



My Learning My Future

Where can studying Physics take you?

Highlighting the relevance of Physics to future careers and opportunities



Why Physics matters

Have you ever considered
where studying Physics can
take you?

Today, we'll be exploring some of
the career opportunities that are
available to you, as well as the various
pathways you can take to get there.

What pathways
can you take with
this subject?

What do you
think these roles
involve (daily
task, etc.)?

What careers can
you think of that
use Physics?

Why is
Physics an
important
subject?

Why Study Physics? -
STEM Learning

What skills do
you think you
might need for
these roles?



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Explore a
career as a...

Here are some
example roles and
careers linked to

Physics



Astrophysicist

Nasa case study

Jobs case study

icould case study



Naval Architect

BBC Bitesize Profile

icould case study



Prosthetist/Orthotist

BBC Bitesize case study

NHS case study

STEM case study

STEM case study



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**Explore a
career as a...**

**Here are some
example roles and
careers linked to**

Physics



Risk Manager

Job case study



Field Technician (Wind Turbine)

BBC Bitesize case study

Youtube case study



Electrical Engineer

BBC Bitesize case study

STEM case study



Discover more about the role

Explore careers using [National Careers Service](#) and find out about what jobs involve and how they are right for you

Includes:

- Average salary
- Typical hours
- Work patterns
- Pathways/How to become
- Essential Skills
- Daily tasks
- Career path and progression
- Current opportunities

Research Ideas:

- [Astronomer](#)
- [Naval Architect](#)
- [Prothetist/Orthotist](#)
- [Risk manager](#)
- [Wind Turbine Technician](#)
- [Electrical Engineer](#)

National Careers Service

We provide information, advice and guidance to help you make decisions on learning, training and work.

This service is available to people who live in England.

Skills assessment

Learn more about your skills and match them to potential new careers.

[Assess your skills](#)

Explore careers

Choose from over 800 career profiles to discover what each job involves.

[Search job profiles](#)

Find a course

Look for online learning opportunities and training courses local to you.

[Look for courses](#)

Careers advice

Making career choices

Whether starting your career, changing job or if you have been affected by COVID-19, understand and make the right choice for you.

Getting a job

Be successful in the recruitment process with tips on great CVs, interviews and graduate scheme applications.

Progressing your career

Move up in your career by developing new skills. Find opportunities like volunteering and online learning.

About us

The National Careers Service can help you with your career, learning and training choices. [Find out more](#) about the different ways we can support you.

Speak to a careers adviser

Wherever you are in your decision-making, you can call us on [0800 100 900](tel:0800100900) or [use webchat](#).

Follow us

- [Twitter](#)
- [Facebook](#)
- [LinkedIn](#)
- [YouTube](#)



Why not teach Physics?

Start in the classroom, where you go from there is up to you. Bring your passion for your subject, keep learning, and pass your knowledge onto others

- No two days are the same – and neither are the pupils
- Once qualified you can teach throughout your life
- You could teach abroad
- Progress your career into leadership and management
- Bring your outside interests into the classroom and your subject

Why is STEM important?

- It boosts essential skills such as problem solving and curiosity
- It helps you see and understand the wider world around you
- It helps young people become future entrepreneurs

Explore teaching

[Vjendra's Story](#)

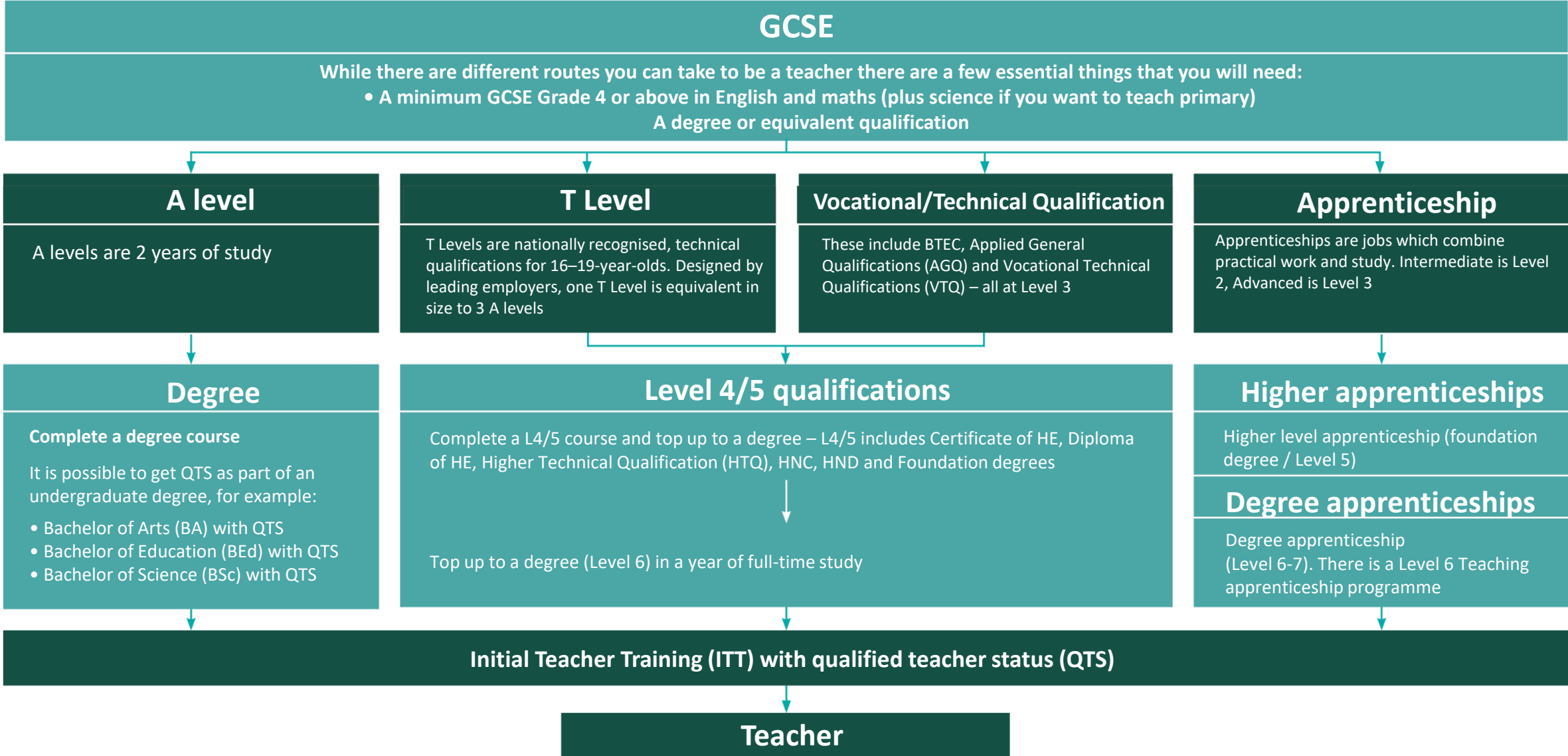
[Every Lesson
Shapes a Life](#)

The right skills to teach?

[Love to keep
learning?](#)

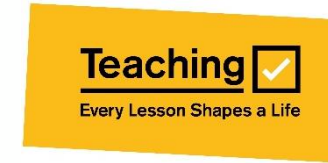
[Work well
in a team?](#)

What makes a great
teacher?





Why not teach activity?



- Pick a topic in Physics you think you would like to try and teach
- Agree your choice of topic with your teacher and the length of session (and with which group)
(It may be the perfect opportunity to try this with a younger class lower down the school, or as a transition activity for Y6)
- Plan a short activity to cover the topic in a way you feel will be engaging and memorable for your peers as part of a lesson starter, main activity or plenary

Consider:

- What are you trying to achieve (teach)? Be clear what information you intend to impart
- How will you make it fun? How will you make it 'stick'? How long will this take?
- What type of activity will you plan for? (written/practical)
- How will you know others have learned it?
- How will you make sure everyone is stretched and challenged?
- What will the end-product be?

Once you have checked it with your teacher, try the lesson with a small group (as agreed by your teacher)
Try and get feedback during and after the session from those in the lessons and from the teacher

After, consider:

- What you enjoyed about the experience
- Whether this is something, with training, you would enjoy
- How you felt when others learned from you



5 | Non-obvious jobs using Physics: Ever thought about..?

➤ [How to become an Audiologist:
Amun's story - BBC Bitesize](#)

➤ [Careers ideas and
information - Science](#)

➤ [Astronaut | Explore careers |
National Careers Service](#)

➤ [How to become a Field Technician:
Harry's story](#)

➤ [Energy Engineer | Explore careers
| National Careers Service](#)

➤ [How to become a Solar Farm Manager:
Manish's story](#)

➤ [Medical Physicist | Explore
careers | National Careers
Service](#)

BBC
Bitesize

<https://www.bbc.co.uk/bitesize/articles/zhst2sg>



**National
Careers
Service**

<https://nationalcareers.service.gov.uk/explore-careers>



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MYPATH Job of the week (Physics)



Neurologist



Nasa Engineer



Mechanical Engineer





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MYPATH Science: Why bother?



Physics:

Energy

Electricity

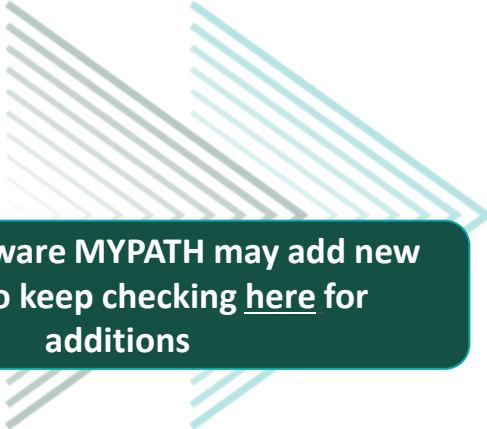
Particle Model

Atomic Structure

Forces

Waves

Magnetism and Electromagnetism



Please be aware MYPATH may add new videos so keep checking [here](#) for additions



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Physics careers in a changing world: How can I future-proof my career pathway?

The world will be changing drastically in the next few years to cope with the impacts of climate change and nature loss, and the need to lower greenhouse gas emissions and unsustainable practices. How might this steer your choice of career path using your Physics skills?

Sustainability
means meeting our
own needs without
compromising the
ability of future
generations to
meet their own
needs.
(UN definition)



Founders4Schools





Physics careers in a changing world



Climate Scientist



Consultant (Element Energy)



Civil Engineer





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A spotlight on Technicians using Physics

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6 |



Discover here how the technical jobs related to Physics keep industries moving and the real difference technicians make in our lives.

R013 Battery
Technician

R055
Electrician
Technician

R070
Nuclear
Technician

R016
Radiography
Technician

R067 Electric
Vehicle
Technician

R071
Optical
Technician



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[Visit the Gallery here](#)

[Find further resources here](#)



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R091
Power
Networks
Technician

R104
Solar Energy
Technician

R022
Civil
Engineering
Technician

R026
Compressed
Air and
Vacuum
Technician

R034
Telecommunic
ations
Technician

R038
Electrical
Engineering
Technician



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R069
Testing
Engineering
Technician

R074
Plumbing
and Heating
Technician

R077
Propulsion
Technician

R079
Rail
Engineering
Technician

R080
Refrigeration
Engineering
Technician

R084
Smart Home
Technician



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R088
Space
Engineering
Technician

R002
Acoustics
Technician

R008 Aircraft
Maintenance
Technician

R025
Composites
Technician

R062
Maintenance
and
Operations
Engineering
Technician

R005
Robotics
Technician

R082
Science
Manufacturing
Technician



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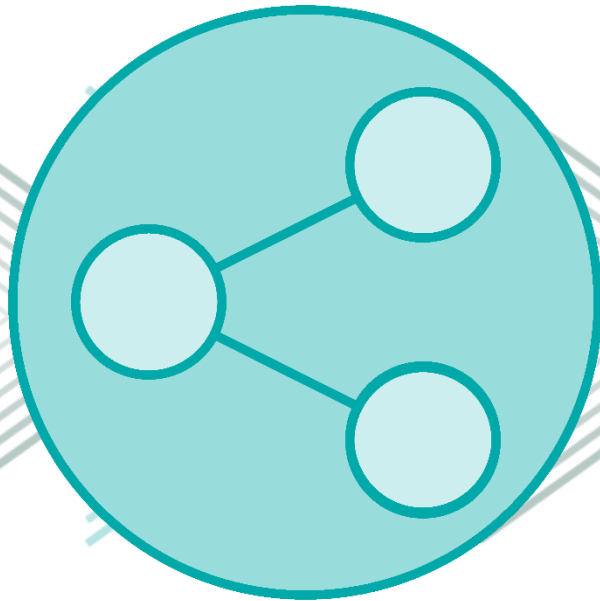


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7 | Physics Pathways



Combine Study
and Work



Study



Work



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7 | Combine Study and Work

Apprenticeships

- Nuclear Scientist
- Metrology Technician
- Laboratory Scientist
- Veterinary Scientist
- Therapeutic Radiographer
- Forensic Practitioner
- Acoustics Technician
- Aerospace Engineer
- Software Developer

T Levels

[T Levels | National Careers Service](#)

[T Levels | Design and Development for Engineering and Manufacturing](#)

[T Levels | Education and Childcare](#)

[T Levels | Health](#)

[T Levels | Healthcare Science](#)

[T Levels | Science](#)

[T Levels | Maintenance, Installation and Repair for Engineering and Manufacturing](#)

VTQs

[Vocational Technical Qualifications \(VTQs\) | National Careers Service](#)

- Applied Science
- Engineering
- Electrical Electronic Engineering
- Operations and Maintenance Engineering
- Aviation Operations
- Forensic and Criminal Investigation

[Find more >](#)





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7 | Study Pathways

HTQs (Higher Technical Qualifications)

Higher technical qualifications (HTQs) | National Careers Service

You might find courses in:

- Physics
- Aerospace Engineering
- Agriculture and related Sciences
- Electrical and Electronic Engineering
- Materials Science and Engineering
- Medicine and allied subjects
- Optometry
- Paramedic Science
- Pharmacology, Toxicology and Pharmacy
- Physical Sciences
- Radiology and Medical Technology
- Veterinary Science

A levels

A levels | National Careers Service

You might find courses in:

- Physics
- Advancing Physics
- Electronics
- Engineering
- Statistics

Higher education

Higher education | National Careers Service

You can explore undergraduate courses in Physics

You might find courses in:

- Aerospace Engineering
- Agriculture and related Sciences
- Medicine and allied subjects
- Electrical and Electronic Engineering
- Biophysics
- Veterinary Science
- Optometry
- Paramedic Science
- Physical Sciences
- Pharmacology, Toxicology and Pharmacy
- Radiography and Medical Technology





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7 | Work Pathways

Supported internships with an education, health and care plan

[Supported internships](#) | [National Careers Service](#)

[Watch Saul's story](#)

You might read about:

- [Access to Work Funding](#) (if you have a disability or health condition)
- [Preparing for Adulthood](#)
- [Talking Futures](#) (A parents' toolkit for career conversations)

School leaver schemes

[School leaver schemes](#) | [National Careers Service](#)

You might read about:

- [How to fill in an application form](#)
- [How to write a CV](#)
- [Interview help](#)
- [Progressing your career](#) (Careers Advice from NCS)





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7 | University League Tables

See at a glance the university ranking for Physics and Astronomy

[Physics and Astronomy Rankings \(thecompleteuniversityguide.co.uk\)](https://thecompleteuniversityguide.co.uk)

Filter by:

- Overall score
- Entry standards
- Student satisfaction
- Research quality
- Research intensity
- Graduate prospects





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Discover Uni

Have you ever
considered if higher
education is right
for you?

1. Go to <https://discoveruni.gov.uk/>

2. Search for a course or subject

(You should get a page of search results, you can filter these by university or college, whether you want to study full or part time or perhaps you want to see that courses are near you)

Once you have had a look at a few different courses and subjects now it is time to compare some side by side

3. Check out this video which shows you how to use our comparison tool <https://youtu.be/dBFzCQgTp8I> -

Pick 5 courses and add these as a saved course and then you can compare

4. Once you have your chosen five side by side, try to answer the following questions:

- a. What kinds of qualifications do students on the course have when they start the course?
- b. How many have a placement year?
- c. How many courses let you study abroad?
- d. Which has the highest student satisfaction rating? How do you know this?
- e. What kinds of job do graduates from this course go on to?
- f. Which course has the highest salary after three years? (higher/lower than national average)
- g. Choose your favourite course and explain why you chose this course over the others?



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4. Once you have your chosen five side by side, try to answer the following questions:

Is the data I am looking at for a course or a subject?

- a. What year, or years, does the data relate to?
- b. How many students or graduates is this data based on?
- c. Does the data represent all the students on the course or subject area?
- d. Does the data include people like me?
- e. What factors might impact the data?



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In 10 years time...

Job in 10 years time
(related to Physics):

What GCSEs helped you get this job:

What KS5 Pathways choice did you make and what did you study:

Apprenticeship T level A Level other L3 equivalent

Post 18 pathways choices did you make: explain:

Study & Work

Study

Work

Essential skills used in the job:

Progression route:



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My local options...

Subject chosen (related to Physics):

Local college options:

Local apprenticeships options:

Other options:

The pros and cons of these options for me:

Pros:

Cons:

Consider how these will apply and explain:

Cost _____

Travel _____

Convenience _____

Aspirations _____

Personal circumstances _____

Other _____

Final choice – justify:

Next steps:



3 |



Prepare a 3 - 5 minute talk to share with a small group on any role that interests you related to Physics



What's the role



Where do you need to go to carry out the role



Where has the interest come from



What's the chances of getting this role



What do you need to do to become one



Who do you look up to in this role



Where can you go to study and what level of study



What might a typical day look like



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My career path....





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8 |



Essential Skills

Here are
three key
skills needed
for a career
that uses

Physics



The ability to use tactics and strategies to overcome setbacks and achieve goals

[Watch here](#)

[Short Lesson Staying Positive Step 6-8](#)

[Short Lesson Staying Positive Step 8-10](#)

[Short Lesson Staying Positive Step 10-12](#)



The ability to set clear, tangible goals and devise a robust route to achieving them

[Watch here](#)

[Short Lesson Aiming High Step 6-8](#)

[Short Lesson Aiming High Step 8-10](#)

[Short Lesson Aiming High Step 10-12](#)






The ability to find a solution to a situation or challenge

[Watch here](#)

[Short Lesson Problem Solving Step 6-8](#)

[Short Lesson Problem Solving Step 8-10](#)

[Short Lesson Problem Solving Step 10-12](#)

	Video	Skills Builder Resource KS3	Skills Builder Resource KS4	Skills Builder Resource Post 16
	The ability to use tactics and strategies to overcome setbacks and achieve goals	Watch here	Short Lesson Staying Positive Step 6-8	Short Lesson Staying Positive Step 8-10
	The ability to set clear, tangible goals and devise a robust route to achieving them	Watch here	Short Lesson Aiming High Step 6-8	Short Lesson Aiming High Step 8-10
	The ability to find a solution to a situation or challenge	Watch here	Short Lesson Problem Solving Step 6-8	Short Lesson Problem Solving Step 8-10



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	Staying Positive	I can do this
Step 6	I keep trying when something goes wrong and encourage others to keep trying too	
Step 7	I look for opportunities in difficult situations	
Step 8	I look for opportunities in difficult situations, and share these with others	
Step 9	I look for opportunities in difficult situations, and adapt plans to use the opportunities	
Step 10	I look for opportunities in difficult situations, and create new plans to use the opportunities	
Step 11	I identify risks and gains in opportunities	
Step 12	I identify risks and gains in opportunities, and make plans to manage them	



My Strength (s)

My area (s) of Development



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Aiming High

	Aiming High	I can do this
Step 6	I set goals informed by understanding of what is needed	
Step 7	I set goals, ordering and prioritising tasks to achieve them	
Step 8	I set goals and the right resources to achieve them	
Step 9	I set goals and plan to involve others in the best way	
Step 10	I create plans that are informed by my skill set and that of others	
Step 11	I create plans that include clear targets to make progress tangible	
Step 12	I create plans that are informed by external views, including constructive criticism	



My Strength (s)

My area (s) of Development



8 |



	Problem Solving	I can do this
Step 6	I explore complex problems by identifying when there are no simple technical solutions	
Step 7	I explore complex problems by building my understanding through research	
Step 8	I explore complex problems by analysing the causes and effects	
Step 9	I create solutions for complex problems by generating a range of options	
Step 10	I create solutions for complex problems by evaluating the positive and negative effects of a range of options	
Step 11	I analyse complex problems by logical reasoning	
Step 12	I analyse complex problems by creating and testing hypotheses	

My Strength (s)

My area (s) of Development



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