Arnewood Sixth

Sixth Form Summer Transition Work

Welcome to Arnewood Sixth! You are about to embark on a busy and important two years of sixth form study.

Sixth form life is very different. You are going to feel much more independent, empowered and responsible for your own learning. The expectation is that this journey is down to you. You need to commit and relish in the challenge of sixth form life; ambition, belief and commitment are essential for your success.

Below is a transition activity designed for you to complete over the late spring into summer in preparation for your chosen course. By completing the task, you will be better prepared for the start of your course. Your A level teachers will check the work in September. Your commitment starts now!

Subject	AS/ A level Biology	
Key Question	What are the essential 'building blocks' for living organisms?	
Resource List	The OCR Biology A specification	https://www.ocr.org.uk/qualifications/as-and-a-level/biology-a-h020-h420-from-2015/
	S-cool revision site	http://www.s-cool.co.uk/a-level/biology/cells-and-organelles https://www.s-cool.co.uk/a-level/biology/biological-molecules-and-enzymes
	Biology Mad	http://www.biologymad.com/
	Biology revision material	https://biologyguide.app/
	The immune system information	https://www.stem.org.uk/resources/elibrary/resource/35694/immune-system

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Your Task	**There are 3 parts to your Transition task:** **Task 1:** Access and read the OCR A level specification using the link above. **Task 2: Cell structure. You need to be confident in identifying the main structures in plant and animal cells and stating their functions.** *The cell is a unifying concept in biology; you will come across it many times during your two years of A level study. Prokaryotic and eukaryotic cells can be distinguished on the basis of their structure and ultrastructure. In complex multicellular organisms cells are organised into tissues, tissues into organs and organs into systems. During the cell cycle genetic information is copied and passed to daughter cells. Daughter cells formed during mitosis have identical copies of genes while cells formed during meiosis are not genetically identical.* **Use the links above to research cell structure and then draw and label a typical plant and animal cell and complete the table in Resource 1 in the additional resources section.** **Task 3: Biological Molecules. You need to be able to identify the main biological molecules and give their uses.** *Biological molecules are often polymers and are based on a small number of chemical elements. In living organisms carbohydrates, proteins, lipids, inorganic ions and water all have important roles and functions related to their properties. DNA determines the structure of proteins, including enzymes. Enzymes catalyse the reactions that determine structures and functions from cellular to whole-organism level. Enzymes are proteins with a mechanism of action and other properties determined by their tertiary structure. ATP provides the immediate source of energy for biological processes.* **Use the links above and your prior knowledge to draw the basic structures of α glucose, an amino acid and a triglyceride. Answer the questions listed in Resource 2 in the additional resources section.** **Task 4: The immune system. In this task you will develop your research skills and note taking.** *The immune system is what keeps us healthy in spite of the many organisms and substances that can do us harm. In this issue, explore how our bodies are designed to prevent potentially harmful objects from getting inside, and what happens when bacteria, viruses, fungi or other foreign organisms or substances breach these barriers.* **Use the immune system link to research about your immune system. Then make a page of notes following the guidance in Resource 3 in the additional resources.** If you are at a loose end, there are some fantastic books listed in Resource 4 in the additional resources, that will help extend the breadth of your biological knowledge and interest, something employers and universities look for in students!
Additional resources	Table to complete for cells. List of biological molecules questions. Note taking help. Suggested reading.

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Summer Transition Work – Additional Resources

Resource 1:
Cells: Complete the table.

Structure	Function
Cell Surface Membrane	
Chloroplast	
Cell vacuole	
Mitochondria	
Nucleus	
Cell wall	
Chromosomes	
Ribosomes	

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Resource 2:

Biological Molecules: Questions

Question	Answer
What are monomers?	
What are polymers?	
What is a condensation reaction?	
What is a hydrolysis reaction?	
What is a monosaccharide?	
How is a glycosidic bond formed?	
Name the 3 main polysaccharides	
List 4 roles of lipids.	
What is an ester bond?	
What are the monomers that make up proteins?	
How is a peptide bond formed?	
What is a polypeptide?	

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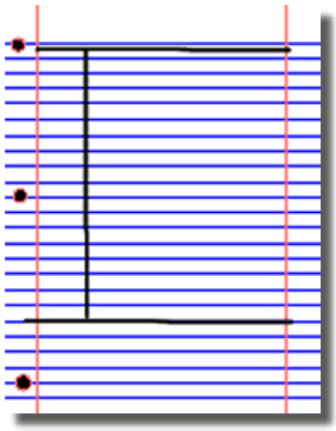
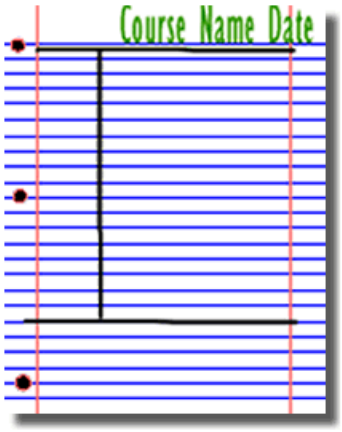
Resource 3:

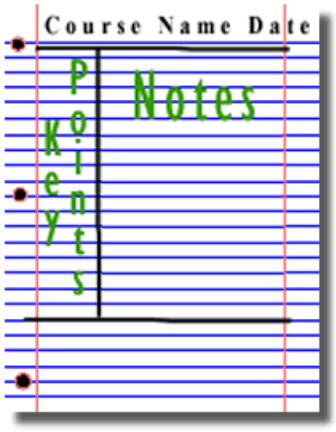
Research, reading and note making are essential skills for A level Biology study. For the immune system task you are going to produce 'Cornell Notes' to summarise your reading.



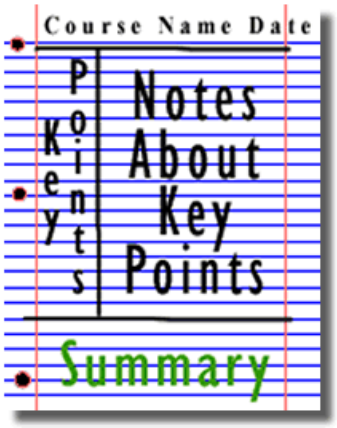
1. Divide your page into three sections like this



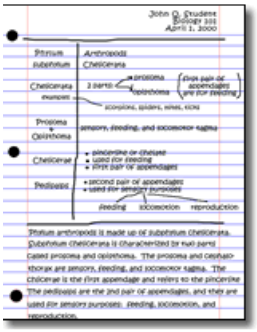
2. Write the name, date and topic at the top of the page



3. Use the large box to make notes. Leave a space between separate ideas. Abbreviate where possible.



4. Review and identify the key points in the left hand box



5. Write a summary of the main ideas in the bottom space

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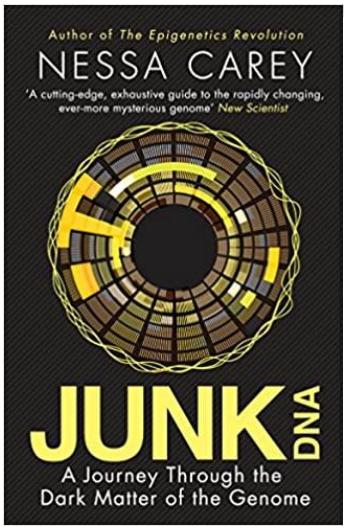
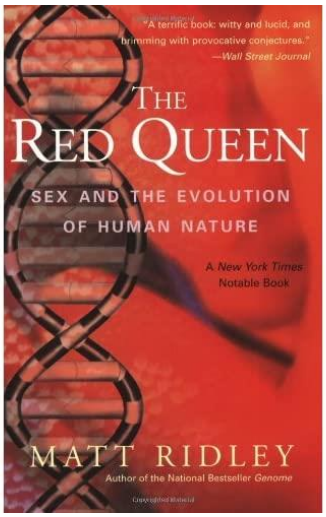
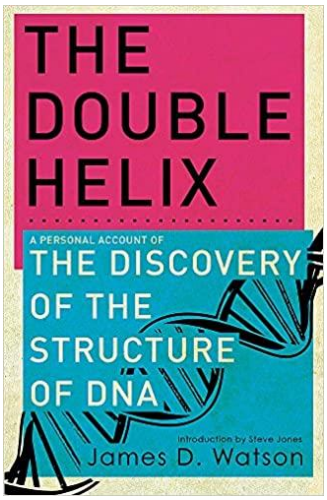
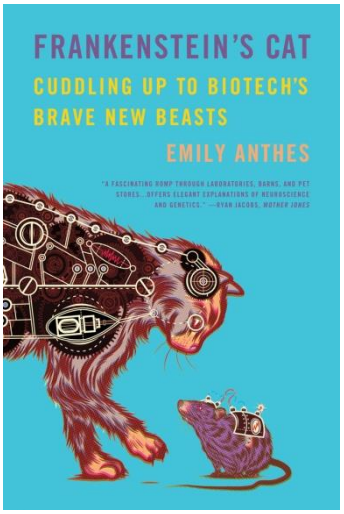
Resource 4:

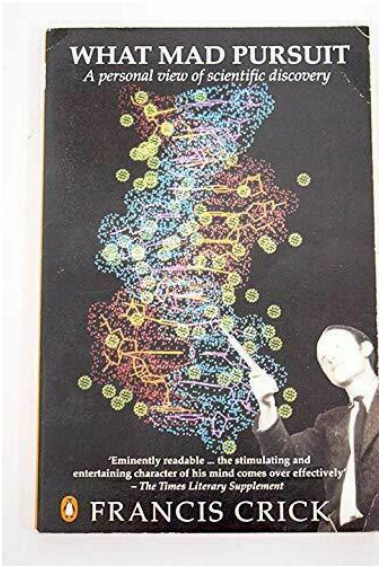
Suggested Reading

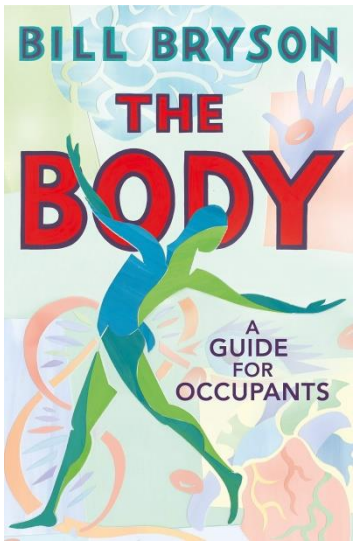












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