A – Level Transition Work: Bridging the Gap Between GCSE and A-level

Task 1 – Prior Knowledge:

Throughout the GCSE course you looked at how molecules can move within a cell and between cells.

Draw a diagram that shows diffusion.

Draw a diagram that shows osmosis.

Describe what happens in these process.

Task 2 - Research

Find out what a phospholipid is and then find out what a phospholipid bilayer is. Record your research in the form of diagrams and text – ***do not just copy and paste from Wikipedia***. The following websites are useful for A-level Biology:

<http://www.biologymad.com/>

<http://www.s-cool.co.uk/a-level/biology>

<http://www.cellsalive.com/>

Task 3 – Comparisons

Aims:

**•** When scientists produce theoretical models, they use their imagination and creativity to think about data in new ways. The theoretical models that they produce are therefore more than careful descriptions of the data.

**•** Because the models go beyond the data, more than one theoretical model can be supported by the available evidence.

**•** In some cases new evidence is gathered which shows one model to be better than another.

At GCSE you studied animal and plant cells. Compare what you have learnt before to other models of cells and their membranes.

Research the following models and record the evidence found by the different scientists:

Gorter Grendel

Danielli and Davson

J.D. Robertson

Singer and Nicholson

Gunther Blobel

Make sure you have any diagrams of the models that these scientists made.

Task 4 – The current model

The model that you will learn about in AS biology is the ‘*fluid mosaic’* model, which is the one devised by Singer and Nicholson.

Now write a short essay on the differences between the ‘fluid mosaic model’- and the other models that you have read about. How has the fluid mosaic model become accepted as fact? How does this compare to the diagrams from activity 3?

Task 5 – Review

A-Level Biology is a very enjoyable but also difficult course. You will have to be prepared to work hard and try your best. Half an hour every evening working on something will be the minimum expectation if you want to do well. So I can get to know you better, write a few lines on each of the following:

1. What do you like about Biology?
2. What are you looking forward to studying in A-Level Biology?
3. What work will you do to achieve your best?

**Deadline: Friday 11th September 2015 – Please hand this work into one of your Biology teachers by this date – it can be hand written or typed.**

**(When I say the 11th that is the final deadline your teacher may want it before then – remember this is work to be done over the holidays and will be too much work to do at the last minute)**