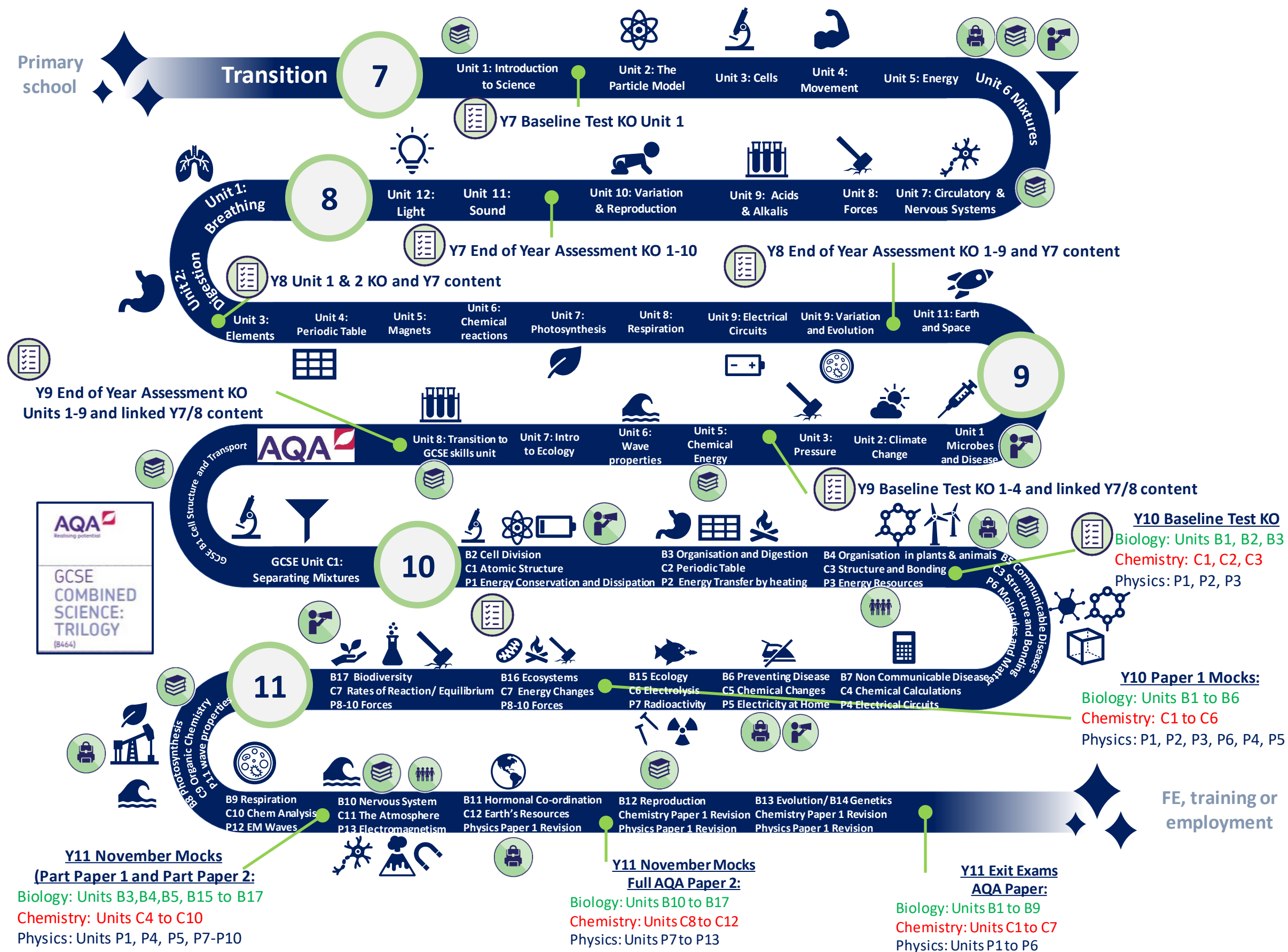


# Combined Science:

In Science, we follow the KS3 National Curriculum and at KS4 AQA Combined Science: Trilogy, preparing students for the 21<sup>st</sup> Century so they will be successful in a global digital, STEM economy as well as proud custodians of the environment for the next generation. We aim to develop scientific knowledge, concepts and understanding through biology, chemistry and physics. Students develop an understanding of natural processes and methods of science as well as the importance of their uses and implications



## Knowledgeable & Expert Learner

- Year 7 Unit 1: Transition unit enables students to become familiar with the lab and equipment and revisited in Year 9 Unit 8 Transition to GCSE.
- Year 7 Unit 3 Cells is revisited in Y7 Unit 7, Y8 Unit 1 and 2, Year 9 GCSE Unit B1 and Year 11 Unit B8.
- Year 7 Unit 5 Energy underpins and connects topics such as Y7 Unit 11 and 12 Light and sound, Y9 Unit 5 Chemical Energy and GCSE P1, P2, P3 Energy Conservation and Dissipation, C7 Energy Changes and B16 Organising an ecosystem



## Confident Communicator

- Knowledge organisers identify scientific key words and definitions to expand vocabulary and explore the etymology of subject specific keywords such as photosynthesis or exothermic.
- Transfer mathematical language and apply to a science context e.g. Y10 Unit B8 Photosynthesis, Y10 Unit C7 Energy Changes
- Year 9 Unit 1 Microbes and Disease: debating the ethical issues surrounding vaccination and Y10 B2 the use of Stem Cell Technology.



## Future Ready Learner

- Year 9 Microbes and Disease, Year 8 Unit 4 Periodic Table - appreciate the key events in scientific discovery from history and their impact on modern research.
- Year 8 Unit 7 and Year 11 Units B8, B13 and B17 - the consequences of a population explosion & suggest solutions for sustainable food supply.
- Y7 Unit 5, Y10 C5, C6, C12 The importance of sustainable energy resources & raw materials.



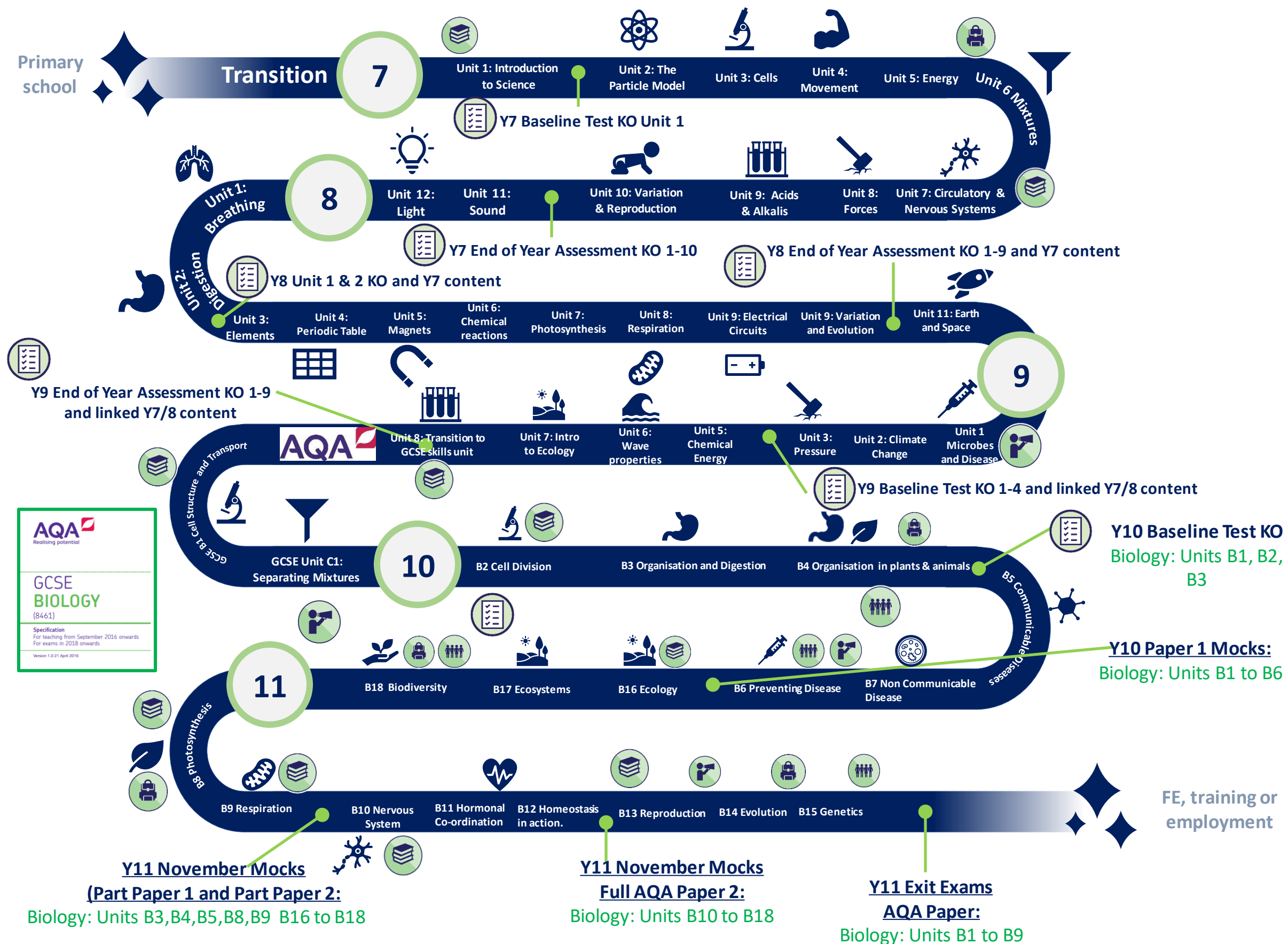
## Committed Community Contributor

- Reflect on the impact of scientific advances on the world around them.
- Y9 Unit 1 and Y10 GCSE B5 Evaluate information and challenge misinformation on vaccination/COVID-19 pandemic
- Y9 Unit 2 and Y11 GCSE P3, C11, B17 the causes and impact of climate change on all organisms globally.

*No child left behind.*

# Triple Science: Biology.

In Science, we follow the KS3 National Curriculum and at KS4 AQA Triple Science: Biology, preparing students for the 21<sup>st</sup> Century so they will be successful in a global digital, STEM economy as well as proud custodians of the environment for the next generation. We aim to develop scientific knowledge, concepts and understanding through biology, chemistry and physics. Students develop an understanding of natural processes and methods of science as well as the importance of their uses and implications



## Knowledgeable & Expert Learner

- Year 7 Unit 1: Transition unit enables students to become familiar with the lab and equipment and in Year 9 Unit 8 Transition to GCSE to prepare for Required Practical Skills e.g. microscopy.
- Year 7 Unit 3 Cells is revisited in Y7 Unit 7, Y8 Unit 1 and 2, Year 9 GCSE Unit B1 and Year 11 Unit B8.
- Year 7 Unit 5 and GCSE P1 Energy connections are made to biology in B8 and B9 Bioenergetics and B16 Ecosystems.



## Confident Communicator

- Knowledge organisers expand vocabulary and explore the etymology of subject specific keywords such as photosynthesis.
- Transfer mathematical language and apply to a science context e.g. Y10 Unit B8 Photosynthesis, B5-7 Disease to interpret data.
- Year 9 Unit 1 Microbes and Disease: debating the ethical issues surrounding vaccination and Y10 B2 the use of Stem Cell Technology.



## Future Ready Learner

- Year 9 Microbes and Disease, Y11 B13, B14 and B15 appreciate the key events in scientific discovery from history and their impact on modern research.
- Year 8 Unit 7 and Year 11 Units B8, B13 and B17 - the consequences of a population explosion & suggest solutions for sustainable food supply.



## Committed Community Contributor

- Reflect on the impact of scientific advances on the world around them.
- Y9 Unit 1 and Y10 GCSE B5 Evaluate information and challenge misinformation on vaccination/COVID-19 pandemic
- Y9 Unit 2 and Y11 GCSE P3, C11 the causes and impact of climate change on all organisms globally.



# Triple Science: Chemistry.

In Science, we follow the KS3 National Curriculum and at KS4 AQA Triple Science: Chemistry, preparing students for the 21<sup>st</sup> Century so they will be successful in a global digital, STEM economy as well as proud custodians of the environment for the next generation. We aim to develop scientific knowledge, concepts and understanding through biology, chemistry and physics. Students develop an understanding of natural processes and methods of science as well as the importance of their uses and implications



## Knowledgeable & Expert Learner

- Year 7 Unit 1: Transition unit enables students to become familiar with the lab and equipment and in Year 9 Unit 8 Transition to GCSE.
- Year 7 Unit 6 Mixtures is revisited in Y9 GCSE Unit C1, Y10 C9 Crude oil and fuel, Y10 and Y11 C12 Chemical Analysis Parts 1 and 2.
- Year 7 Unit 5 and GCSE P1 Energy connections are made to chemistry in C5 Chemical Changes, C7 Energy changes and C8 Equilibrium.
- Year 9 Atomic structure is applied to organic molecules in C9, C10 and C11



## Confident Communicator

- Knowledge organisers identify scientific key words and definitions to expand vocabulary and explore the etymology of subject specific keywords such as thermal decomposition, exothermic and endothermic.
- Transfer mathematical language and apply to a scientific context e.g. Y10 Unit C4 Chemical calculations using standard form and algebra.
- Y11 C9, C11, C13 and C14 discuss and debate the importance of using resources sustainably.



## Future Ready Learner

- Y8 Unit 4 and Year 10 C2 The Periodic Table - appreciate the key events in scientific discovery from history and their impact on modern research.
- Y7 Unit 5, Y10 C5, C6, Y11 C13 and C14 The importance of sustainable energy resources & raw materials
- Y8 Unit 6, Y10 C7 and Y11 C14 – debate portable energy sources in cells and battery powered vehicles.



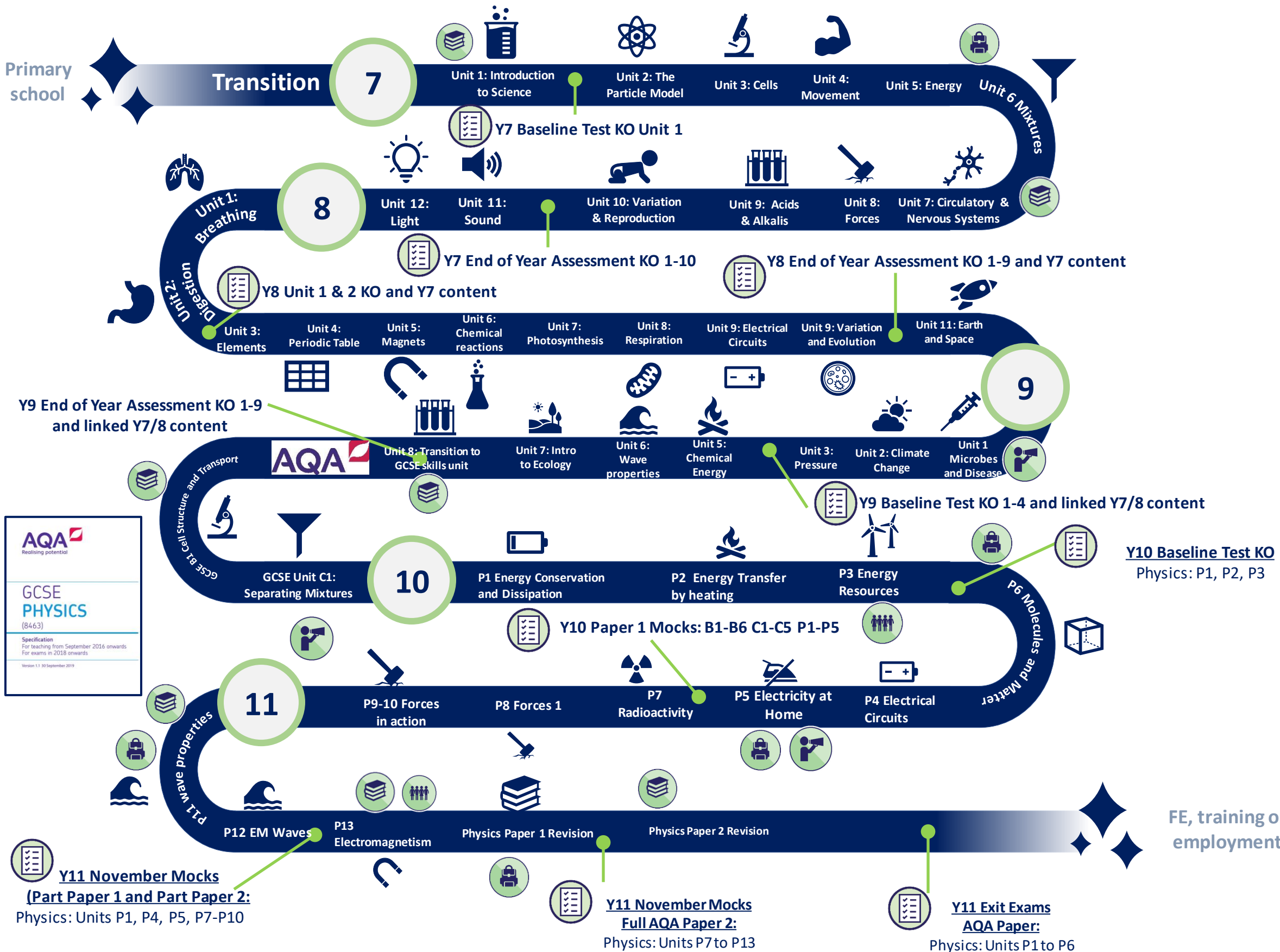
## Committed Community Contributor

- Reflect on the impact of scientific advances on the world around them.
- Y9 Unit 2 and Y11 GCSE C9, C11, C13 the causes and impact of climate change on all organisms globally.
- Y10 C3 and Y11 C14 linking the properties of materials such as polymers to recycling and reusing to address local and global pollution.

*No child left behind.*

# Triple Science: Physics.

In Science, we follow the KS3 National Curriculum and at KS4 AQA Triple Science: Physics, preparing students for the 21<sup>st</sup> Century so they will be successful in a global digital, STEM economy as well as proud custodians of the environment for the next generation. We aim to develop scientific knowledge, concepts and understanding through biology, chemistry and physics. Students develop an understanding of natural processes and methods of science as well as the importance of their uses and implications



## Knowledgeable & Expert Learner

- Revisiting the fundamentals ideas such as energy and forces from Y7 to Y11 embedding concepts securely.
- Year 7 Unit 1: Transition unit enables students to become familiar with the lab and equipment and in Year 9 Unit 8 Transition to GCSE.
- Year 7 Unit 5 Energy is revisited in Y7 Unit 12 and 13, Y8 Unit 9, Year 9 GCSE Unit P1, P2 and P3, then applications to Year 11 Unit P11 and P12.



## Confident Communicator

- Knowledge organisers identify scientific key words and definitions to expand vocabulary.
- Explore the etymology of subject specific keywords such as photosynthesis.
- Transfer mathematical language and apply to a science context e.g. Y10 Unit B8 Photosynthesis, Unit C7 Energy Changes
- Year 9 Unit 1 Microbes and Disease: Vaccination.



## Future Ready Learner

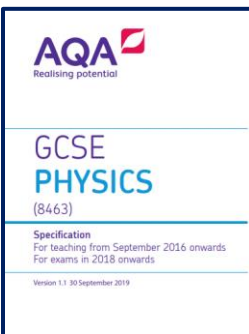
- Year 10 P7 Radioactivity - appreciate the key events in scientific discovery of the atom from history and the impact on modern research.
- Year 7 Unit 8 and Year 10 Units P3 and P5 supply of a sustainable energy to the National Grid.
- Year 11 P11 and P12 The changing methods of communication using Blue Tooth, Fibre Optics and Satellite technology.



## Committed Community Contributor

- Reflect on the impact of scientific advances on the world around them.
- Year 7 Unit 8 and Year 10 Units P3 and P5 supply of a sustainable energy to the National Grid.
- Y10 P7 Radioactivity – discuss the issues surrounding the use of Nuclear power as well as the impact of Chernobyl/Fukushima.

FE, training or employment



No child left behind.