

# Bridging the Gap...

## Activities to prepare you for A-Level Physics at New College Durham



New College Durham

To help you understand what physics is about, the Institute of Physics have some excellent resources on their website. Get a fantastic overview of quantum mechanics, relativity and more. <https://beta.iop.org/physics-stepping-stones>

Physics is all about trying to understand how the physical world works. To do this we make theoretical models which can be tested in an experiment. Measuring stuff – in experiments – is important so you must be accurate and precise (these mean different things). Check out Mrs Physics for an explanation of precision / uncertainty: <https://www.mrsphysics.co.uk/higher/uncertainties/>



The Royal Institution <https://www.youtube.com/user/TheRoyalInstitution> has a lot of videos all about science and maths. Here's their explanation of the double-slit experiment: <https://www.youtube.com/watch?v=A9tKncAdlHQ> It's a great place for good explanation of science.

Check out this mind-bending video about quantum mechanics by Dr Quantum <https://www.youtube.com/watch?v=Q1YggPAzho> but don't worry if you don't understand it – it's QM, nobody does! Our brains have evolved to react to the macroscopic world around us, not the atomic level.

Another great place of course is **Ted Talks** <https://www.ted.com/topics/physics>. Need in-depth support to figure out your homework? Try Khan Academy for step by step explanations <https://www.khanacademy.org/science/physics>

The Astronomy Photo of the Day website <https://apod.nasa.gov/apod/astropix.html> presents a different photo every day with a brief explanation of what you're looking at and what it means. Set it as your default page on your internet browser.

Finally, the University of Colorado, Boulder, have amazing simulations to help learn physics: <https://phet.colorado.edu/en/simulations/category/physics>. Try out a few, do they help you visualise the ideas?

