

John Kyrle High School



Physics Department

# Physics Induction Homework - preparing to study!

Before you start the A level physics course in September we would like you to:

- Consider carefully **why** you want to study A level physics. It is a demanding course but we think it is worthwhile and very rewarding!
- Use the **OCR** website to look at the **details** of the what is included in the **A level course**
- **Review** your **GCSE** physics work - this is your 'foundation' for the **A level course!**
- **Complete** the **introductory tasks** on the next few slides and keep them safe ready to hand in in September

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## Introductory task 1 on units and prefixes

[www.npl.co.uk/reference/measurement-units/](http://www.npl.co.uk/reference/measurement-units/)

Use the NPL (national physical laboratory) website to research the following:

What is the **S.I. system** of measurement?

Name the seven **base quantities** in the S.I. system

Name the seven **base units** in the S.I. system

Give a brief **definition** of each base unit

Learn the **S.I. standard prefixes** and conventions

Produce an **A3 or A4 size poster** illustrating  
one or more aspect of your research

Bring this with you to hand in in **September**

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## Introductory task 2 on Particles

You should know about particles - protons, neutrons and electrons - but I would like you to create a 'particle zoo' on all of the particles (both atomic and subatomic) that exist.

Base your Zoo on the Standard model (the links below will help you with this). Like a normal zoo there should be info for visitors on each one showing their key properties (like mass, charge, composition, categorisation and a whole bunch of other stuff you may find out. You can be as creative as you like.

There are links to websites to get you started.

<https://home.cern/science/physics/standard-model>

<http://www->

[pnp.physics.ox.ac.uk/~gwenlan/ParticlePhysics/WebGuide/default.html](http://www-pnp.physics.ox.ac.uk/~gwenlan/ParticlePhysics/WebGuide/default.html)

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## Some useful websites:

[www.ocr.org.uk](http://www.ocr.org.uk) **OCR exam board website**

Follow the link for GCE Physics A (H156, H556 from 2015) to find a copy of the specification and lots of other useful information about the OCR A level Physics course.

[www.physics.org](http://www.physics.org) **Institute of Physics website.**

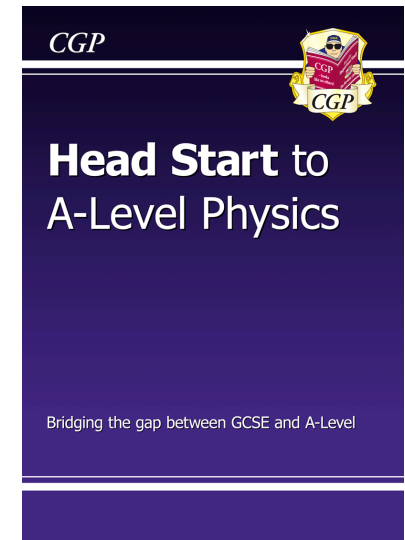
This is an excellent site to find out all sorts of information that will help your Physics studies at GCSE and A level. It has exam tips, information about careers and some challenging Physics games and quizzes.

[www.cgpbbooks.co.uk](http://www.cgpbbooks.co.uk) **Head Start to A-level Physics.**

This is a relatively inexpensive book (£4.95) that we would recommend to help you recap and build on GCSE work before starting the A level course.

[www.isaacphysics.org](http://www.isaacphysics.org) **ISAAC Physics**

This is a website we use throughout the course, it contains many resources for reading as well as tasks to complete.



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Have a wonderful summer  
We look forward to seeing  
you in September

1 <b>H</b> Hydrogen 1.008	15 <b>P</b> Phosphorus 30.974	15 <b>P</b> Phosphorus 30.974	39 <b>Y</b> Yttrium 88.906
67 <b>Ho</b> Holmium 164.930	3 <b>Li</b> Lithium 6.941	66 <b>Dy</b> Dysprosium 162.50	16 <b>S</b> Sulfur 32.066

If you wish to email us with any questions we are:

[j.bolt@jkhs.org.uk](mailto:j.bolt@jkhs.org.uk)  
[christophertoomer@jkhs.org.uk](mailto:christophertoomer@jkhs.org.uk)