



Summer Tasks July 2021 (YEAR 12 – 13)

SUBJECT: **BIOLOGY**

Summer Task Title / Instructions:

Task 1 Required practical questions :

Complete the booklet of questions related to the required practicals you have carried out this year.

Task 2 Practical Skills in written examinations:

It has been clear from the A2 public exams, practice and specimen papers that the practical activities completed form significant part of all three papers especially paper 3. Questions have focussed on the following key areas:-

- **Planning** – Can you describe practical activity including Identification of equipment – you will be expected to be able to draw the equipment if appropriate.
- **Variables** – Independent, dependent, control – identify.
- **Risk Assess** – identify both the generic and specific dangers in each experiment. Be able to propose ways to minimise the dangers and outline any action required in the event of an accident. You are recommended to use CLEAPPS, and other online resources, to research and reference your risk assessment.
- **Analysis** – Link between scientific understanding and anticipated results.
- **Processing** – Can you draw graph and appreciate what intercept and gradient represent (if appropriate), do you know what to do with the data in terms of calculations required?
- **Evaluation** – What are the limitations of your experiment? How do you minimise uncertainty and errors eg improve quality of data? How could you improve your experiment? Can you constructively criticise a proposed method/diagram in order to improve or make safe the procedure?

For every Required Practical listed below, please can you produce a document that addresses all areas above. The expectation is that you produce a minimum A4 document for each Required Practical

Required Practical 1: Investigation into the effect of a named variable on the rate of an enzyme-controlled reaction.

Required Practical 3: Production of a dilution series of a solute to produce a calibration curve with which to identify the water potential of plant tissue.

Required Practical 4: Investigation into the effect of a named variable on the permeability of cell-surface membranes.

Required Practical 6: Use of aseptic techniques to investigate the effect of antimicrobial substances on microbial growth.

Required Practical 11: Production of a dilution series of a glucose solution and use of colorimetric techniques to produce a calibration curve with which to identify the concentration of glucose in an unknown 'urine' sample.

Additional Guidance:

All of these practical activities are described fully or referenced in your course textbook.

Additional guidance for each practical will be uploaded to Google Classroom in advance of the Summer holidays

Task 1 – Progress can be monitored remotely so no need to provide any written evidence.

Please submit task 2 to your teacher on the first lesson in September.

You can email l.dawson@springwoodhighschool.co.uk any questions relating to the tasks.