



## A-level Physics taster session

The tasks in this document are designed to increase your understanding of the A-level Physics course that we run at Saint Augustine's Catholic high school. You should complete each task in preparation for the taster session on the 1<sup>st</sup> March and be prepared to share your answers and findings with the group.

### Task 1- What does this course cover?

1. Go to Google and type in 'AQA A level Physics specification'
2. List the main topics covered in this A level (the option module will be Astrophysics). Which of these sounds the most interesting to you and why?
3. List the 12 required practicals in this A level. Which of these sounds the most interesting to you and why?

### Task 2- Where can this course take me?

1. Follow this link <https://www.informedchoices.ac.uk/subjects> use the website to select some possible A-level choices including Physics, what possible degree courses does it suggest? Which sound inspiring to you?
2. Alternatively, if you already have an idea of a degree course you'd like to study, use this link <https://www.informedchoices.ac.uk/degrees> to find out what A-level courses are advised. Is Physics a required or recommended A-level for this course?
3. Now follow this link <https://www.ucas.com/explore/subjects>. Navigate the UCAS page to explore the possible university courses recommended.
4. Make a list of the top 5 courses that spark your interest, their entry requirements and why this interested you. Be prepared to share these in the session.

### Task 3- What is a typical lesson in A-level Physics like?

In AQA A-level Physics we have a choice of option modules, you will cover Astrophysics.

Within this topic you learn about cosmology, which is the study of the universe. This work will prepare you for a mini lesson on the expansion of the Universe and the Big Bang.

Watch the video below which introduces the concept of 'red shift' as evidence for the Big Bang.

[https://www.youtube.com/watch?v=9f\\_i87aHKoo](https://www.youtube.com/watch?v=9f_i87aHKoo)

Answer the following questions from watching the video, be prepared to share your answers with the group:

1. **How are rainbows formed?**
2. **Which colour of light has the longest wavelength and which has the shortest?**
3. **What difference do we observe about the most distant galaxies in our Universe?**



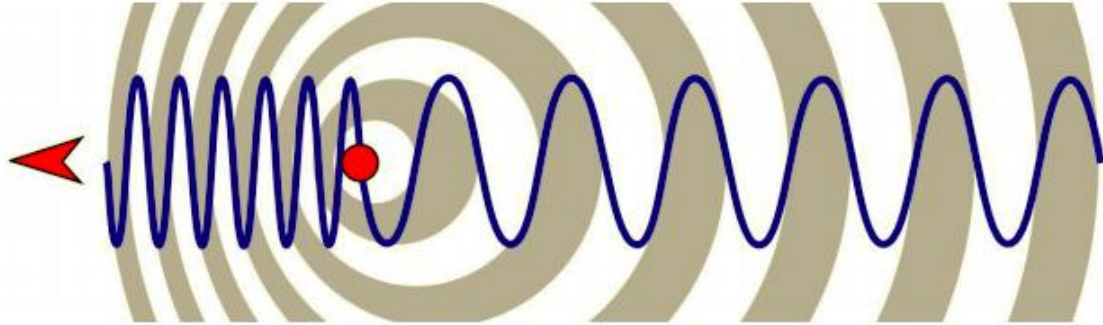
Deus Fortitudo Mea



### Read this description of the Doppler effect:

The Doppler effect is the compression or spreading out of waves that are emitted or reflected by a moving source.

As the source is moving, the wavelengths in front of it are compressed and the wavelengths behind are spread out as shown in the diagram below.



An example of the doppler effect can be heard in the sound of a car moving past you.

If you're struggling to imagine this you can hear it in this video:

<https://www.youtube.com/watch?v=a3RfULw7aAY>

**Use the Doppler effect to explain what is observed in the light from distant galaxies?**