Summer Bridging Work: Biology Y11 → Y12

Introduction

A-level Biology is a big step up from GCSE. In order to prepare for Biology A-level, it is vital that you have an excellent understanding of the following concepts, all of which you covered at GCSE and will study in greater depth over the first year of A-level Biology:

1. Biological molecules
2. Cell structure
3. Genetics and cell division
4. Exchange
5. Disease and immunity
6. The circulatory system
7. Variation, evolution and classification
8. Investigating and interpreting (practical skills)

To ensure you have an excellent grounding in each of these topics, please complete the following tasks

Compulsory Task 1 (all students must complete this)

1. Buy the CGP Head Start to A-Level Biology guide, available in most book shops (ISBN 978 1 78294 279 5) or on amazon
   https://www.amazon.co.uk/New-Head-Start--level-Biology/dp/1782942793/ref=sr_1_fkmr0_1?s=books&ie=UTF8&qid=1466162397&sr=1-1-fkmr0&keywords=head+start+to+a+level+biology+from+2015

2. For each of the **9 sections** in the book, revise the content, answer the questions and produce **summary notes**, either as flash cards or a spider diagram. You should be able to summarise each section into 1 spider diagram or 1-3 flash cards. Include diagrams where they are helpful.

3. Purchase a **lab coat**.
   https://www.amazon.co.uk/Elimistat-689214144375-Medical-Lab-Coats/dp/B0738GL6C8/ref=sr_1_1_sspa?s=clothing&ie=UTF8&qid=1528188488&sr=1-1-spons&keywords=lab+coat&psc=1

4. Purchase the following **textbook**: Edexcel AS/A level Biology B Student Book 1 + ActiveBook (Edexcel GCE Science 2015) Paperback – 1 May 2015
   https://www.amazon.co.uk/Edexcel-Biology-Student-ActiveBook-Science/dp/1447991141/ref=asc_df_1447991141/?tag=googshopuk-21&linkCode=df0&hvadid=310872601819&hvpos=1o2&hvnetw=g&hvrand=39980585424711256 56&hvpone=&hvptwo=&hvqmt=&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=9045963&hvtargid=pla-366661954037&psc=1&th=1&psc=1

   (Bring the book, the summary notes and the lab coat to your FIRST Biology Lesson)

Compulsory Task 2 (all students must complete this)

See the document below: **A Guide to Harvard Referencing**.

You need to learn how to reference work properly. Read the guide and complete the 3 referencing tasks and the 3 variable tasks on the sheet. This will need to be **printed** out and **completed** and you will need to bring it in to your first lesson.

Assessment

Please bring ALL completed work to your FIRST Biology lesson (this could be the first day of school). There will also be a test in the first few weeks on some of this content.

A guide to using Harvard referencing:

You will use information from a wide range of different sources when writing a report and each source needs to be referenced in a slightly different way in the bibliography at the end of your report. You will most commonly find information in books, journals and websites and so I have provided details of how to reference information from these three sources below. (Remember that the information in the text of your report also needs citations to help the reader link it to its source which you have listed in the bibliography).

How to reference a book:

Karskens, G 1997, *The Rocks: life in early Sydney,* Melbourne University Press, Carlton.

Ward, R 1966, *The Australian legend,* 2nd edn, Oxford University Press, Melbourne.

Present full bibliographic details in the following order:

- author's surname, and initial(s)
- year of publication,
- title of publication (in italics and with minimal capitalisation),
- edition (if applicable. Abbreviated as 'edn'),
- publisher,
- place of publication.

How to reference a journal (Physical copy):

Kozulin, A 1993, 'Literature as a psychological tool', *Educational Psychologist,* vol. 28, no. 3, pp. 253-265, DOI:10.1207/s15326985ep2803_5.

Place the information in the following order:

- author's surname and initial
- year of publication
- title of the article (between single quotation marks and with minimal capitalisation)
- title of the journal or periodical (in italic font using maximum capitalisation)
- volume number (vol.)
- issue number (no.)

- page range of the article
- DOI (Digital Object Identifier), if available

How to reference a journal (On-line copy):

Morris, A 2004, 'Is this racism? Representations of South Africa in the Sydney Morning Herald since the inauguration of Thabo Mbeki as president'. *Australian Humanities Review,* no. 33, accessed 11 May 2007, <http://www.australianhumanitiesreview.org/archive/Issue-August-2004/morris.html>.

Rowland, TA 2015, 'Feminism from the Perspective of Catholicism', *Solidarity: The Journal of Catholic Social Thought and Secular Ethics*, vol. 5, no. 1, accessed 12 December 2015, <http://researchonline.nd.edu.au/solidarity/vol5/iss1/1>.

Place the information in the following order:

- author(s) name and initials
- title of the article (between single quotation marks)
- title of the journal (in italics)
- available publication information (volume number, issue number)
- accessed day month year (the date you last viewed the article)
- URL or Internet address (between pointed brackets)

How to reference a website:

International Narcotics Control Board 1999, United Nations, accessed 1 October 1999, <http://www.incb.org>

Include the following information:

- author (the person or organisation responsible for the site)
- year (date created or last updated)
- name of sponsor of site (if available)
- accessed day month year (the date you viewed the site)
- URL or Internet address (between pointed brackets). If possible, ensure that the URL is included without a line-break.

CPAC 5B – Referencing articles task:

The article opposite is from a **physical** copy of the British Medical Journal 2018 volume 361, page 1 and 2. There is no issue number. The other information that you need to reference the article in a bibliography is clearly visible. Use the 'guide to using Harvard referencing' above to create a bibliography entry for this article:

1. ……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

thebmj

BMJ 2018;361:k1472 doi: 10.1136/bmj.k1472 (Published 12 April 2018)

PRACTICE

WHAT YOUR PATIENT IS THINKING

Why a change of diagnosis shouldn't matter . . . but it does

From loss of identity to social stigma, Suzy Syrett describes the hidden impact of a change to her mental health diagnosis

Suzy Syrett

I'm 45 years old and since 1994 I've lived with three different psychiatric diagnoses; bipolar disorder (1994-2008), depression and psychosis (2008-16), and (2016-present) personality disorder not otherwise specified.

Identity conflicts

Each new diagnosis radically shifted how I interpreted the symptoms I was experiencing, the prognosis I was told to expect, and the treatments I was receiving. It was also a shock to witness how much my diagnosis had become integrated into others' perception of me. Unintended but hurtful comments such as, "Can I just say you still have bipolar? My friends don't mind that one" are commonplace. To say these experiences didn't impact on my understanding of who I am, and why, would be ridiculous.

Confusion and change

Having information about my new diagnosis was useful, but I found little support to help me deal with how it feels to undergo that change. I'd describe the process as being similar to grief because I felt that as I said farewell to one diagnosis it was replaced by a more stigmatising one. And there can be implications for job applications, current employment, or continuing entitlement to the personal independence payment, all of which bring stresses of their own.

Treatment and support

With each change of diagnosis I had to deal with the realisation that I might have been on the wrong medications for years and the concern these drugs might be removed. Many psychiatric drugs have the potential for damaging physiological impact, which is worrying enough, but for me the more pressing concern was coming off a drug that I believed was helping me. Glasgow's bipolar support group played a huge part in helping me accept the impact of my illness in 1994. When my diagnosis was changed my interpretation was that I could no longer attend that group. Having bipolar was no longer a story that I thought I could share in or offer my perspective on. Part of any support group's role is to bring inclusivity to those who already feel separated from society and so feeling excluded from such a group was a doubly miserable process.

Problems of miscommunication

The challenges of hearing a diagnosis of personality disorder were even more fundamental and corrosive than those I faced after my previous change of diagnosis. This change of diagnosis came without warning and during the shock of that appointment it seemed to me that the suffering I had experienced—never mind that my family and friends—was all my fault. I was to blame.

Fortunately, my psychiatrist arranged a second appointment to help clear up some of those questions. That helped a lot. But there was still the confusion of continuing to experience symptoms that didn't fit my new diagnosis.

Trust and other issues

"Do my community mental health team believe me?" is never a thought I want to have. I have an excellent team and being assured they all knew of my new diagnosis, would support me through the process of change, and that they would always take me seriously when I ask for help regardless of symptom was key. If I had a reason to doubt them, or even worse, if I felt that they doubted me, then that relationship, as concrete and enduring as it is, would be destroyed.

Delivering change

We all face decisions in life that bring changes that can be hard to cope with. Imagine dealing with an enforced change of great impact that you felt you had no involvement in? Psychiatric diagnoses have always seemed unquestionable facts and not open to debate. Making a diagnosis can be challenging, but wouldn't it be at least as challenging for a patient to accept a change of diagnosis? Discussing why the change is required

Suzanne.Syrett@glasgow.ac.uk Follow Suzy on Twitter at @SuzySyrett

CPAC 5B – Referencing websites task:

Visit the website below (you will need to print this and bring it in) and write a reference for it below.

https://emilyspiersbiology.weebly.com/alevel-biology-blog/experiment-to-investigate-how-enzyme-concentration-affects-the-inital-rate-of-a-reaction

2. ……

……

……

……

……

……

……

……

CPAC 5B – Referencing books task:

Find a book of your choice. Reference that below.

3. ……

……

……

……

……

……

……

……

CPAC 2C Identifying and controlling variables task:

Variables

For each of the following case studies name the:-
(A) Independent variable (B) Dependant variable (C) Control variable

Case study 1 – *Measuring gravity*

The aim of this experiment is to find out how fast objects of different masses take to fall from height. To conduct this experiment we used a number of different sized steel ball-bearings, which had different masses. Each ball-baring was weighed on scales, before being dropped from a marker exactly 2 m from the floor. The time the ball bearing took to drop was timed on a stopwatch, and repeated 3 times for each ball-bearing to gain an average time.

Case study 2 – *The colour of summer*

The aim of this experiment is to find out if the colour of water a flower is grown in affects the colour of the flower. Five white roses of a similar size and shape were selected and placed into 5 separate beakers each containing 250 ml of water. Each of the 5 beakers had a few drops of one of five different colours of food dye added to it (red, green, blue, yellow and brown). The beakers were then placed on a windowsill and the colour of the flowers monitored twice a day for two weeks.

Case study 3 – *how far does the spring stretch?*

The aim of this experiment is to find out how far different masses stretch a spring. A spring was hung from a clamp stand, and its length end to end measured. A 10g mass was then added and the length of the spring measured and recorded. This was repeated adding 10g between 0g and 100g.

Variables – answer sheet:

Case study 1 – *Measuring gravity:*

(A) Independent variable:

(B) Dependant variable:

(C) Control variables:

Case study 2 – *The colour of summer:*

(A) Independent variable:

(B) Dependant variable:

(C) Control variables:

Case study 3 – *How far does the spring stretch?*

(A) Independent variable:

(B) Dependant variable:

(C) Control variables: