Subject	A level Biology
Context / relevance	You have been provided with a Biology bridging work booklet. This booklet has been designed to help you secure and process your knowledge of core biological concepts and scientific skills needed throughout the A level course. There is an expectation that you will complete the Securing and Processing tasks (section A and B) of the work booklet. Please be aware that you will sit a baseline biology assessment in your first biology lesson. This assessment will cover GCSE content only. Those of you who have entered the course from a combined pathway (synergy or trilogy) there is information in the reviewing section you may want to familiarise yourself with prior to starting the course.
Securing	Complete Section A of the bridging work booklet. You must complete all 7 activities which secure your understanding of core concepts across the biology course and are transferable skills for the A level course.
Processing	Complete Section B of the bridging work booklet. Part 1 Watch the video about DNA Structure Make notes on the following: • The structure of DNA nucleotides, include all components. Include an annotated diagram of one DNA nucleotide. • Name the four scientists credited with discovering the double-helix structure of DNA. • State the number of hydrogen bonds between the complementary base pairs. • How can the structure of the pyrimidine and purine bases help you identify which bases are paired together in the DNA molecule? • Draw an annotated diagram of DNA. Part 2 • Why do we need RNA? • Compare the structure of DNA to RNA? • How is the structure of DNA related to its function? • Outline some of the problems that occur with DNA replication and what consequences of this might be Use these resources to help you DNA Structure (youtube.com) https://www.youtube.com/watch?v=C1CRrtkWwu0 DNA vs RNA https://www.youtube.com/watch?v=JQByjprj_mA You can also use the following websites to help with the task: DNA Structure and The Double Helix (A-level Biology) - Study Mind https://studymind.co.uk/notes/dna-structure-and-the-double-helix/ You can also use any other research sources and materials you wish.
Exploring	Optional- complete Section C Watch these Ted talks and produce Cornell notes on them (https://subjectguides.york.ac.uk/note-taking/cornell)

<table>
<tr><td></td><td>The twisting tale of DNA
https://www.youtube.com/watch?v=0_b80fHmuWw&t=1s
Where do genes come from?
https://www.youtube.com/watch?v=z9HIYjRRaDE&t=1s
How CRISPR lets you edit DNA
https://www.youtube.com/watch?v=6tw_JVz_IEc&t=1s</td></tr>
<tr><td>Reviewing</td><td>If you have entered the course from the combined pathway (trilogy or synergy) you may need to review the following topics;

<table>
<tr><th>Topics</th><th>Trilogy</th><th>Separate</th></tr>
<tr><td>Plant diseases and defences</td><td>X</td><td>  </td></tr>
<tr><td>Brain and eye</td><td>X</td><td>  </td></tr>
<tr><td>Thermoregulation</td><td>X</td><td>  </td></tr>
<tr><td>Advanced Genetics and gene expression</td><td>X</td><td>  </td></tr>
<tr><td>Biotechnology</td><td>X</td><td>  </td></tr>
<tr><td>Reproduction hormones and IVF</td><td>Basic</td><td>In-depth</td></tr>
<tr><td>Genetic Engineering and Cloning</td><td>Limited</td><td>Detailed</td></tr>
</table>

Please use the following websites to support your understanding;
https://www.bbc.co.uk/bitesize/examspecs/zpgcbk7
https://www.physicsandmathstutor.com/biology-revision/gcse-aqa/

Complete the 10min test booklet and review your results and provide evidence of how you have addressed your weaknesses; mindmaps/practice questions/flashcards.

Massive Open Online Courses (MOOCs)

You might enrol on these online courses and complete the following to push you a little further (this is optional). These courses are a fantastic addition to your UCAS:
HarvardX: Cell Biology:

UniversityofCambridge: Forensic Science: DNA Analysis | edX</td></tr>
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