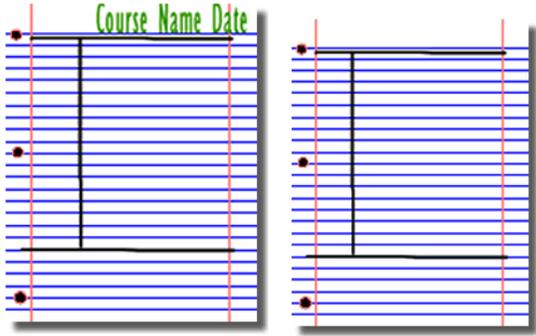
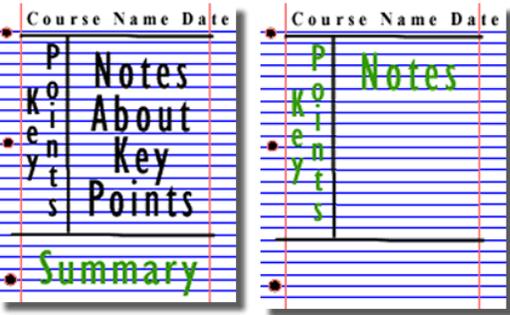
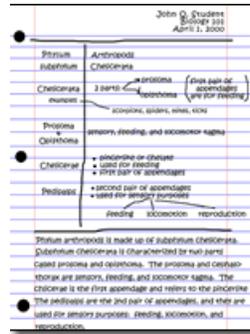




**Biology A Level
Transition work**

Area of Study	Detail
Baseline assessment test topics	Biological molecules, cells and reproduction, biodiversity and natural selection, exchange and transport.
Bridging activities	<p>Research Activities</p> <p>Research, reading and note making are essential skills for A level Biology study. For the following task you are going to produce 'Cornell Notes' to summarise your reading.</p>  <ol style="list-style-type: none">1. Divide your page into three sections like this2. Write the name, date and topic at the top of the page  <ol style="list-style-type: none">3. Use the large box to make notes. Leave a space between separate ideas. Abbreviate where possible.5. Write a summary of the main ideas in the bottom space4. Review and identify the key points in the left-hand box



The Big Picture is an excellent publication from the Wellcome Trust. Along with the magazine, the company produces posters, videos and other resources aimed at students studying for GCSEs and A level.

For each of the following topics, you are going to use the resources to produce one page of Cornell style notes.

Topic 1: The Cell

Available at: <http://bigpictureeducation.com/cell>

The cell is the building block of life. Each of us starts from a single cell, a zygote, and grows into a complex organism made of trillions of cells. In this issue, we explore what we know – and what we don't yet know – about the cells that are the basis of us all and how they reproduce, grow, move, communicate and die.

Topic 2: The Immune System

Available at: <http://bigpictureeducation.com/immune>

The immune system is what keeps us healthy in spite of the many organisms and substances that can do us harm. In this issue, we 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.

Topic 3: Exercise, Energy and Movement Available at:

<http://bigpictureeducation.com/exercise-energy-and-movement>

All living things move. Whether it's a plant growing towards the sun, bacteria swimming away from a toxin or you walking home, anything alive must move to survive. For humans though, movement is more than just survival – we move for fun, to compete and to be healthy. In this issue we look at the biological systems that keep us moving and consider some of the psychological, social and ethical aspects of exercise and sport.

Topic 4: Populations

Available at: <http://bigpictureeducation.com/populations>

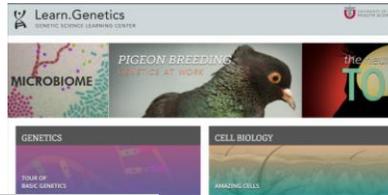
What's the first thing that pops into your mind when you read the word population? Most likely it's the ever-increasing human population on earth. You're a member of that population, which is the term for all the members of a single species living

	<p>together in the same location. The term population isn't just used to describe humans; it includes other animals, plants and microbes too. In this issue, we learn more about how populations grow, change and move, and why understanding them is so important.</p> <p>Topic 5: Health and Climate Change Available at: http://bigpictureeducation.com/health-and-climate-change The Earth's climate is changing. In fact, it has always been changing. What is different now is the speed of change and the main cause of change – human activities. This issue asks: What are the biggest threats to human health? Who will suffer as the climate changes? What can be done to minimise harm? And how do we cope with uncertainty?</p>
<p>Documentaries & Films</p>	<p>Inherit The Wind (1960) Great if you can find it. Based on a real life trial of a teacher accused of the crime of teaching Darwinian evolution in school in America. Does the debate rumble on today?</p> <p>Gorillas in the Mist (1988) An absolute classic that retells the true story of the life and work of Dian Fossey and her work studying and protecting mountain gorillas from poachers and habitat loss.</p> <p>Andromeda Strain (1971) Science fiction by the great thriller writer Michael Crichton (most famous for writing Jurassic Park). Humans begin dying when an alien microbe arrives on Earth.</p> <p>Something the Lord Made (2004) Professor Snape (the late great Alan Rickman) in a very different role. The film tells the story of the scientists at the cutting edge of early heart surgery as well as issues surrounding racism at the time.</p> <p>There are some great TV series and box sets available too, you might want to watch: Blue Planet, Planet Earth I and II, Icarus, Blackfish, The Ascent of Man, Catastrophe, Frozen Planet, Life Story, The Hunt and Monsoon.</p>
<p>Podcasts & Ted Talks</p>	<p>A New Superweapon in the Fight Against Cancer Available at : http://www.ted.com/talks/paula_hammond_a_new_superweapon_in_the_fight_against_cancer?language=en Cancer is a very clever, adaptable disease. To defeat it, says medical researcher and educator Paula Hammond, we need a new and powerful mode of attack.</p> <p>Why Bees are Disappearing Available at : http://www.ted.com/talks/marla_spivak_why_bees_are_disappearing?language=en Honeybees have thrived for 50 million years, each colony 40 to 50,000 individuals coordinated in amazing harmony. So why, seven years ago, did colonies start dying en-masse?</p>

	<p>What Doctors Don't Know About the Drugs They Prescribe Available at : http://www.ted.com/talks/ben_goldacre_what_doctors_don_t_know_about_the_drugs_they_prescribe?language=en</p> <p>When a new drug gets tested, the results of the trials should be published for the rest of the medical world — except much of the time, negative or inconclusive findings go unreported, leaving doctors and researchers in the dark.</p> <p>Growing New Organs Available at : http://www.ted.com/talks/anthony_atala_growing_organs_engineering_tissue?language=en</p> <p>Anthony Atalla's state-of-the-art lab grows human organs — from muscles to blood vessels to bladders, and more.</p>
<p>Science on Social Media</p>	<p>Follow on Twitter:</p> <p>A level Biology – A hub for GCSE and A level biology students @flagellum_bio</p> <p>A Level Biology – alevelbiology.co.uk provides resources for AQA, OCR and Edexcel A-Level Biology. @a-level-biologyuk</p> <p>David Chalk – daily revision tips for AS and A2 Biology @teacherchalky1</p> <p>Understand Biology – news stories relating to A level knowledge and understanding @a_level_biology</p> <p>Sci Curious – feed from writer and Bethany Brookshire tweeting about good, bad and weird neuroscience @scicurious</p> <p>Carl Zimmer – Science writer Carl blogs about the life sciences @carlzimmer</p> <p>Virginia Hughes – science journalist and blogger for National Geographic, keep up to date with neuroscience, genetics and behaviour @virginiahughes</p> <p>Maryn McKenna – science journalist who writes about antibiotic resistance @marynmck</p> <p>Molecular Biology - latest news, research, books and journals in molecular biology, cell biology, genetics, stem cells, cancer and biotechnology @molecular</p> <p>Find on Facebook:</p> <p>Nature - the profile page for nature.com for news, features, research and events from Nature Publishing Group</p> <p>Marine Conservation Institute – publishes the latest science to identify important marine ecosystems around the world.</p> <p>National Geographic - since 1888, National Geographic has travelled the Earth, sharing its amazing stories in pictures and words.</p> <p>Science News Magazine - Science covers important and emerging research in all fields of science.</p> <p>BBC Science News - The latest BBC Science and Environment News: breaking news,</p>

analysis and debate on science and nature around the world.

Science Websites



Probably the best website on biology....

'Learn Genetics' from Utah University has so much that is pitched at an appropriate level for you and has lots of interactive resources to explore, everything from why some people can taste bitter berries to how we clone mice or make glow in the dark jelly fish. <http://learn.genetics.utah.edu/>

'DNA from the Beginning' is full of interactive animations that tell the story of DNA from its discovery through to advanced year 13 concepts. One to book mark!
<http://www.dnaftb.org/>

In the summer you will most likely start to learn about biodiversity and evolution. Many Zoos have great websites, especially London Zoo. Read about some of the case studies on conservation, such as the Giant Pangolin, the only mammal with scales.
<https://www.zsl.org/conservation>

At GCSE you learnt how genetic diseases are inherited. In this virtual fly lab you get to breed fruit flies to investigate how different features are passed on.
<http://sciencecourseware.org/vcise/drosophila/>

Ok, so not a website, but a video you definitely should watch. One of the first topics you will learn about is the amazing structure of the cell. This BBC film shows the fascinating workings of a cell... a touch more detailed than the "fried egg" model you might have seen. If this link expires – google "BBC hidden life of the cell"
http://www.dailymotion.com/video/xz_h0kb_the-hidden-life-of-the-cell_shortfilms

Books

Junk DNA Our DNA is so much more complex than you probably realize, this book will really deepen your understanding of all the work you will do on genetics. Available at amazon.co.uk
Studying Geography as well?

Hen's Teeth and Horse's Toes Stephen Jay Gould is a great evolution writer and this book discusses lots of fascinating stories about geology and evolution. Available at amazon.co.uk

The Red Queen Its all about sex. Or sexual selection at least. This book will really help your understanding of evolution and particularly the fascinating role of sex in evolution. Available at amazon.co.uk

A Short History of Nearly Everything

A whistle-stop tour through many aspects of history from the Big Bang to now. This is a really accessible read that will re-familiarise you with common concepts and introduce you to some of the more colourful characters from the history of science! Available at amazon.co.uk

An easy read..

Frankenstein's Cat Discover how glow in the dark fish are made and more great biotechnology breakthroughs.