



**The John Roan School
Sixth Form**
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Year 11 Bridging Work for BTEC Applied Science

Week 3 and 4 - physics
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Complete Practice your Standard form

You used standard form in GCSE science— in the BTEC Science course we use it for all sorts of questions. Use the two weblinks to take you through materials for standard form. You will need to register to Isaac Physics to complete the extra problems from the second website.

Link:

<https://bit.ly/2WRYweQ>
www.gcsephysicsonline.com/session-1

Time: as long as you like



Read up about waves

The physics part of the BTEC Science course looks at how waves are used in communications, for instance in satellite communications, mobile phones, WiFi and Bluetooth®. Read through the BBC Bitesize information on waves, that includes electromagnetic waves and sound waves. Remember to also have a go at the questions.

Link: <https://bbc.in/2yMMQ57>

Time: as long as you like...



Listen to science podcasts

There are lots of different podcasts discussing a whole range of different scientific topics. The ones linked to below all look at how waves are used. Download them to your phone when you go out and do some exercise.

Links:

The EM spectrum:

<http://tiny.cc/zyw2oz>

Music & the brain:

<http://tiny.cc/jvw2oz>

Oceans of noise:

<http://tiny.cc/c3w2oz>

Time: 30 - 45 minutes each.



Watch some of the Khan Academy videos

The Khan Academy videos look quite basic, but stick with them because they are great at explaining difficult topics. Watch the serious on oscillations and mechanical waves

Link –

<https://www.khanacademy.org/science/physics/mechanical-waves-and-sound>

Time: Each video is about 10 minutes



Read about waves from "Thye Physics Classroom"

Read the information from the following website and complete the questions at the bottom to check your understanding

Link – <http://tiny.cc/x802oz>

Time: About 40 minutes.



Watch Wonders of the Universe #4 "Messengers"

Prof Brian Cox discusses how the unique properties of light provide an insight into the origins & development of mankind & the universe

Link - <https://vimeo.com/202168900>

(I couldn't find it without subtitles)

Time: 60 minutes



Complete & self mark questions on wave equation

The following document has over 70 marks worth of questions on wave equation. Complete the questions and then self mark them using the answers at the bottom of the document.

Link: <https://bit.ly/3dBDnfA>

Time: Approx. 2 hours