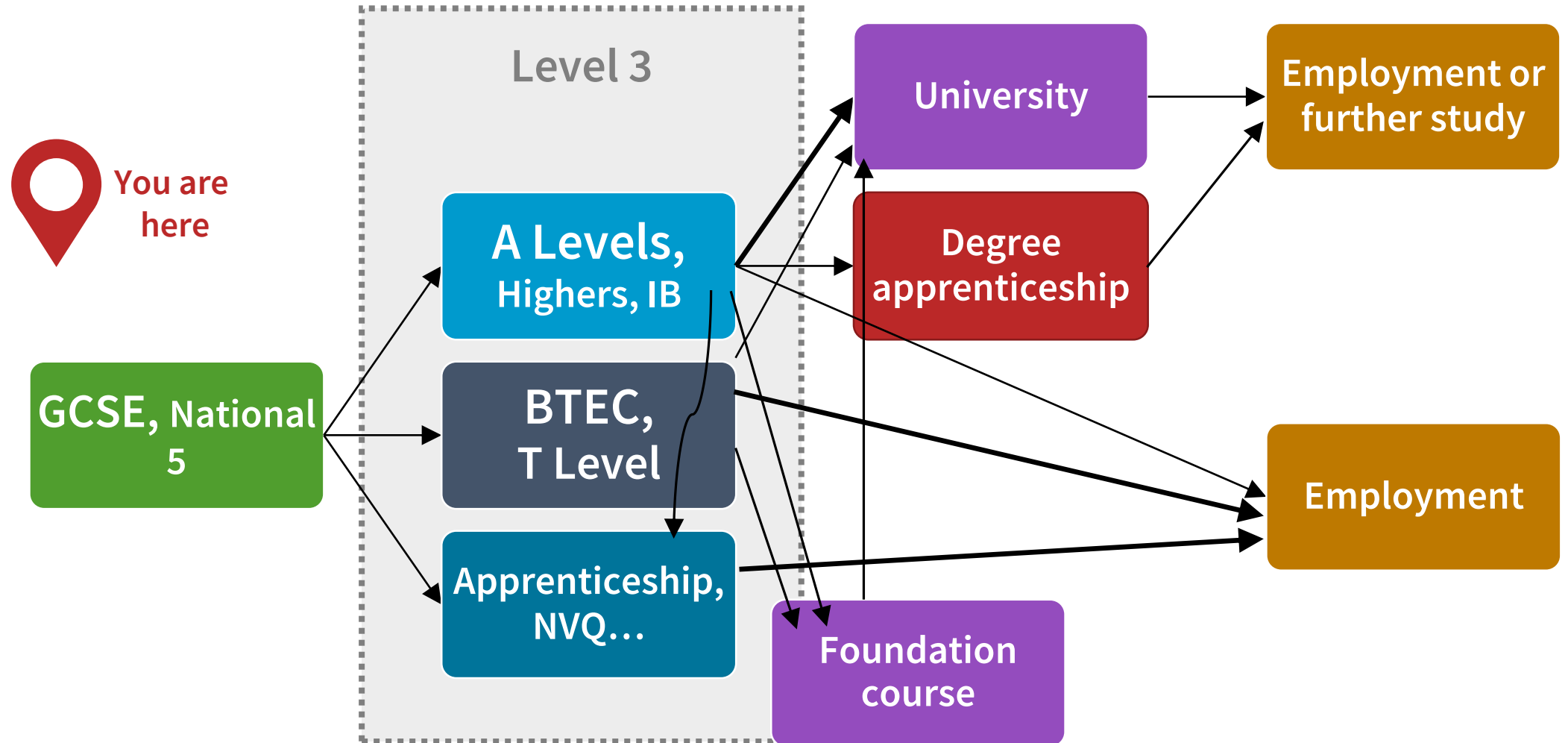





Physics After GCSE: Subject Matters

Isaac Physics team
3rd Feb 2024

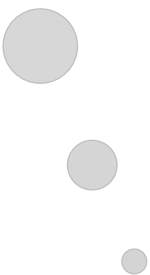
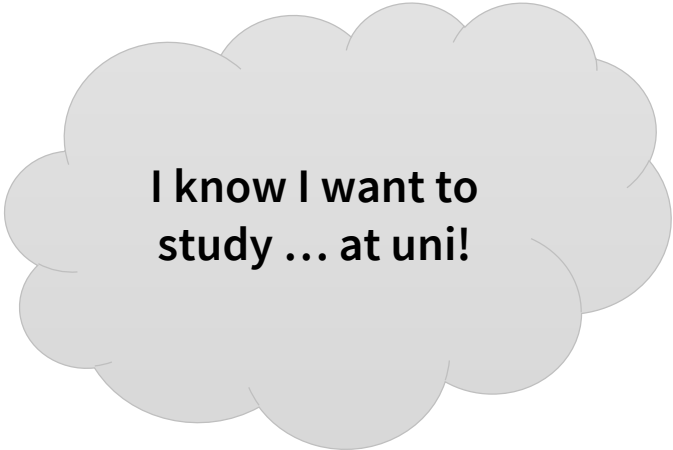
I like Physics... What next?





Which describes you best?



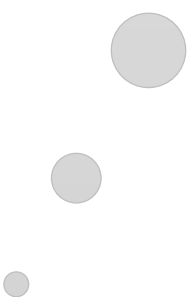
I know I want to be
... for a job!

Three small, light gray circles are arranged in a vertical line below the thought bubble, with the top circle being the largest and the bottom one the smallest.

I know I want to
study ... at uni!

Three small, light gray circles are arranged in a vertical line below the thought bubble, with the top circle being the largest and the bottom one the smallest.

I don't know (but I
do have some
interests...)

Three small, light gray circles are arranged in a vertical line below the thought bubble, with the top circle being the largest and the bottom one the smallest.



A Levels

- › Typically two-year courses (year 12 & 13)
 - you *might* do AS Level after one year
- › Often used as entry qualifications for university
 - apply to universities during your A Level course
- › During this time you may also:
 - do some work experience
 - broaden learning in other ways (sport/music/art, supercurriculars, DofE, volunteering...)



A Levels

- › Typically at least 3 subjects
 - *Some* schools allow more than 3, if they can schedule it
 - If you will “only” do 3, think about flexibility e.g. Maths + Further Maths + ?

- › A Level Physics almost always paired with Maths!
 - Physics with Maths is *easier* and *more useful*

- › Other subjects to go with Physics:
 - STEM subjects: Further Maths, Chemistry, Biology, Computer Science, Environmental Science...
 - Arts and humanities
(*if you like and they don't limit your next steps,
e.g. if you want to study arts/humanities at uni*)

A Level Physics

- › You will learn:
 - new ideas!
 - ideas from GCSE in more depth
 - › with more maths
 - valuable problem solving skills and applying maths
 - practical experimental skills





What's in A Level Physics?

Essential Physics Skills Book



Interactive questions from our
Essential Pre-University Physics
book.

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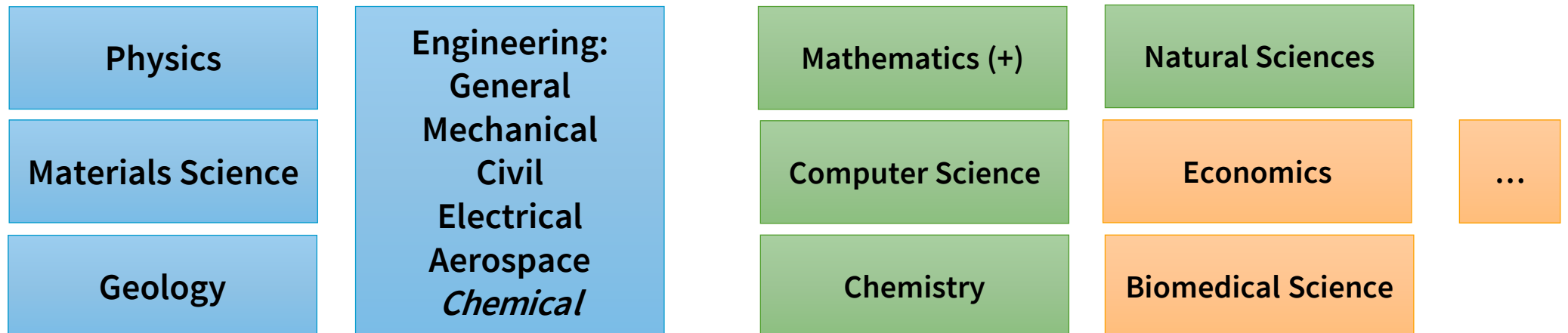


University

› Why go to university?

- Good degree + good university = good job!
- Subject + interest = good results

› What subjects could I study?





Life after university: Careers

- › Some careers require a certain degree
 - consider this when choosing your degree subject!
- › Most graduate jobs “just” require a degree (any subject)
 - Needs to be “good” (grade = 2.i or higher)



Case study: Medicine

- › If you want to be a doctor: start planning now!
 - Medical training includes: a degree; postgraduate training; specialty or GP training. Total >8 years!
 - A Levels: Chemistry; usually Biology; Physics can be helpful
 - › + work experience in a caring role; admissions tests; interview
 - More info:
 - › <https://www.bma.org.uk/advice-and-support/studying-medicine/becoming-a-doctor/medical-training-pathway>
 - › <https://www.bma.org.uk/advice-and-support/studying-medicine/becoming-a-doctor/applying-to-medical-school>
- › Many other careers in healthcare exist
 - <https://www.healthcareers.nhs.uk/explore-roles>



Case study: Engineering

- › “Chartered, with degree”
 - A Levels: Maths + Physics (and/or Engineering or D&T)
 - Approved degree: 4-5 years
 - › includes 1-year work placement and major project
 - Begin work
 - › Become member of professional institute (e.g. IMechE)
 - › make portfolio of professional development & projects delivered
 - › apply for chartered status

- › Vocational pathways also possible



Vocational pathways

- › Consider these if...
 - you are interested in physics and engineering, but not sure if the pathway of A Levels and university is right for you
 - you want to move more quickly towards employment
 - you think of yourself as more “practical”

- › e.g. T-Levels in Engineering subjects:
 - Design and Development for Engineering and Manufacturing
 - Maintenance, Installation and Repair for Engineering and Manufacturing
 - Engineering, Manufacturing, Processing and Control



Find out more: A Levels & University

› A Level content

- your school or local college website
- exam board websites
- many online resources

› University course search:

- <https://digital.ucas.com/search>
- <https://www.theuniguide.co.uk/courses>





Find out more 2: A Levels & University

› Cambridge resources

– The Subject Matters

https://www.undergraduate.study.cam.ac.uk/sites/www.undergraduate.study.cam.ac.uk/files/publications/the_subject_matters.pdf

– Videos by Churchill College

› How do I choose my A Levels?

<https://www.youtube.com/watch?v=8gOXfHqoMj8>

› How many A Levels should I take?

<https://www.youtube.com/watch?v=xDk92WvaIT4>



Find out more 3: Vocational pathways

› Apprenticeships:

- <https://www.apprenticeships.gov.uk/apprentices>
- <https://www.instituteforapprenticeships.org/about/find-an-apprenticeship/>
- <https://www.findapprenticeship.service.gov.uk/apprenticeshipsearch>

› T-Levels, BTEC etc:

- <https://www.tlevels.gov.uk/students>
- Your local FE college website



Final notes

- › The world of work changes fast
 - e.g. AI will shrink some professions, but create others
- › Work is important, but so are other things
- › An open mind is useful

*“Don't feel guilty if you don't know what you want to do with your life.
The most interesting people I know didn't know at 22 what they wanted to do with their lives.
Some of the most interesting 40-year-olds I know still don't.”*

*--Mary Schmich, *Chicago Tribune* journalist, 1997*