Firstly, make sure that you are completely confident with all the biology GCSE content. You will be building on this knowledge at A-level, so it is essential to have a secure foundation. Once you are confident, please move onto the following…

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| **Independent Scholarship Award: Biology Criteria**  |
| **Bronze** | **Silver** | **Gold** |
| 1. Seek out **one** biology related magazine article, talk or book (see below for some examples).
2. Create detailed notes using the Cornell note taking system. Click on the link for videos explaining this system. <https://lsc.cornell.edu/how-to-study/taking-notes/cornell-note-taking-system/>
 | 1. Complete the bronze criteria.
2. Seek out an additional **two**\* biology related magazine articles, talks or books (see below for some examples) again using the Cornell note taking system.

\*Ideally your chosen 3 should be a range of different sources, try to avoid choosing 3 of the same media. | 1. Complete the bronze and silver criteria.
2. Write a 500-word essay on one of the following questions:

 1. Discuss what can currently be achieved through genetic engineering and how it might improve during your lifetime.

 1. As genetic engineering becomes a more useable technology, discuss what decisions society and governments will have to make in the future, in regards to how to use it appropriately.
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For any queries and to hand in the work please email DNegus@rmet.org

**Guidance**

Some examples of resources you could use for your independent learning are below. These are just suggestions, we encourage you to choose resources on any biology-related topics that interest you.

Magazines

* New Scientist – this famous magazine reports on cutting-edge scientific research.
* The Big Picture – this is an excellent publication by the Wellcome trust. All issues can be accessed online free as a pdf. Topics include The Cell [(http://bigpictureeducation.com/cell)](http://bigpictureeducation.com/cell), The Immune System ([http://bigpictureeducation.com/immune)](http://bigpictureeducation.com/immune) and Populations [(http://bigpictureeducation.com/populations)](http://bigpictureeducation.com/populations)
* The Biologist ([https://thebiologist.rsb.org.uk/biologist)](https://thebiologist.rsb.org.uk/biologist)

Talks

* *A new superweapon in the fight against cancer,* by Paula Hammond ([https://www.youtube.com/watch?v=1N39Z0ODeME)](https://www.youtube.com/watch?v=1N39Z0ODeME)
* *Why bees are disappearing,* by Marla Spivak[*(*https://www.youtube.com/watch?v=dY7iATJVCso)](https://www.youtube.com/watch?v=dY7iATJVCso)
* *Why doctors don’t know about the drugs they prescribe,* by Ben Goldacre ([https://www.youtube.com/watch?v=RKmxL8VYy0M)](https://www.youtube.com/watch?v=RKmxL8VYy0M)
* *Growing new organs,* by Anthony Atala ([https://www.youtube.com/watch?v=7SfRgg9botI)](https://www.youtube.com/watch?v=7SfRgg9botI)

Books

* *The selfish gene* by Richard Dawkins
* *Creation: the origin of life/ the future of life* by Adam Rutherford
* *A brief history of everyone who has ever lived* by Adam Rutherford
* *The smallpox slayer* by Alan Brown
* *The seven daughters of Eve* by Bryan Sykes
* *Mutants: on the form, variety and errors of the human body* by Armand Marie Leroi
* *Sapiens: A history of humankind* by Yuval Noah Harari
* *The body* by Bill Bryson
* *The vital question – why is life the way it is?* by Nick Lane