



The John Roan School Sixth Form

The best in everyone™

Part of United Learning

Year 11 Bridging Work for Physics (A Level)



Complete Standard Form

You used standard form in GCSE Physics – at A Level, we use it for all sorts of questions. Standard form allows scientists to compare the order of magnitude of different quantities in a way that helps us to explain phenomena and make useful predictions.

It is important that you can handle the maths of standard form. Use the weblink below to take you through materials for standard form – it links to Isaac Physics as well which you can sign up to.

Link: [GCSE Physics Online](#)

Time: As long as you want. Recommended 30 minutes



Read The forces are with you

In A level physics, we cover and build on our GCSE knowledge. The below links go over the forces part of the GCSE course and introduce you to a range of simulations produced by PHET at the University of Colorado – we make use of these in our learning in year 12 and 13.

Link 1: [Bitesize Forces](#)

Link 2: [PHET Simulations](#)

Time: 1 hour



Listen Einstein

Einstein is probably the world's most famous physicist. He formulated the theory of General Relativity. Download the following to your phone so you can listen to them when you go out and do some exercise.

Link 1: [An Infinite Monkey's Guide to General Relativity](#): Episode 1

Link 2: [An Infinite Monkey's Guide to General Relativity](#): Episode 2

Time: 45 minutes each



Watch Have you got the energy?

Energy cannot be created or destroyed, it just transforms from one form to another – the challenge is whether we can harness and use it for our own purposes when it changes from one form to another. The three Lectures take you on an incredible journey through these powerful transformations to inspire you!

Link: [Supercharged: Fuelling the Future](#)

Time: 3 lectures of 1 hour each



Read Wave Structure & Properties

Recap on your wave knowledge – click the link, then find the box about Wave Structure and Properties. Download the worksheet, then click on the play button!

Link: [STEM Learning](#)

Time: 45 minutes



Watch How has Islam influenced Science?

The first part of a series by Jim Al-Khalili looking at the development of scientific knowledge in the Islamic world through history.

Link: [BBC4 – The Language of Science, Episode 1](#)

Time: 1 hour



Complete Electrical Circuits

Electrical circuits come up in year 12 – they are important to understanding how the world works. It is important that you have a good grounding in how circuits work – so work through questions on Isaac Physics – use the hints and video explainers!

Link: [Isaac Physics](#) (sign up is free)

Time: 1 hour