

## Year 9 Biology (AQA Sciences)

In Year 9 students begin the biology GCSE course. They will cover the first two topics of the course which are 'Cell Biology' and 'Organisation'. Both these topics are fundamental to a lifelong understanding of the basic principles of biology and cover the groundwork needed for the rest of the GCSE course. There are four required practicals in these topics, which are a mandatory part of the course, they are also a wonderful opportunity to develop the skills of our scientists, alongside additional experiments. This year is used to embed key scientific vocabulary into the students repertoire and encourage the important analytical skills needed for the rest of the course. In Year 9 students are taught by subject specialists in a carousel, studying two distinct blocks of work for each of the three sciences; the first block of work will be completed in the autumn term; the second block of work will then be completed during the spring and summer terms during which time students will decide whether they choose to study for three separate science GCSEs or two combined science GCSEs. The Year 9 curriculum will prepare all students for either choice.

### Methods of deepening and securing knowledge:

<b>Interleaving</b>	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.
<b>Checkpoints/ mini plenaries</b>	These are used within lessons to check understanding and address any misconceptions before moving on.
<b>Independent study</b>	Educake questions are used as a means of low stakes testing to consolidate learning and check understanding.
<b>Assessment for Progress</b>	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.

## Block 1 (Autumn Term)

## Block 2 (Spring and Summer Term)

### Topic(s)

#### Cell Biology

- Eukaryotes and prokaryotes.
- Animal and plant cells.
- Cell specialisation.
- Cell differentiation.
- Microscopy.
- Cell division.
- Transport in cells.

**Required practical:** use a light microscope to observe, draw and label a selection of plant and animal cells. A magnification scale must be included.

**Required practical:** investigate the effect of a range of concentrations of salt or sugar solutions on the mass of plant tissue.

#### Organisation

- Principles of organisation.
- The human digestive system.
- The heart and blood vessels.
- Blood.
- Coronary heart disease: a non-communicable disease.
- The effect of lifestyle on some non-communicable diseases.
- Health issues.
- Cancer.
- Plant tissues, organs and systems.

**Required practical:** use qualitative reagents to test for a range of carbohydrates, lipids and proteins.

**Required practical:** investigate the effect of pH on the rate of reaction of amylase enzyme.

### Assessment

- Ongoing assessment.
- Educake low stakes test.
- Topic assessment.
- EBI assessment review.

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### CEIAG *(Careers that are linked to that topic)*

- Cytotechnology.
- Medical oncology.

- Physiotherapy.
- Veterinary sciences.
- Dieticians.

## 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.