St Peter's Catholic School

Faith is our Foundation

2022-2023 Year 13 Curriculum and Assessment Plan for Physics

The curriculum and assessment of pupils at this stage of education has been carefully designed to build upon skills and knowledge from AS Physics and to give the pupils the knowledge and practical skills to be successful in the next stage of their education or career.

<table>
<tr>
<td rowspan="2">Half Term 1:

All pupils will know: The topics of Circular Motion, Oscillations and Thermal Physics as outlined by the AQA Physics specification 7408 AS and A-level Physics Specification Specifications for first teaching in 2015 (aqa.org.uk)

All pupils will be assessed by:
By short recall activities, electronic automatically marked homework's and longer answer short tests focussed on the topics. Pupils will also complete end of topic assessments. There will also be a longer exam as part of the data gathering for the whole year group twice a year.

Impact- Why do we teach this?

For pupils to gain an understanding of the materials in the A-Level specification and to be able to solve challenging problems. Pupils are also able to carry out complex and potentially hazardous experiments, paying due regard to risk and how to minimise errors with the equipment provided. Students will be well prepared in terms of their understanding and practical skills to start an undergraduate physics or engineering course.</td>
<td>Subject specific skills being developed:
• Mathematical
• Analysis
• Problem solving
• Reading
• Practical skills</td>
<td rowspan="2">Half Term 2:

All pupils will know: The topics of nuclear physics, radioactivity and fields as outlined by the AQA Physics specification 7408 AS and A-level Physics Specification Specifications for first teaching in 2015 (aqa.org.uk)

All pupils will be assessed:
By short recall activities, electronic automatically marked homework's and longer answer short tests focussed on the topics. Pupils will also complete end of topic assessments. There will also be a longer exam as part of the data gathering for the whole year group twice a year.

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<td>Subject specific skills being developed:
• Mathematical
• Analysis
• Problem solving
• Reading
• Practical skills</td>
<td rowspan="2">Half Term 3:

All pupils will know: The topics of nuclear physics, radioactivity and fields as outlined by the AQA Physics specification 7408 AS and A-level Physics Specification Specifications for first teaching in 2015 (aqa.org.uk)

All pupils will be assessed:
By short recall activities, electronic automatically marked homework's and longer answer short tests focussed on the topics. Pupils will also complete end of topic assessments. There will also be a longer exam as part of the data gathering for the whole year group twice a year.

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<td>Subject specific skills being developed:
• Mathematical
• Analysis
• Problem solving
• Reading
• Practical skills
•</td>
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<tr>
<td>Reading Skills needed for this unit:

Key Vocabulary:
Acceleration, displacement, angular velocity, centripetal force, resultant force, velocity, resonance, damping, natural frequency</td>
<td>Reading Skills needed for this unit:

Key Vocabulary:
Potential, gradient, potential energy, capacitance, dielectric, binding energy, fission, fusion, exponential</td>
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Key Vocabulary:
Potential, gradient, potential energy, capacitance, dielectric, binding energy, fission, fusion, exponential</td>
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<tr>
<td rowspan="2">Half Term 4:

All pupils will know: Pupils will pick one of the four options units (Astrophysics, medical physics, Engineering physics or turning points in physics) They will also further develop their practical skills as they prepare for paper 3.

All pupils will be assessed:
By short recall activities, electronic automatically marked homework's and longer answer short tests focussed on the topics. Pupils will also complete end of topic assessments. There will also be a longer exam as part of the data gathering for the whole year group twice a year.

Impact - Why do we teach this?</td>
<td>Subject specific skills being developed:
• Maths
• Graph drawing and interpretation
•</td>
<td rowspan="2">Half Term 5:

All pupils will know:

Pupils will be sitting their A-Level assessments

All pupils will be assessed:

A – Levels exams
Practice papers

Impact - Why do we teach this?</td>
<td>Subject specific skills being developed:
• Mathematical
• Analysis
• Problem solving
• Reading
• Practical skills</td>
<td rowspan="2">Half Term 6:

All pupils will know:
N/A

All pupils will be assessed:
N/A

Impact- Why do we teach this?
N/A</td>
<td>Subject specific skills being developed:
•</td>
</tr>
<tr>
<td>Reading Skills needed for this unit:

Key Vocabulary:
Uncertainty, percentage uncertainty, accuracy, precision, reliable, tangent, gradient, micrometer, vernier callipers</td>
<td>Reading Skills needed for this unit:

Key Vocabulary:</td>
<td>Reading Skills needed for this unit:

Key Vocabulary:</td>
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For pupils to gain an understanding of the materials in the A-Level specification and to be able to solve challenging problems. Pupils are also able to carry out complex and potentially hazardous experiments, paying due regard to risk and how to minimise errors with the equipment provided. Students will be well prepared in terms of their understanding and practical skills to start an undergraduate physics or engineering course.	**Opportunity for cross-curricular skill development** ● Maths ● Graph drawing and interpretation ● A2 further maths ● Exponentials and logs		**Opportunity for cross-curricular skill development** ● Maths ● Graph drawing and interpretation ● A2 further maths ● Exponentials and logs		**Opportunity for cross-curricular skill development** ●
Ensuring this curriculum meets the needs of all pupils: this curriculum has been designed to ensure pupils from all starting points will develop the key curriculum skills and knowledge identified. The curriculum design ensures that each unit forms part of the overall learning journey and there are opportunities for revisiting skills and linking together key pieces of knowledge. Whole Academy policies and practices are followed to tailor the delivery of the curriculum for individuals and groups of students. For example SEND students have individual learning profiles that outline needs/strategies to be used, Whole group RIPs are in place to identify key teaching strategies that will be used with individual teaching groups. Ongoing formative assessment and clear summative assessment points allow individual staff and departments to identify misconception and adjust curriculum appropriately.					
Enrichment opportunities: ● Potential for a trip to CERN					
Career opportunities/ links: **Nuclear power, Roller-coaster engineer,**					