# Key Stage 3 Science Curriculum Outline

## Year 7 Curriculum

Pupils will start with a short "Introduction to secondary science" course, before studying Biology, Chemistry and Physics as separate subjects, before undertaking the summer science investigation. All pupils are in mixed ability classes and study the same curriculum. A key assessment will take place at the end of each Science. Mini assessments will also be undertaken during each topic. These may be quizzes, homeworks, practical assessments and may be marked either by the teacher or by the pupils.

| **Timeline** | **Content and assessments** | **Skills/Keywords** |
|---|---|---|
| 1st 2 weeks of Term 1 | **Introduction to Science**<br>● Working safely in a lab<br>● Planning and carrying out investigations | Forming scientific questions.<br>Making predictions.<br>Plan workable investigations including identifying independent, dependent and control variables.<br>Writing investigation methods.<br>Describing how to correctly and safely use items of scientific equipment.<br>Making measurements and recording observations.<br>Plotting graphs and analysing results.<br>Evaluating data and methods.<br><br>**For a list of keywords, see the faculty website.** |
| September - December | **Biology**<br>● Cells<br>● Body systems<br>● Reproduction<br>● Biology in context wider reading and research: The importance of Bees<br>● **End of Biology test. (1 hour, graded)** | |
| December - March | **Chemistry**<br>● Particles<br>● Atoms, Elements, Compounds and Mixtures<br>● Chemical reactions<br>● Acids and Alkalis<br>● Chemistry in context wider reading and research: Future materials | |

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| | • **End of Chemistry test (1 hour, graded)** | |
| April - June | **Physics**<br>• Forces<br>• Energy<br>• Space<br>• Physics in context research and presentation: Space<br>• **End of Physics test (1 hour, graded)** | |
| June - July | **Summer Science Investigations and Science Fair** | |

**How parents can support learning:**
**Ensure pupils have the correct equipment:** Pen, Pencil, Ruler, Calculator.
**Visit the faculty website** for a weekly teaching schedule, online textbook, topic checklists, knowledge organisers, homework tasks and keywords lists. **:** http://beechencliffscience.weebly.com/

**Year 8 Science Curriculum**

In year 8, we build upon the year 7 content and skills and introduce new concepts. Once again, all pupils are in mixed ability classes and study the same curriculum. A key assessment will take place at the end of each Science. Mini assessments will also be undertaken during each topic. These may be quizzes, homeworks, practical assessments and may be marked either by the teacher or by the pupils.

| **Timeline** | **Content and assessments** | **Skills** |
|---|---|---|
| September - December | **Biology**<br>● Healthy living<br>● Ecosystem processes<br>● Adaptations and inheritance<br>● Biology in context extended writing: Should we all be vegan?<br>● **End of Biology test. (1 hour, graded)** | Everything in year 7 plus:<br><br>Constructing scales, Calculating gradients<br>Selecting and using equations<br>Converting units<br>Evaluating data and methods<br><br>**For a list of keywords, see the faculty website.** |
| December - March | **Chemistry**<br>● The Periodic Table<br>● Separation techniques<br>● Metals and Acids<br>● The Earth<br>● Wider reading and research: Sustainable living<br>● **End of Chemistry test (1 hour, graded)** | |
| April - June | **Physics**<br>● Electricity and Magnetism<br>● Sound<br>● Light<br>● Motion and pressure<br>● Wider reading and research: Choose an area of physics to study and present. | |

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| | • **End of Physics test (1 hour, graded)** | |
| June - July | **Summer Science Investigations and Science Fair** | |

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**Year 9 Curriculum**

In year 9, we build upon the year 7 and 8 content and skills and finish the Key Stage 3 National Curriculum and begin to introduce some Key Stage 4 content. Once again, all pupils are in mixed ability classes and study the same curriculum. A key assessment will take place at the end of each Science. Mini assessments will also be undertaken during each topic. These may be quizzes, homeworks, practical assessments and may be marked either by the teacher or by the pupils.

Performance in year 9 assessments will be used to decide whether pupils should study Combined or Separate Science GCSEs in years 10 and 11.

| **Timeline** | **Content and assessments** | **Skills** |
|---|---|---|
| September - December | **Biology**<br>● Cell structure and transport<br>● Cell division<br>● Organisation of the digestive system<br>● **End of Biology test. (1 hour, graded)** | Everything from years 7 and 8 plus:<br><br>Microscopy<br>Standard form<br>Converting units<br>Equations<br>Rearranging equations<br>Evaluating the reliability and precision of data.<br><br>**For a list of keywords, see the faculty website.** |
| December - March | **Chemistry**<br>● Atomic structure<br>● The Periodic Table<br>● The Earth's resources and atmosphere<br>● **End of Chemistry test (1 hour, graded)** | |
| April - June | **Physics**<br>● Energy stores and transfers<br>● Energy and heating<br>● Energy resources<br>● Molecules and matter<br>● **End of Physics test (1 hour, graded)** | |

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| June - July | **Biology**<br>• The heart, circulatory system and transport in plants | |

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