Year 10 Biology (AQA Triple Science)

Northallerton School & Sixth Form College
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Having started the GCSE curriculum in Year 9, students will now continue with the course beginning with the topic 'Infection & Response' where they learn how diseases impact organisms. This year students will build on the key principles covered in Year 9 'Cell Biology' and 'Organisation' and begin to look at types of the essential processes for life and health in organisms. Students also begin to explore the interdependence of ecosystems and their populations. Underpinning all of these explorations are the key ideas that are fundamental to biology. There are three required practicals which must be completed in Year 10, all of which are examinable, so it is important that students complete these and understand the methods used.

Methods of deepening and securing knowledge:	
Interleaving	Starter tasks are designed to check knowledge from not only the previous lesson but also lessons earlier in the topic and sometimes even other topics within biology which they will have covered previously.
Checkpoints/ mini plenaries	These are used within lessons to check understanding and address any misconceptions before moving on.
Independent study	Educake questions are used as a means of low-stakes testing to consolidate learning and check understanding.
Assessment for Progress	Each of the topics will have an 'Even Better If' (EBI) assessment where students are provided with bespoke tasks designed to help them reach the next level in their learning.

	Autumn term 1	Autumn term 2	Spring term 1
Topic(s)	**Infection & Response** • Communicable (infectious) diseases. • Viral diseases. • Bacterial diseases. • Fungal diseases. • Protist diseases. • Human defence systems. • Vaccination.	**Infection & Response** • Antibiotics and painkillers. • Discovery and development of drugs. • Producing monoclonal antibodies. • Uses of monoclonal antibodies. • Detection and identification of plant diseases. • Plant defence responses.	**Bioenergetics** • Photosynthetic reaction. • Rate of photosynthesis. • Uses of glucose from photosynthesis. **Required practical:** Investigate the effect of light intensity on the rate of photosynthesis using an aquatic organism such as pondweed.

Assessment	Educake. Ongoing assessment.	End of unit test followed by EBI tasks.	Educake. Ongoing assessment.
CEIAG *(Careers that are linked to that topic)*	Dentistry	Epidemiology. Pharmacology.	Horticulture.

	Spring term 2	Summer term 1	Summer term 2
Topic(s)	**Bioenergetics** ● Aerobic and anaerobic respiration. ● Response to exercise. ● Metabolism.	**Ecology** ● Communities. ● Abiotic factors. ● Biotic factors. ● Adaptations. ● Levels of organisation. **Required practicals:** Measure the population size of a common species in a habitat. Use sampling techniques to investigate the effect of a factor on the distribution of this species.	**Ecology** ● How materials are cycled. ● Decomposition (biology only). **Required practical:** Investigate the effect of temperature on the rate of decay of fresh milk by measuring pH change.
Assessment	End of unit test followed by EBI tasks.	Educake. Ongoing assessment. **First pre-public examinations**	End of unit test followed by EBI tasks.
CEIAG *(Careers that are linked to that topic)*	Physiology.	Ecology & fieldwork. Ecologist.	Waste management. Environmentalist. Agriculture.

Independent Study
Educake is used to set timely and relevant revision questions throughout the topic. There will be around 20 questions set and the difficulty will be tailored to the ability of the group. Students can immediately see their scores and also identify which areas are their strongest and weakest within the questions given. Senecalearning.com also provides an incredible revision resource to allow students to consolidate their learning at their own pace. Past exam questions may also be used to practise applying knowledge to different contexts.