

## Year 11 - Physics

### **Autumn term**

The topic of electrical circuits is introduced and students build on their KS3 knowledge of current, voltage and series and parallel circuits. Knowledge will now extend to include charge and resistance and students will gain an appreciation of the electrical safety features in their homes including the wiring of a three-pin plug. **Students will then consider static electricity, exploring how static charges are induced and discussing the dangers and uses of static electricity** This learning is then extended further when the topics of magnetism, the motor effect and electromagnetic induction are introduced as physical processes that have hugely impacted our modern lifestyle by enabling us to control electricity. In addition to describing magnetic fields and effects, student will learn how a current is induced in a wire and then how this phenomena is used to produce electricity on a large scale in power stations.

### **Spring term**

Physics finishes by exploring the particle model in more detail and considering how forces affect matter. The concepts of density, specific heat capacity and specific latent heat are investigated through practical work as are the ways in which forces affect elastic substances, the energy transfers involved in stretching **and how pressure in fluids depends on density and depth.**

### **Summer term**

Exam preparation and revision