**St Mary’s Catholic School**

**Year 11 into Year 12 Bridging Work**

**Recommended Reading List for Year 12**

**Physics**

To prepare you for your Sixth Form studies, the reading list below includes a variety of books, articles, and other material to read and use, to broaden your knowledge, and to enrich your understanding of Physics.

Take some time over the summer to complete the reading below, using the tasks to help structure your reading.

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| **Read / Watch** | **Link if this is available online** | **Tasks to complete**  | **Any additional notes** |
| Read the following article on Einstein’s Theory of Relativity | <https://phys.org/news/2013-04-einstein-gravity-theory-toughest-bizarre.html> | Read through the article and write a review of Einstein’s theory and how theories are tested in Physics.  |  |
| Listen to the podcast ‘Big Bang Day: Five Particles’ | <https://www.bbc.co.uk/programmes/b00d8xyx/episodes/player> | Listen to the episodes; ‘The Electron’, ‘The Quark’ ‘The Anti-Particle’ and ‘The Neutrino’.Make notes on the properties of each particle. | This forms the basis of the first topic covered in A-Level Physics; Particles and Radiation. |
| Watch the TV mini-series ‘From Ice to Fire: The Incredible Science of Temperature’. | <https://www.bbc.co.uk/iplayer/episode/b09t9txy/from-ice-to-fire-the-incredible-science-of-temperature-series-1-3-playing-with-fire> | Write a summary of every episode focusing on the advancements made in thermal physics.  | This forms the basis of the seventh topic covered in A-Level Physics; Thermal Physics. |
| Watch the TED talk by Brian Greene ‘Is our universe the only universe?’ | <https://www.youtube.com/watch?v=Vx2RcUQNh6Q> | Watch this for pleasure to gain an understanding of some of the far-reaching consequences of physics.  |  |
| Listen to the podcast ‘Experiments That Changed the World’. | <https://www.bbc.co.uk/sounds/play/p03cgl7k> | Listen to the episode; ‘Galileo’s Acceleration Experiment. Make detailed notes on the experiment carried out. | This is one of the required practicals of the A-Level Physics course – ‘g’ by freefall.  |
| Watch the TED Talk by Helen Czerski‘The fascinating physics of everyday life’. | <https://www.youtube.com/watch?v=_ryJK294Psw> | Watch this for pleasure to gain an understanding of the importance of physics in everyday life.  |  |
| Watch the TED Talk by Dominic Walliman‘Quantum Physics for 7 Year Olds’ | <https://www.youtube.com/watch?v=ARWBdfWpDyc> | Watch this for pleasure to gain an understanding of how to communicate difficult ideas in physics.  |  |
| Watch the TV mini-series ‘Forces of Nature with Brian Cox’. | <https://www.bbc.co.uk/iplayer/episode/b07k7m4z/forces-of-nature-with-brian-cox-1-the-universe-in-a-snowflake> | Write a summary of the forces covered in every episode and how they are manifested in the universe. | This forms the basis of the first topic covered in A-Level Physics; Particles and Radiation. |
| Listen to the podcast ‘In Our Time: Paul Dirac’ | <https://www.bbc.co.uk/sounds/play/m000fw0p> | Listen to the episode on Paul Dirac and make notes on ant-particles mentioned in the episode.  | This forms the basis of the first topic covered in A-Level Physics; Particles and Radiation. |
| Read the following article on Superconductivity | <https://phys.org/news/2020-07-perspective-superconductivity.html> | Read through the article and write a summary of what superconductivity is.  | Superconductivity is covered in the fourth topic of A-Level Physics; Electricity. |