**Advance information June 2022**

**GCSE Biology (8461)**

**Version 1.0**

Because of the ongoing impacts of the Coronavirus (COVID-19) pandemic, we are providing advance information on the focus of June 2022 exams to help students revise.

This is the advance information for GCSE Biology (8461).

**Information**

- The format/structure of the papers remains unchanged.
- This advance information covers all examined components.
- For each paper the list shows the major focus of the content of the exam.
- Each paper may cover some, or all, of the content in the listed topic.
- Another list shows which required practical activities will be assessed.
- Topics not assessed either directly or through ‘linked’ content have also been listed.
- The information is presented in specification order and not in question order.
- Assessment of practical skills, maths skills, and Working Scientifically skills will occur throughout all the papers.
- It is **not** permitted to take this advance information into the exam.

**Advice**

- It is advised that teaching and learning should still cover the entire subject content in the specification, so that students are as well prepared as possible for progression to the next stage of their education.
- ‘Topics not explicitly given in any list may appear in low tariff questions or via ‘linked’ questions. Linked questions are those that bring together knowledge, skills and understanding from across the specification.
- Students will still be expected to apply their knowledge to unfamiliar contexts.

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**Key Points**

- **There are two papers in for Biology**
- **Paper 1 on 17th May 22**
- **Paper 2 on 15th June**
- **Homework is set weekly on SENECA**
<table>
<thead>
<tr>
<th>Topic included in Exam</th>
<th>Concepts</th>
<th>Kerboodle Pages</th>
<th>When will this topic be covered/when will it be revised?</th>
<th>Links to resources to aid revision/learning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Paper 2</strong></td>
<td></td>
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</tbody>
</table>
| 4.5.2 The human nervous system | - Function of the NS  
- Control of body temperature  
- Response to high/low temperatures | WB 21st February | YouTube: [https://www.youtube.com/watch?v=WoMPARSQPZw](https://www.youtube.com/watch?v=WoMPARSQPZw)  
Bitesize: [Controlling body temperature](https://www.kerboodle.com/users/login) |                                           |
| 4.5.3 Hormonal Control in Humans | **The endocrine system**  
- Function of hormones within the endocrine system  
- Control of blood glucose  
- Diabetes  
- Contraception  
- Hormones in human reproduction | w/B 21st February | YouTube: [Endocrine system](https://www.youtube.com/watch?v=_Bf5WKEMB5o)  
Bitesize: [https://www.bbc.co.uk/bitesize/guides/zttqfcw/revision/1](https://www.bbc.co.uk/bitesize/guides/zttqfcw/revision/1)  
[https://www.kerboodle.com/users/login](https://www.kerboodle.com/users/login) |                                           |
| 4.5.4 Hormonal control in plants, | - Site of auxin production  
- Role of auxin in producing phototropism / gravitropism | W/B 28th February | Bitesize: [https://www.bbc.co.uk/bitesize/guides/zc6cqhv/revision/1](https://www.bbc.co.uk/bitesize/guides/zc6cqhv/revision/1)  
YouTube:[https://www.youtube.com/watch?v=_Bf5WKEMB5o](https://www.youtube.com/watch?v=_Bf5WKEMB5o)  
[https://www.kerboodle.com/users/login](https://www.kerboodle.com/users/login) |                                           |
| 4.6.1 Reproduction | - Sexual and asexual reproduction
- Gametes
- Meiosis
- DNA and the genome
- Genetic inheritance
- Inherited disorders
- Sex determination | w/B 7th March | YouTube: [https://www.youtube.com/watch?v=Fh9b6a3DLQ](https://www.youtube.com/watch?v=Fh9b6a3DLQ)
Bitesize: [https://www.bbc.co.uk/bitesize/guides/z9pkmsg/revision/1](https://www.bbc.co.uk/bitesize/guides/z9pkmsg/revision/1)
[https://www.kerboodle.com/users/login](https://www.kerboodle.com/users/login) |
| 4.6.3 The development of understanding of genetics and evolution | - Evidence for evolution
- Fossils
- Extinction
- | w/b 14th March | Bitesize: [Principles of evolution by natural selection - Evolution - AQA - GCSE Biology (Single Science) Revision - AQA - BBC Bitesize](https://www.bbc.co.uk/bitesize/guides/zc6cqhv/revision/3)
YouTube: [https://www.youtube.com/watch?v=fEo21LbnJM](https://www.youtube.com/watch?v=fEo21LbnJM)
[https://www.kerboodle.com/users/login](https://www.kerboodle.com/users/login) |
| Required Practical 8: Investigate The Effect of Light on the Growth of Seedlings | - identify independent, dependent and control variables
- Describe how variables can be controlled | HMW w/b 7th March | Focus E Learning: [www.focuslearning.co.uk](http://www.focuslearning.co.uk)
Focus E-learning: Username: student@theapleton3762
Focus E-Learning Password: 5xw2qyqc
Bitesize: [https://www.bbc.co.uk/bitesize/guides/zc6cqhv/revision/3](https://www.bbc.co.uk/bitesize/guides/zc6cqhv/revision/3)
YouTube: [https://www.youtube.com/watch?v=fEo21LbnJM](https://www.youtube.com/watch?v=fEo21LbnJM)
[https://www.kerboodle.com/users/login](https://www.kerboodle.com/users/login) |
| Required Practical 7: Measure the population size | Using transects and quadrats are used by ecologists to determine the | HMW W/B 14th March | Focus E Learning: [www.focuslearning.co.uk](http://www.focuslearning.co.uk)
Focus E-learning: Username: student@theapleton3762
Focus E-Learning Password: 5xw2qyqc |
of a common species in a habitat. Use sampling techniques to investigate the effect of a factor on the distribution of this species.

<table>
<thead>
<tr>
<th>of a common species in a habitat. Use sampling techniques to investigate the effect of a factor on the distribution of this species</th>
<th>distribution and abundance of species in an ecosystem. -Understand the terms mean, mode and median -Calculate arithmetic means</th>
<th>Bitesize: <a href="https://www.bbc.co.uk/bitesize/guides/3qskv9q/revision/3">https://www.bbc.co.uk/bitesize/guides/3qskv9q/revision/3</a> YouTube: <a href="https://www.youtube.com/watch?v=2MW6nwf80XM">https://www.youtube.com/watch?v=2MW6nwf80XM</a> <a href="https://www.youtube.com/watch?v=RhMOCxXcDrQ">https://www.youtube.com/watch?v=RhMOCxXcDrQ</a> <a href="https://www.youtube.com/watch?v=yLHz2Ea10Mg&amp;t=2s">https://www.youtube.com/watch?v=yLHz2Ea10Mg&amp;t=2s</a> <a href="https://www.kerboodle.com/users/login">https://www.kerboodle.com/users/login</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mock Exams</td>
<td>W/B 21st March</td>
<td>Bitesize: <a href="https://www.bbc.co.uk/bitesize/guides/2zskv9q/revision/3">https://www.bbc.co.uk/bitesize/guides/2zskv9q/revision/3</a> YouTube: <a href="https://www.youtube.com/watch?v=2MW6nwf80XM">https://www.youtube.com/watch?v=2MW6nwf80XM</a> <a href="https://www.youtube.com/watch?v=RhMOCxXcDrQ">https://www.youtube.com/watch?v=RhMOCxXcDrQ</a> <a href="https://www.youtube.com/watch?v=yLHz2Ea10Mg&amp;t=2s">https://www.youtube.com/watch?v=yLHz2Ea10Mg&amp;t=2s</a> <a href="https://www.kerboodle.com/users/login">https://www.kerboodle.com/users/login</a></td>
</tr>
<tr>
<td>4.3.1 Communicable Diseases</td>
<td>- definition and examples of pathogen - how viruses and bacteria make us ill - examples of diseases caused by each type of pathogen - human defence mechanisms - what happens in a vaccine - comparing antibody production after active and passive immunity</td>
<td>w/b 28th March</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Easter Holidays</th>
<th>Please see Satchel One for information re Holiday Revision Topics</th>
<th>• SENECA: <a href="http://www.senecalearning.com">www.senecalearning.com</a> • SENECA: Username (School email) • SENECA: Password (you set this yourself) • Class Code ply21wtpht</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper 2</td>
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</tbody>
</table>
### 4.1.1 Cell Structure

- Difference between prokaryotic and eukaryotic cells
- Comparison of plant cells and animal cells
- Function of organelles
- Cell differentiation and specialised plant cells and animal cells
- Culturing microorganisms

<table>
<thead>
<tr>
<th><strong>Required practical 1</strong></th>
<th>How to prepare slides</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>- How to use the microscope to improve field of view, clarify, change magnification</td>
</tr>
<tr>
<td></td>
<td>- Microscopy calculations</td>
</tr>
<tr>
<td></td>
<td>- Unit conversions (mm, micrometres etc)</td>
</tr>
</tbody>
</table>

YouTube: [Prokaryotic and eukaryotic cells](https://www.youtube.com/watch?v=P0kWx0j6jz0)  
Animal cells  
Plant cells

Bitesize:  
https://www.bbc.co.uk/bitesize/guides/z84jtv4/revision/1

| **w/B 18th April** | YouTube: [Required practical - Use of microscopes](https://www.youtube.com/watch?v=5w2qyqc)  
**Focus E Learning**  
**Username:** student@theapleton3762  
**Password:** 5xw2qyqc |

| **HMW w/b 18th April** |

### 4.1.3 Transport in cells

- Diffusion
- Factors affecting the rate of diffusion
- Osmosis
- Active transport

| **w/B 25th April** |

Bitesize:  
https://www.bbc.co.uk/bitesize/guides/zs63tv4/revision/4  
YouTube: [Osmosis](https://www.youtube.com/watch?v=Osmosis)  
**Diffusion**  
**Active transport**
### Required practical 3:
Investigate the effect of a range of concentrations of salt solution on the mass of plant tissue
- Calculate rate of water uptake
- Identify independent, dependent and control variables
- Calculate percentage change in mass
- Interpret graph to find salt/sugar concentration in potato

<table>
<thead>
<tr>
<th>HMK w/b 25th April</th>
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<tbody>
<tr>
<td>Focus E Learning: <a href="http://www.focuslearning.co.uk">www.focuslearning.co.uk</a></td>
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<td>Focus E-learning: Username: student@theapleton3762</td>
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<tr>
<td>Focus E-Learning Password: 5xw2qyqc</td>
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</tbody>
</table>

- Bitesize: [https://www.bbc.co.uk/bitesize/guides/zs63tv4/revision/5](https://www.bbc.co.uk/bitesize/guides/zs63tv4/revision/5) |
- YouTube: [Required practical link](https://www.youtube.com/watch?v=4ui4oSHHzA)  
[https://www.youtube.com/watch?v=VLK2wANjQm0](https://www.youtube.com/watch?v=VLK2wANjQm0)  
[https://www.youtube.com/watch?v=bpYaKM2hVFY](https://www.youtube.com/watch?v=bpYaKM2hVFY)
<table>
<thead>
<tr>
<th>Date W/B</th>
<th>What will be covered</th>
<th>Teacher</th>
<th>Identified as priority from Exam board?</th>
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<tbody>
<tr>
<td>7th Feb</td>
<td></td>
<td></td>
<td>Yes</td>
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<tr>
<td>14th Apr</td>
<td>Half Term</td>
<td></td>
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<tr>
<td>21st Feb</td>
<td>4.5.2 The human nervous system</td>
<td></td>
<td>Yes</td>
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<tr>
<td>28th Feb</td>
<td>4.5.3 Hormonal Control in Humans</td>
<td></td>
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<tr>
<td>7th Mar</td>
<td>4.6.1 Reproduction</td>
<td></td>
<td>Yes</td>
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<td>14th Mar</td>
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<td>4th Apr</td>
<td><strong>Easter Holidays</strong></td>
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<td>11th Apr</td>
<td><strong>Easter Holidays</strong></td>
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<tr>
<td>18th Apr</td>
<td>4.1.1 Cell Structure</td>
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<td>25th Apr</td>
<td>4.1.3 Transport in cells</td>
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<tr>
<td>2nd May</td>
<td>4.2.2 Animal tissues, organs, and organ systems</td>
<td></td>
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<tr>
<td>9th May</td>
<td>4.4.1 Photosynthesis</td>
<td></td>
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<tr>
<td>16th May</td>
<td>Paper 1 17th May 2022</td>
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<td>30th May</td>
<td>Half Term</td>
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<td>6th June</td>
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<tr>
<td>13th Jun</td>
<td><strong>Paper 2 16th June 2022</strong></td>
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