

## **Year 11 Transition Task – becoming an A level student**

The most successful students are those that read around the subject, in other words read additional material about their subject that has not been set by their teacher. This may be further reading or listening to material studied in class or may be from a wider area of the subject that is interesting or will help your understanding of the subject better. The Sciences are very wide subjects and we will not cover lots of areas at A level so reading around can widen your interest in other areas of Science. Having a wider subject knowledge than the A level specification and reading around will also allow you to demonstrate your interest and commitment to the subject on any UCAS applications in year 13. It's never too early to start reading around.

You can either complete one of the research tasks or complete the literature review – it's your choice.

**Research activity** – *one of the tasks for the Practical Endorsement in Biology involves researching a topic. This task will give you practise at researching then writing in your own words.*

Research involves finding and viewing/listening to /reading all the material, picking out quotes you think are useful, keeping a record of the quote and the author, website or book title and publisher and the date of the information. You then write your piece of work from your memory using the quotes to support your points. It is not copy and pasting other peoples' work.

For each task you should use a variety of sources including books, magazines and journal articles, websites, podcasts, documentaries. Your work should clearly be yours and all sources should be acknowledged and referenced.

Choose from:

### **Describe the impact of fast fashion on the environment.**

**Include where the dyes come from, where the raw materials for fabrics types or manufactured come from and how they are grown, how wastes from fabric production, dyeing and the end product enter the environment, the impacts on human and wildlife and suggest any actions that can be taken to reduce these impacts.**

Or

**Describe the impact of plastics on the environment.**

**Include where the dyes, where the raw materials come from and how they are grown or manufactured, how plastics enter the environment, the impacts on human and wildlife and suggest any actions that can be taken to reduce these impacts.**

Or

**Describe the potential uses of stem cells in medical treatments.**

**Include where stem cells are sourced from, how they could be used in medical treatments and details of the ethical issues raised in the use of stem cells.**

Or

**Explore vaccines and vaccine hesitancy**

**Describe how vaccines work to prevent disease, outline one success story of vaccination, explain what is meant by vaccine hesitancy and outline the possible outcomes of falling vaccination rates.**

Or

**Select one of the titles below to read and write a summary of the work and the credentials of the author. The books below are all popular science books and can be requested from your local public library either for free or for a small charge, but you do not need to buy the books yourselves, unless you want to.**

1. *The Incredible Unlikelihood of Being*, Alice Roberts. Alice Roberts combines embryology, genetics, anatomy, evolution and zoology to tell the incredible story of the human body
2. *The Epigenetics Revolution*, Nessa Carey. A fascinating introduction to epigenetics. If you enjoy this, follow up with *Seed to Seed* (see below).

3. *The Immortal Life of Henrietta Lacks*, Rebecca Skloot. How one woman's cancer cells changed the medical world forever, and because a multi-million dollar industry.
4. *Bad Science*, Ben Goldacre. Looking objectively at popular science reporting.
5. *The Botany of Desire*, Michael Pollan. A very different approach to science writing, Michael Pollan turns our normal perspective on its head to consider how plants manipulate humans.
6. *Almost Like A Whale*, Steve Jones. Using contemporary science to update Charles Darwin's "The Origin of the Species".
7. *Blood Work: A Tale of Medicine and Murder in the Scientific Revolution*, Holly Tucker. The dramatic history of blood transfusions, from 17th century France onwards.
8. *Seed to Seed*, Nicholas Harberd. A research scientist tells the story of ten years of discovery in his own laboratory. A very valuable insight into contemporary genetics and epigenetics research, and what it means to be a scientist.
9. *Calculus Diaries*, Jennifer Ouellette. A non-mathematician finds out how maths can help you tackle anything – even a zombie apocalypse.
10. *Life Ascending*, Nick Lane. Where does DNA come from? How did the eye evolve? A reconstruction of evolutionary history through ten of its greatest landmarks.
11. *Genome*, Matt Ridley. 23 human chromosomes in 23 chapters.
12. *The Energy of Life*, Guy Brown. Introduction to the cutting-edge science of Bioenergetics