
Weather Data Analyst

Electricity and electromagnetism
Astrophysicist
Ground Software

Matter (inc. Space physics)
Astrophysicist
Earth Observation
Environmental Engineer
Flight Software
Ground Software
Systems Engineer
Teaching Fellow

English

Reading
Communications
Human Resources
Risk Management
Space Lawyer

Writing
Business Development
Communications
Human Resources
Innovation Manager
Policy Maker
Product Assurance
Risk Management
Science Communicator
Space Journalist
Space Lawyer
Space Travel Agent
Teaching Fellow

Speaking
Business Development
Communications
Flight Surgeon
Human Resources
Innovation Manager
Museum Curator
Policy Maker
Project Manager
Risk Management
Satellite Sales
Science Communicator
Space Lawyer
Space Operations Nurse
Space Psychologist
Space Travel Agent
Supply Chain
Teaching Fellow
Technical Recruiter

Other

Art and design
Artist
Museum Curator
Science Communicator
Space Travel Agent

Citizenship
Policy Maker
Space Command
Space Lawyer

Computing
Astrophysicist
Data Scientist
Earth Observation
Flight Software
Ground Software
Weather Data Analyst

Design and technology
Business Development
Environmental Engineer
Innovation Manager
Product Assurance
Structural/Mechanical Engineer
Technical Recruiter

Cooking and nutrition
Space Nutritionist

Geography
Astrobiologist
Earth Observation
Planetary Geologist

History
Policy Maker
Space Journalist
Space Lawyer

Modern foreign language
Policy Maker
Space Command

Physical education
Space Command

I'M A SPACE PERSON

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Funding by

Imperial College London

UKRI Science and Technology Facilities Council

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