

# Physics Y12 Induction Day 2019

**What resources can you expect to back up your studies?**

**Text book: (Also available on-line)**

Introduction to the unit

Units are divided into subsections

Questions with fully worked solutions and Activities are integral to the unit

Fully worked solutions are at the end of each unit

Questions on the whole unit

The achievements list is the most important page!!

Maths resources

**On line:**

Lesson outlines

Activity sheets

Additional sheets tend to be extension material

**Assessment:**

Key assessments,

Definitions tests,

End of unit tests,

Y12 Internal Exams,

Core Practicals

**Expectations:**

Pre-lesson notes done on sections.

Questions and Key assessments done as directed.

**Course structure**

**Y12**

**6 units**

**HFS EAT SUR DIG SPC MUS**

**Practical skills endorsement:**

**8 core practical tasks**

# ACTIVITY: Energy Return Shoes

'Are they worth the money? Do they make you go faster and jump higher?'

HFS

If my new Nike Air trainers are able to store 10 Joules of stored elastic energy and 6 Joules can be usefully transferred to make me jump higher how efficient are the trainers and how much higher can I jump?

Show your working out (Hint:  $\Delta PE = mg\Delta h$ )

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## Preparation for AS

Sign up for Qubit with the Institute of Physics

[http://www.iop.org/education/student/youth\\_membership/page\\_41684.html](http://www.iop.org/education/student/youth_membership/page_41684.html)

Definitions: Learn the definitions for HFS (section 1)

Pick a sport of your choice. In HFS for example you look at climbing, Bungee jumping and Ski jumping. Write a detailed account about all of the Physics that is involved (you may be asked to give a short presentation on this). Think about how advances in technology have made the sport possible, improved performance in the past and how it may improve it in the future. It is not intended that this be a general description of a sport it is the Physics we are interested in.

Go to [www.s-cool.co.uk](http://www.s-cool.co.uk) and in the A level Physics section in Vectors and Scalars and linear motion. Read this through and make detailed notes:

Vectors and Scalars - What's the Difference and Vector Addition

Resolving Vectors into Components