Bishop Heber High School

Subject	Year	Term
Physics	13	2

Topic

Capacitance, Nuclear and Thermal Physics

Content (Intent)

Prior Learning (Topic) Further Mechanics, Astrophysics, and Fields

AQA A Level Physics

- Capacitance
- Nuclear physics
- Thermal Physics

Future Learning (Topic) Astrophysics and exam preparation

What Knowledge and Skills will be taught (Implementation)	How will your understanding be assessed & recorded (Impact)
Capacitance The role of the capacitor, charging and discharging of capacitors in R-C circuits and application in real world contexts. A.C Theory. *Required Practical 9* Investigation of Charge and discharge of capacitors *Required Practical 11* Investigation magnetic flux linkage using a search coil and CRO.	Y13 Mock Exam – February . A level grading and formative feedback given. End of topic tests - A level grading and formative feedback given. Homework – a percentage, A level grade and Formative feedback provided. Data recorded on teacher tracking sheet
Nuclear Rutherford model of the atom, radioactivity, decay modes, decay theory, application of nuclear physics, fission and fusion. *Required Practical 12* Investigation of the inverse square law with gamma radiation **Thermal Physics** Application of the ideal gas laws: Boyles, Charles' and Gay-Lussac's laws; Kinetic Theory of Gases and Internal Energy .	End of topic tests - A level grading and formative feedback given. Homework – a percentage, A level grade and Formative feedback provided.

How can parents help at home

Ensure all class notes and content files are complete and homework submitted on time
Encourage pupils to revise for tests and exams and to create revision resources such as flash cards and posters.
Encourage pupils to actively research future University courses and careers.

Helpful further reading/discussion (including Reading and Vocabulary Lists)

Reading

Text Book – Collins AQA Approved Physics Year 2 Student book by Dave Kelly
Websites

- www.physicsandmathstutor.com
- www.antonine-education.co.uk
- AQA website

Books – Practice in Physics by Akrill et al.
CGP revision guides

Vocabulary Lists

Decay Constant
Exponential
Capacitance
Farad
Flux Linkage
Luminosity
Wein's Law
RMS Voltage
Search Coil
CRO
Mass Defect
Binding Energy
Aberration
Stefan's Law