



Curriculum Content	Assessment	What homework will they have?	I'm not an expert, so how can I help?
<p><b>What will my child be studying this term?</b>                      The curriculum within Biology is intended consolidate and build upon learning gained in Year 12, and continue to engage, enthuse and inspire students about Biology and its wider applications. The curriculum covers the AQA A2 level programme of study, including two Biology units and one ISA (Investigative Skills Assignment).</p> <p>The key principles students are expected to know in the Spring term are those from Unit 5 Biology;</p> <p>More detailed learning objectives for the AS level course can be found as detailed in the specification (follow the hyperlink below). The learning objectives for A2 Biology are on pages 22-26 for Unit 2. <a href="http://filestore.aqa.org.uk/subjects/specifications/alevel/AQA-2410-W-SP-14.PDF">http://filestore.aqa.org.uk/subjects/specifications/alevel/AQA-2410-W-SP-14.PDF</a></p>	<p>Progress tests will occur around the end of each half term, which students will be expected to prepare thoroughly for. This will enable students and staff to assess progress and allow for any necessary intervention.</p> <p>Students will be offered additional support and a second opportunity to be tested on the subject matter until the student is confident with the topic.</p> <p>Short homework tasks set by staff members on a lesson by lesson basis are due the next lesson with that staff member.</p>	<p>Homework tasks will be set every lesson by each of the two Biology teachers. Homework in Biology can take many forms; from written questions, to researching a particular topic, to preparing a verbal presentation, to preparing for a progress test. Areas for improvement on homework should always be acted upon – either corrections made or a discussion with that staff member.</p> <p>Wider reading around the topic areas (from the textbook) or scientific websites such as Nature (<a href="http://www.nature.com">www.nature.com</a>) or New Scientist (<a href="http://www.newscientist.com">www.newscientist.com</a>) are highly recommended. An excellent magazine subscription is the Biological Sciences Review (<a href="http://www.bsr.manchester.ac.uk">www.bsr.manchester.ac.uk</a>), available for students at a discounted price.</p>	<p>A great activity for students who wish to take their understanding of science further is to follow news stories about current advances in science and technology. Links can be found at:</p> <p><a href="http://www.sciencedaily.com/">http://www.sciencedaily.com/</a></p> <p>and</p> <p><a href="http://www.bbc.co.uk/news/science_and_environment/">http://www.bbc.co.uk/news/science_and_environment/</a></p>

**Content covered:**

Teaching is split between two Biology teachers, reflecting their subject specialisms within science.

In the autumn term, students will complete the following topics;

- ATP (Energy and ATP).
- Photosynthesis (Overview of Photosynthesis, Light Dependent Reaction, Light Independent Reaction, Factors Affecting Photosynthesis).
- Respiration (Glycolysis, Link Reaction, Krebs Cycle, Electron Transport Chain, Anaerobic Respiration).
- Energy and Ecosystems (Food Chains and Webs, Energy Transfer, Ecological Pyramids, Agricultural Ecosystems, Chemical and Biological Pest Control).
- Nutrient Cycles (Carbon Cycle, Greenhouse Gases/Global Warming, Nitrogen Cycle, Natural and Artificial Fertilisers).

- Inheritance and Selection (Monohybrid Inheritance, Sex Inheritance and Sex Linkage, Co-dominance and Multiple Alleles, Allelic Frequencies and Population Genetics, Selection, Speciation).

Throughout the sequence of lessons we will also be developing Investigative and Practical skills in during experimental tasks.

Between June-July 2014, pupils studied two topic areas in lessons and on the Field Course. These two topic areas are detailed below and form part of Unit 4.

- Populations (Ecosystems, Investigating Populations, Competition, Predation, Human Populations, Variation in Population Size).
- Ecological Succession (Succession, Conservation of Habitats)

#### **Literacy and numeracy:**

During the Year 13 course, there are many opportunities to develop numeracy and literacy skills. We practice magnification calculations, plotting graphs, calculating heart rate and stroke volume. These are also further developed and emphasis is put upon analysis of scientific data from tables and other data sources.

The use of scientific terminology is at the forefront of written work with students encouraged to use appropriate terms from the outset. We also further develop the use of written skills to describe, explain and justify ideas.

#### **What can I do to help my child?**

Firstly, ask your child what they have been learning about in Biology lessons. Encourage them to read around the subject using the links provided above to stimulate and maintain a genuine interest in the subject. Encourage them to seek support from their teachers if they are unsure about any part of their homework or in class learning – this is the best way for them to develop proactive independent study skills which will set them up for academic success.

Keep an eye out for Biology-related television programmes as this can demonstrate real-life applications of what is studied in class, as well as provides career inspiration.

#### **Additional resources and details of core texts used:**

The LRC in school and local libraries stock many books on science and technology which students may wish to read as part of their wider learning. For support with topics linked to lessons, the S-cool website has excellent sections on each of the Biology topics studied (<http://www.s-cool.co.uk/a-level/biology>), including a useful selection of online test questions. The website [www.biologymad.com](http://www.biologymad.com) offers tutorials and resources.

For specific support with the A-level courses, the AQA website has links to the specification followed and also specimen examination papers and their mark schemes which students may find useful <http://www.aqa.org.uk/subjects/science/as-and-a-level/biology-7401-7402>.

Students will also find a text book and revision guide helpful to support their studies – the CGP A-Level Biology AQA Revision Guide is particularly good, but shop around to help your child which book is accessible to them (Waterstones is a good outlet to look at the range of available revision guides). Just ensure the books are designed for the new AQA A-level Biology.

#### **Teaching group arrangements:**

#### **Where can I get more advice?**

Dr V Larner (Curriculum Leader) – [vlarner@stratfordschool.co.uk](mailto:vlarner@stratfordschool.co.uk). Please include the name of your child's teacher so the message can be forwarded appropriately.