A Level Biology

Part A - Bridging Work Task

This is a fantastic opportunity to expand your understanding of Biology as you prepare for enrolment and start at Franklin in September.

Please complete the work and bring a copy to your enrolment, either printed or electronically.

The work will take around **2 hours,** so plan your time to best suit you.

How do I complete and submit my task?	Complete the tasks on paper/handwritten or digitally and bring a copy either paper or electronically to your enrolment appointment, also take this to your first lesson in September. If you did not attend the Taster Day don't worry – this isn't essential for completing this work but, please ensure that you have completed this bridging work.
Introduction to your Bridging Task	This task relates to Biological Molecules which is part of 3.1 of the AQA specification.
Task details	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. • Difference between purines and pyrimidines in DNA. • 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.
Resources to help you with the Bridging Task	Video link for DNA Structure: DNA Structure (youtube.com) You can also use the following websites to help with the task: DNA Structure and The Double Helix (A-level Biology) - Study Mind You can also use any other research sources and materials you wish.

Extension Tasks	
Extension Tasks to stretch and challenge you	If you have completed the above to the best of your ability, feel free to try this extension task (*this is optional*): • Compare and contrast DNA and RNA structure.
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): HarvardX: Cell Biology: Mitochondria | edX UniversityofCambridge: Forensic Science: DNA Analysis | edX

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Part B – Preparing for Studying at Franklin

A fantastic opportunity to widen your understanding of the course.

Examining Board and Specification	This course follows the AQA A Level Biology specification: Exam Board: AS and A-level Biology Specification Specifications for first teaching in 2015 (aqa.org.uk) **We cover the following topics:** 1 Biological molecules 2 Cells 3 Organisms exchange substances with their environment 4 Genetic information, variation and relationships between organisms 5 Energy transfers in and between organisms (A-level only) 6 Organisms respond to changes in their internal and external environments (A-level only) 7 Genetics, populations, evolution and ecosystems (A-level only) 8 The control of gene expression (A-level only) **Studying this course will give you a wide range of skills:** By studying this course, you will have the opportunity to develop the following employability skills: • cognitive and problem-solving skills: approaching non-routine problems applying expert and creative solutions, using systems and technology

	• interpersonal skills: communicating, working collaboratively, negotiating and influencing, self-presentation • intrapersonal skills: self-management, adaptability and resilience, self-monitoring and development. • critical thinking skills: the ability to interpret, evaluate, and analyse facts and information that are available, to form a judgment. This course provides transferable knowledge and skills that will prepare you for progression to university. These include: • the ability to learn independently • the ability to research actively and methodically • the ability to give presentations and be active group members. **Progression after this course:** This course will allow you to go on to study health-based courses such as medicine, dentistry, veterinary science, nursing, midwifery, occupational health, sports science and physiotherapy. Biology is a key subject for lots of vocational careers such as Biomedical Scientist, Healthcare Scientist, Laboratory Technician, Midwifery, Nursing, Nutritionist, Occupational Therapist, Paramedic, Physiotherapist and Sports Scientist.
Preparing for the course	**Here are some helpful sources of information if you would like further information about the subject:** **Websites** AQA A-level Biology Revision - PMT (physicsandmathstutor.com) **Books** AQA Biology: A Level: September 2015 (AQA A Level Sciences 2014) This is the textbook you will use. **Digital Resources** AQA A-level Biology Student Book 1 Online Resources (hoddereducation.com)