St Peter's Catholic School

Faith is our Foundation

2022-2023 Year 13 Curriculum and Assessment Plan for A-Level Biology

The curriculum and assessment of pupils at this stage of education has been carefully designed to Enable them to deepen their understanding of how the cell and organism function and have evolved and use scientific investigation to make conclusions and critically evaluate data and conclusions based on evidence.

<table>
<tr>
<td rowspan="3">Half Term 1:

All pupils will know: The topic of Cells and Biological Molecules as outlined by the AQA Biology specification H7402 A-Level Biology Specification 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. 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?
Biological Molecules and Cells are the building blocks of organisms and understanding how they function; the different types of cell and their structures is crucial to supporting further studies in Biology.</td>
<td>Subject specific skills being developed:
Microscopy skills
Reading skills
Vocabulary skills
Investigative skills
How science works
STEM</td>
<td rowspan="3">Half Term 2:

All pupils will know: Complete the topic of Cells and Biological Molecules as outlined by the AQA Biology specification H7402 A-Level Biology Specification 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. 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?
Biological Molecules and Cells are the building blocks of organisms and understanding how they function; the different types of cell and their structures is crucial to supporting further studies in Biology.</td>
<td>Subject specific skills being developed:
Microscopy skills
Reading skills
Vocabulary skills
Investigative skills
How science works
STEM</td>
<td rowspan="3">Half Term 3:

All pupils will know: The topic of Organisms exchange substances with their environment and Cells as outlined by the AQA Biology specification H7402 A-Level Biology Specification 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. 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?
Cells are the building blocks of organisms and understanding how they function; the different types of cell and their structures is crucial to supporting further studies in Biology. Exchange surfaces are then crucial to organisms being able to transfer vital reactants and waste products into and out of cells from different mediums and at different rates.</td>
<td>Subject specific skills being developed:
Microscopy skills
Reading skills
Vocabulary skills
Investigative skills
How science works
STEM
Data analysis</td>
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<tr>
<td>Reading Skills needed for this unit: Critical Evaluation of journals, data, texts.
Key Vocabulary: Carbohydrates, Lipids, Proteins, Enzymes, Nucleic Acids, ATP, Water, Inorganic Ions, Cell Structure, Replication, Cell Transport, Immunity</td>
<td>Reading Skills needed for this unit: Critical Evaluation of journals, data, texts.
Key Vocabulary: Carbohydrates, Lipids, Proteins, Enzymes, Nucleic Acids, ATP, Water, Inorganic Ions, Cell Structure, Replication, Cell Transport, Immunity</td>
<td>Reading Skills needed for this unit: Critical Evaluation of journals, data, texts.
Key Vocabulary: Cell Structure, Replication, Cell Transport, Immunity, Gas Exchange, Digestion, Mass Transport.</td>
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<tr>
<td>Opportunity for cross-curricular skill development
Graphing,
Calculations
algebra</td>
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<td>Half Term 4:

All pupils will know: The topic of Organisms exchange substances with their environment and Genetic information, variation and relationships between organisms as outlined by the AQA Biology specification H7402 A-Level Biology Specification for first teaching in 2015 (aqa.org.uk)</td>
<td>Subject specific skills being developed:
Reading skills
Vocabulary skills
Investigative skills
How science works
STEM</td>
<td>Half Term 5:

All pupils will know: A-Level Biology Maths skills and statistical tests and Genetic information, variation and relationships between organisms as outlined by the AQA Biology specification H7402 A-Level Biology Specification for first teaching in 2015 (aqa.org.uk)

All pupils will be assessed by:</td>
<td>Subject specific skills being developed:
Reading skills
Vocabulary skills
Investigative skills
How science works
STEM</td>
<td>Half Term 6:

All pupils will know: A-Level Biology Respiration and Populations as outlined by the AQA Biology specification H7402 A-Level Biology Specification for first teaching in 2015 (aqa.org.uk)

All pupils will be assessed by:</td>
<td>Subject specific skills being developed:
Reading skills
Vocabulary skills
Investigative skills
How science works
STEM</td>
</tr>
</table>

All pupils will be assessed by: By short recall activities, electronic automatically marked homework's and longer answer short tests focussed on the topics. 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?** Exchange surfaces are crucial to organisms being able to transfer vital reactants and waste products into and out of cells from different mediums and at different rates. Genetic information, variation and relationships between organisms will help students explain how random changes can lead to changes in populations and trends over time from short term effects to evolution of species over millions of years.	**Reading Skills needed for this unit: Critical Evaluation of journals, data, texts.** **Key Vocabulary:** Gas Exchange, Digestion, Mass Transport, Genetic Information, Protein Synthesis, Classification & Biodeiversity **Opportunity for cross-curricular skill development** • Graphing, • Calculations • algebra	By short recall activities, electronic automatically marked homework's and longer answer short tests focussed on the topics. 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?** Maths makes up 20% of the a-level courses and statistical tests are a way of knowing if results of investigations are significant. This will allow students to apply relevant maths skills to situations, and determine if conclusion are significant or down to chance. Genetic information, variation and relationships between organisms will help students explain how random changes can lead to changes in populations and trends over time from short term effects to evolution of species over millions of years.	**Reading Skills needed for this unit: Critical Evaluation of journals, data, texts. Comprehend mathematical questions from long word format questions.** **Key Vocabulary:** Genetic Information, Protein Synthesis, Classification & Biodeiversity. T-Ttest, Spearmans Rank, **Opportunity for cross-curricular skill development** • Graphing, • Calculations • algebra • Statistical tests	By short recall activities, electronic automatically marked homework's and longer answer short tests focussed on the topics. 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?** Respiration is taught in GCSE but is fundamentally the reason why we have life. Understanding it as a reaction will help use their knowledge and be able to understand the purpose of fundamental biological processes for energy. Population will allow students to understand and investigate populations and apply knowledge of how these can be effected.	**Reading Skills needed for this unit: Critical Evaluation of journals, data, texts. Comprehend mathematical questions from long word format questions.** **Key Vocabulary: Population,Ecosystems, Evolution, Aerobic, Anaerobic, Glycolysis, Krebs Cycle, Electron Transport Chain.** **Opportunity for cross-curricular skill development** • Graphing, • Calculations • algebra • Statistical tests
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:					
Career opportunities/ links:					