The syllabus dot points shown below make up the research component of this course. This research will be conducted in class and at home. More details soon

- identify data sources, gather, process and present information to summarise the use of the photoelectric effect in photocells
- process information to discuss Einstein’s and Planck’s differing views about whether science research is removed from social and political forces
- gather, process and present secondary information to discuss how shortcomings in available communication technology lead to an increased knowledge of the properties of materials with particular reference to the invention of the transistor
- identify data sources, gather, process, analyse information and use available evidence to assess the impact of the invention of transistors on society with particular reference to their use in microchips and microprocessors
- identify data sources, gather, process and present information to summarise the effect of light on semiconductors in solar cells
- process information to identify some of the metals, metal alloys and compounds that have been identified as exhibiting the property of superconductivity and their critical temperatures
- analyse information to explain why a magnet is able to hover above a superconducting material that has reached the temperature at which it is superconducting
- gather and process information to describe how superconductors and the effects of magnetic fields have been applied to develop a maglev train
- process information to discuss possible applications of superconductivity and the effects of those applications on computers, generators and motors and transmission of electricity through power grids