

## Physics A Level – Preparatory Work 2023

Thank you for choosing to enrol onto the Physics A level course. There are three activities for you to complete before your first lesson.

### **First Activity**

The first activity is to identify and improve, if necessary, any of the maths skills needed for Physics course. At the end of the first week you will complete an initial maths assessment (GCSE standard) to help you identify any areas you might need further practice with. It will cover:

- rearranging equations
- simple trigonometry
- calculations

We have produced a maths skills booklet that gives explanations and practice questions on each of the key skill areas.

1. Go through the maths skills booklet and complete the practice questions for any of the topic areas you're unsure about.

### **Second Activity**

The first topic we are starting with is Materials, the first part of which is density.

We would like you to follow the links below and watch the two on-line videos.

1. 1<sup>st</sup> Video – concerns the difference between mass and weight.

After watching this video write down what is meant by the words “mass” and “weight”.

Link: <https://www.youtube.com/watch?v= ZOX0yE8loc>

2. 2<sup>nd</sup> Video – concerns buoyancy.

After watching this video, and carrying out any other research, write down an explanation of why objects float in water.

Link: [https://www.youtube.com/watch?v=C\\_covjclcZ4](https://www.youtube.com/watch?v=C_covjclcZ4)

Answer: <http://unlistedvideos.com/v/youtube-CTnkoIWZZPI.html>

3. Write down a prediction, with an explanation, for what will happen in the following situations:
  - a. A beaker is filled up to the brim with a mixture of water and ice cubes. What will happen to the water level in the beaker when the ice melts?
  - b. What difference, if any, would it make to whether the water level changes or not if the water in the beaker was salty?

### **Third activity**

Come prepared for the lesson – this means you will need a pen, pencil, 30cm ruler, scientific calculator and an A4 ring binder with A4 paper in it.