



# SIMON LANGTON GRAMMAR SCHOOL FOR BOYS

## SIXTH FORM

### Into Year 12 Physics – Summer Work

#### 1, Research Task

Pick 1 area of physics you currently know very little or nothing about, research and write a 1500±200 word paper in your own words. You may include diagrams or equations in your paper. Any sources should be referenced and the paper should be substantially your own words. This will be one of your first formally assessed tasks. Your topic can be anything based on Physics however a few possible subjects are listed below:

- String theory,
- Black holes,
- Quantum mechanics,
- Thin film semiconductors,
- Wave – particle duality,
- Superconductor theory,
- Lasers, wormholes,
- Dark matter,
- Dark energy,
- Planetary formation,
- Biophysics,
- Nano technology,
- Radiation therapy,
- The Standard Model,
- The Physics of supersonic flight,
- General Relativity,

The paper should be ready to submit in electronic format during your first week back.

#### 2, Recap and Revise GCSE Syllabus

(AQA Physics Syllabus 8463 link <https://www.aqa.org.uk/subjects/science/gcse/physics-8463>). You will be assessed on this during your first week back and this will constitute your first formal exam data point.