

International GCSE Biology

Please note that a number of minor amendments have been made to the Edexcel International GCSE Biology specification.

The changes clarify the demands of the specification, and demonstrate links to practical activities. The majority of these changes will **not** require you to revisit areas of the specification that you have already taught. However, a small number of changes involve the removal of material from Double Award into separate sciences; or the addition of new material. There is also a small change in the Assessment Objective weightings in the question papers, although the style of the question papers is unchanged. It has been necessary to make these changes immediately for first examination in the June 2013 series.

If you have any questions about these changes, please contact the Edexcel Science Advisor (ScienceSubjectAdvisor@edexcelexperts.co.uk) for all subject specific enquires. Alternatively, please contact your Regional Development Manager.

The mapping document below outlines the changes to the Biology specification. Please take the time to review this document. To assist you with the nature of the changes, they have been colour-coded as follows:

Changes in red show where the command word used in the specification has changed. This is unlikely to affect what you have already taught, but may help to indicate the depth of knowledge that an examination question will require.

Changes in blue show where a specification statement has been reworded to highlight a practical opportunity. This should not affect what you have already taught, as practical-based questions (AO3) could still be asked on any aspect of the specification.

Changes in green show where minor changes have been made to clarify the meaning or depth of a specification statement, or to improve its wording. There is unlikely to be any effect on what you have already taught.

Changes in pink show where new material has been added, or a deletion has occurred. In some cases, a specification statement has been removed from Science (Double Award) and will only appear in the separate science papers. These changes may require you to look back at areas that you have already taught to ensure that the entire specification has been covered; or that candidates for Science (Double Award) know which areas they will no longer be examined on.

Section 1: The nature and variety of living organisms

- 1.1 "understand that living organisms..."
removal of the word "basic"
- 1.2 the ambiguous "they" which occurs in the paragraphs on Plants, Animals and Fungi has been altered to "their cells"

Section 2: Structure and functions in living organisms

- 2.2 "describe cell structures..."
- 2.4 "compare the structures of plant and animal cells"
- 2.5 "identify the chemical elements..."
- 2.9 "understand how the functioning of enzymes can be affected by changes in temperature, including changes due to change in active site"
- 2.10 understand how the functioning of enzymes can be affected by changes in active site caused by changes in pH**
- 2.11 "describe experiments to investigate how enzyme activity..."
- 2.12 "understand definitions of diffusion..."
- 2.16 "describe experiments to investigate diffusion and osmosis..."
- 2.18 "write the word equation..."
- 2.19 "understand how varying carbon dioxide concentration... affects the rate of photosynthesis"
- 2.20 "describe the structure of the leaf and explain how it is adapted..."
- 2.21 "understand that plants require mineral ions..."
- 2.22 remove "simple controlled"
- 2.24 "identify sources and describe functions..."
- 2.26 "describe the structures of the human alimentary canal..."
remove "in outline"
- 2.30 "understand that bile is produced by the liver..."
- 2.31 "describe the structure of a villus and explain how this helps absorption..."
- 2.32 "describe an experiment to investigate the energy content..."**
- 2.33 "understand that the process of respiration..."
- 2.35 "write the word equation..."
- 2.36 "write the word equation..."

2.37 "describe experiments to investigate the evolution of carbon dioxide..."

2.43 ~~delete~~ "...simple controlled..."

2.47 "...in relation to lungs and the circulatory system, including coronary heart disease"

2.48 "describe experiments to investigate..."

2.54 "understand that transpiration..."

2.56 "describe experiments to investigate the role..."

2.57 "describe the composition of the blood..."

2.59 "explain how adaptations of red blood cells, including shape, structure and the presence of haemoglobin, make them suitable for the transport of oxygen"

2.62 "understand that platelets..."

2.64 "explain how the heart rate changes..."

2.66 "understand the general structure of the circulation system..."

2.67 "understand the origin of carbon dioxide..."

2.76 "understand that urine contains water..."

2.84 "understand that the central nervous system..."

Section 3: Reproduction and inheritance

3.1 "understand the differences..."

3.5 "understand the conditions..."

3.8 "describe the structure and explain the function of the male and female..."

3.12 "understand the roles of oestrogen and testosterone..."

3.13 "understand that the nucleus of a cell..."

3.14 "understand that a gene is a section of a molecule of DNA and that a gene codes for a specific protein"

3.17 "understand the meaning of the terms..."

3.21 "understand that the sex of a person..."

3.27 "know that in human cells..."

3.29 "understand that mutation is a rare, random change..."

- 3.32 “understand how resistance to antibiotics can increase in bacterial populations, and appreciate how such an increase can lead to infections being difficult to control!”

Section 4: Ecology and the environment

- 4.2 “explain how quadrats can be used to estimate...”
- 4.3 “explain how quadrats can be used to sample the distribution...”
- 4.4 “explain the names given to different trophic levels...”
- 4.12 “understand that water vapour...”

Section 5: Use of biological resources

- 5.8 “interpret and label a diagram of an industrial fermenter...”
this outcome (5.7 in Double Award) has been removed from Science (Double Award) so will only be tested in Biology
- 5.16 “understand that the term ‘transgenic’...”