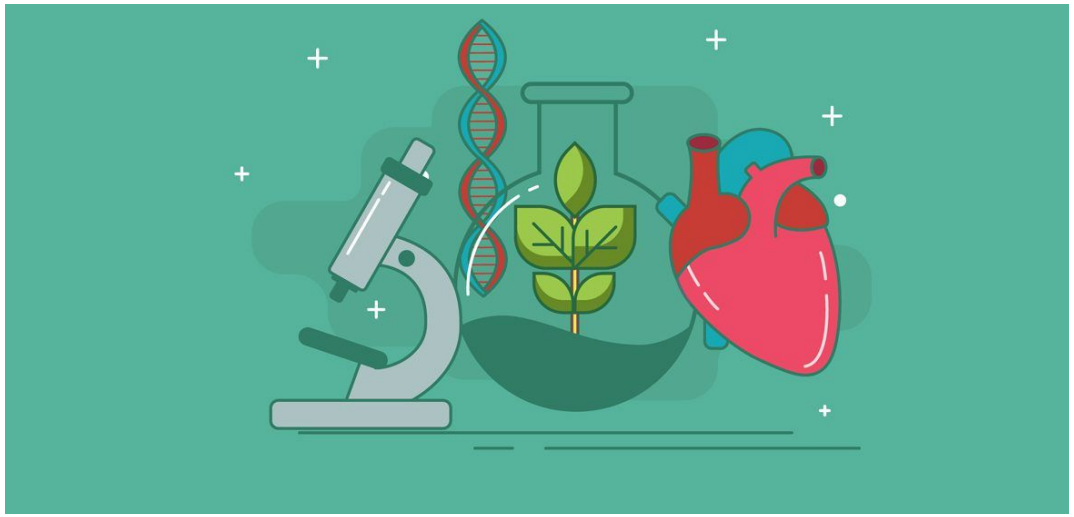
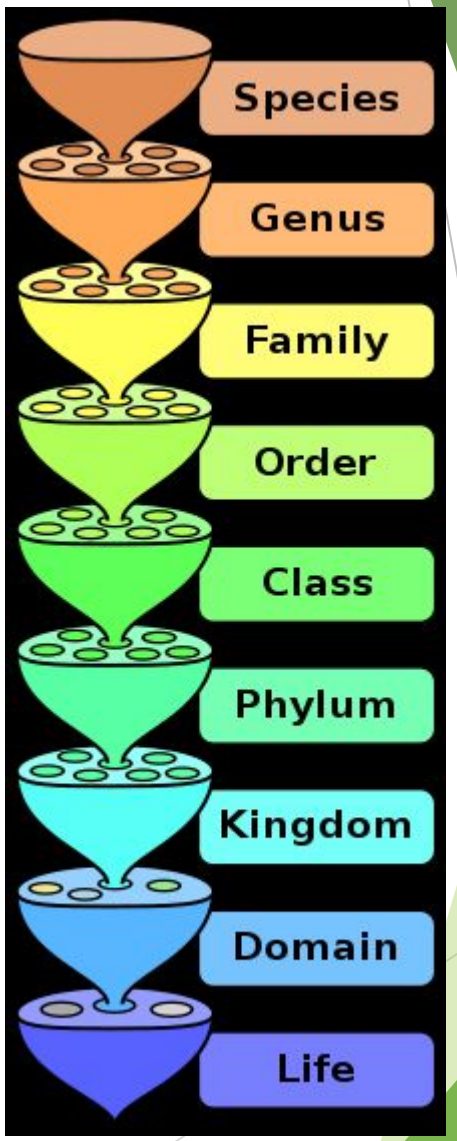
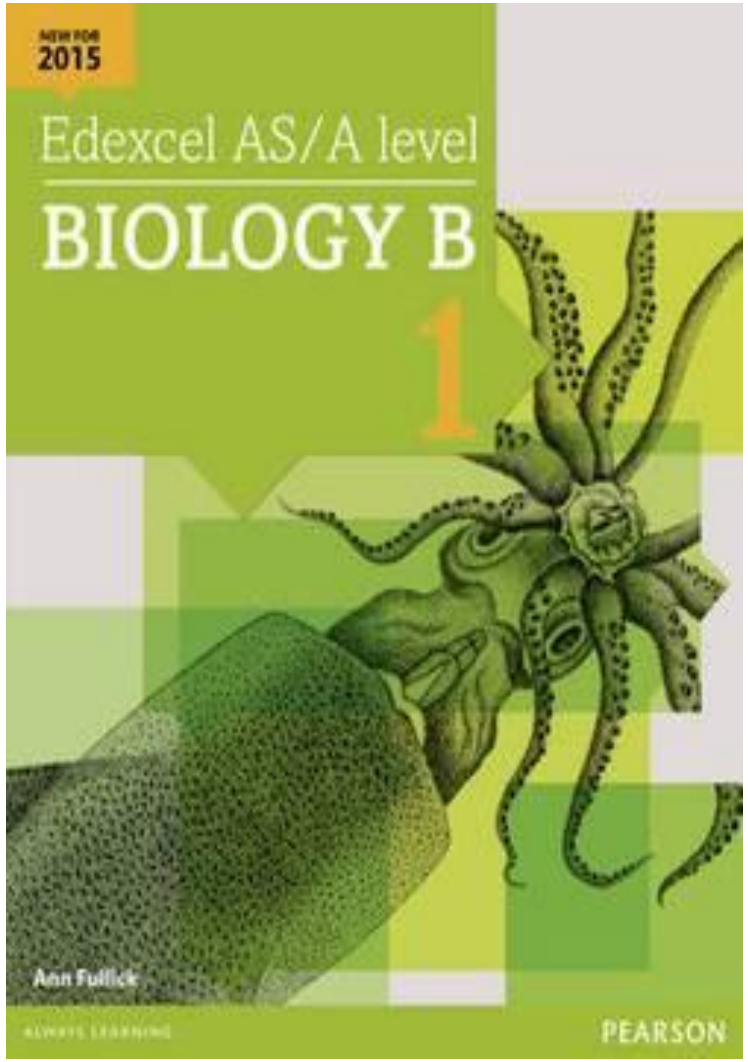
A level Biology



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Edexcel AS/A level
BIOLOGY B
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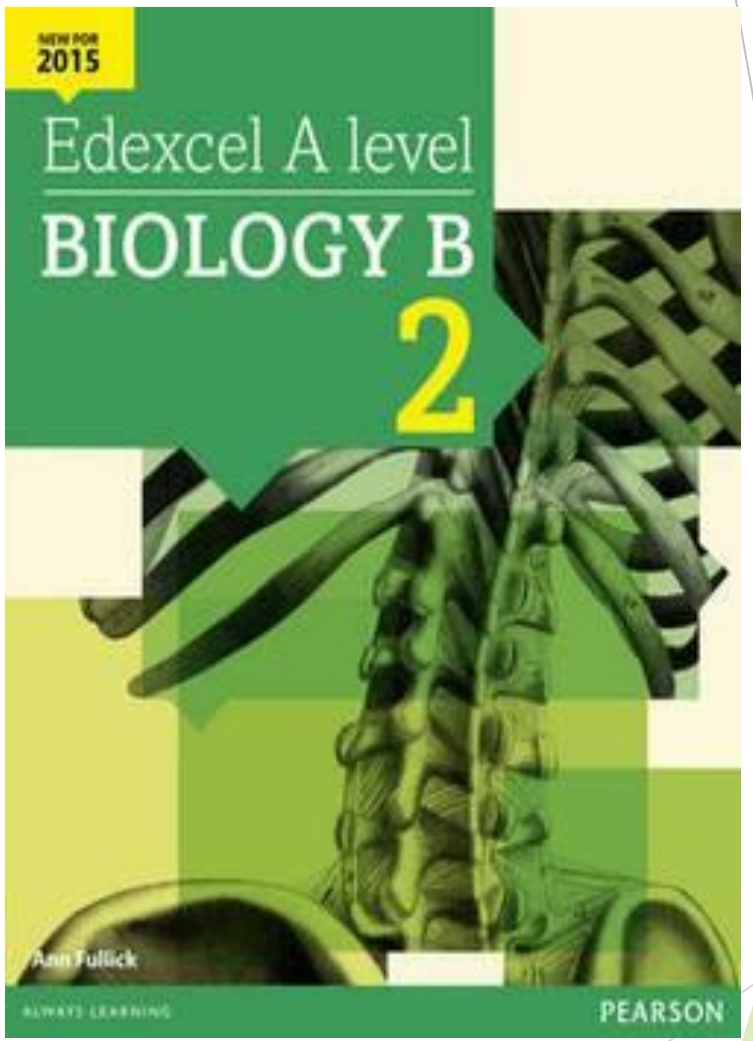
NEW FOR 2015
Edexcel A level
BIOLOGY B
2
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Introduction

You will be starting a two year Biology A level course.

The specification we are following is Edexcel Biology B.

The course is 100% assessed externally at the end of year 13 by 3 exam papers.

You will also need to complete a number of core practicals over the two years which cover specific skills and techniques

Assessment at the end of the two years

Paper 1 – Advanced Biochemistry, Microbiology and Genetics - 90 marks, 30% weighting, 1 hour 45 minutes

- Topic 1: Biological Molecules
- Topic 2: Cells, Viruses and Reproduction of Living Things
- Topic 3: Classification and Biodiversity
- Topic 4: Exchange and Transport
- Topic 5: Energy for Biological Processes
- Topic 6: Microbiology and Pathogens
- Topic 7: Modern Genetics

Paper 2 – Advanced Physiology, Evolution and Ecology - 90 marks , 30% weighting, 1 hour 45 minutes

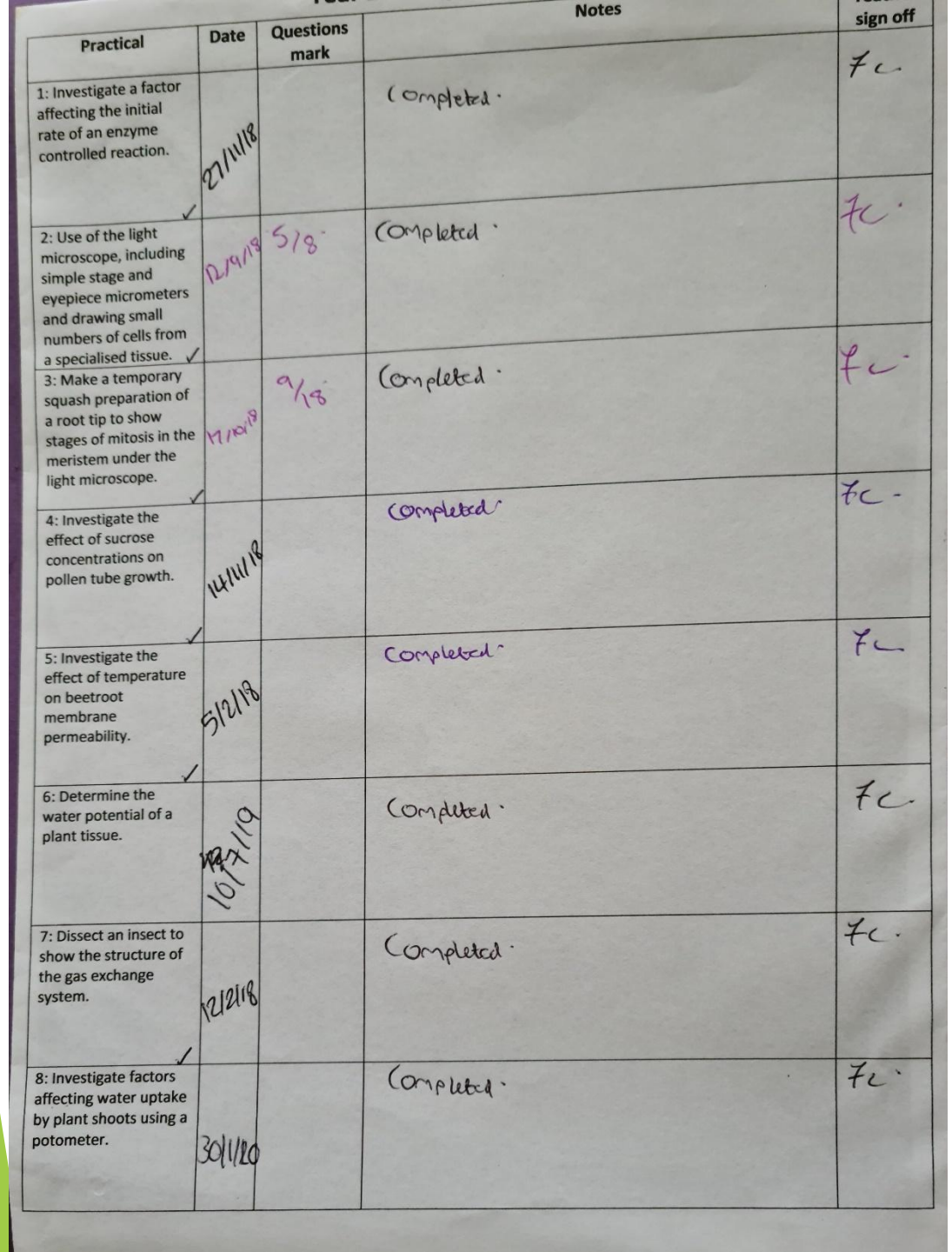
- Topic 1: Biological Molecules
- Topic 2: Cells, Viruses and Reproduction of Living Things
- Topic 3: Classification and Biodiversity
- Topic 4: Exchange and Transport
- Topic 8: Origins of Genetic Variation
- Topic 9: Control Systems
- Topic 10: Ecosystems

Paper 3 – General and Practical Principles in Biology - 120 marks, 40% weighting, 2 hours 30 minutes

- All topics across the full A level specification.
- Half of the paper will focus on testing students' knowledge and understanding of practical skills and techniques.

More information about core practicals

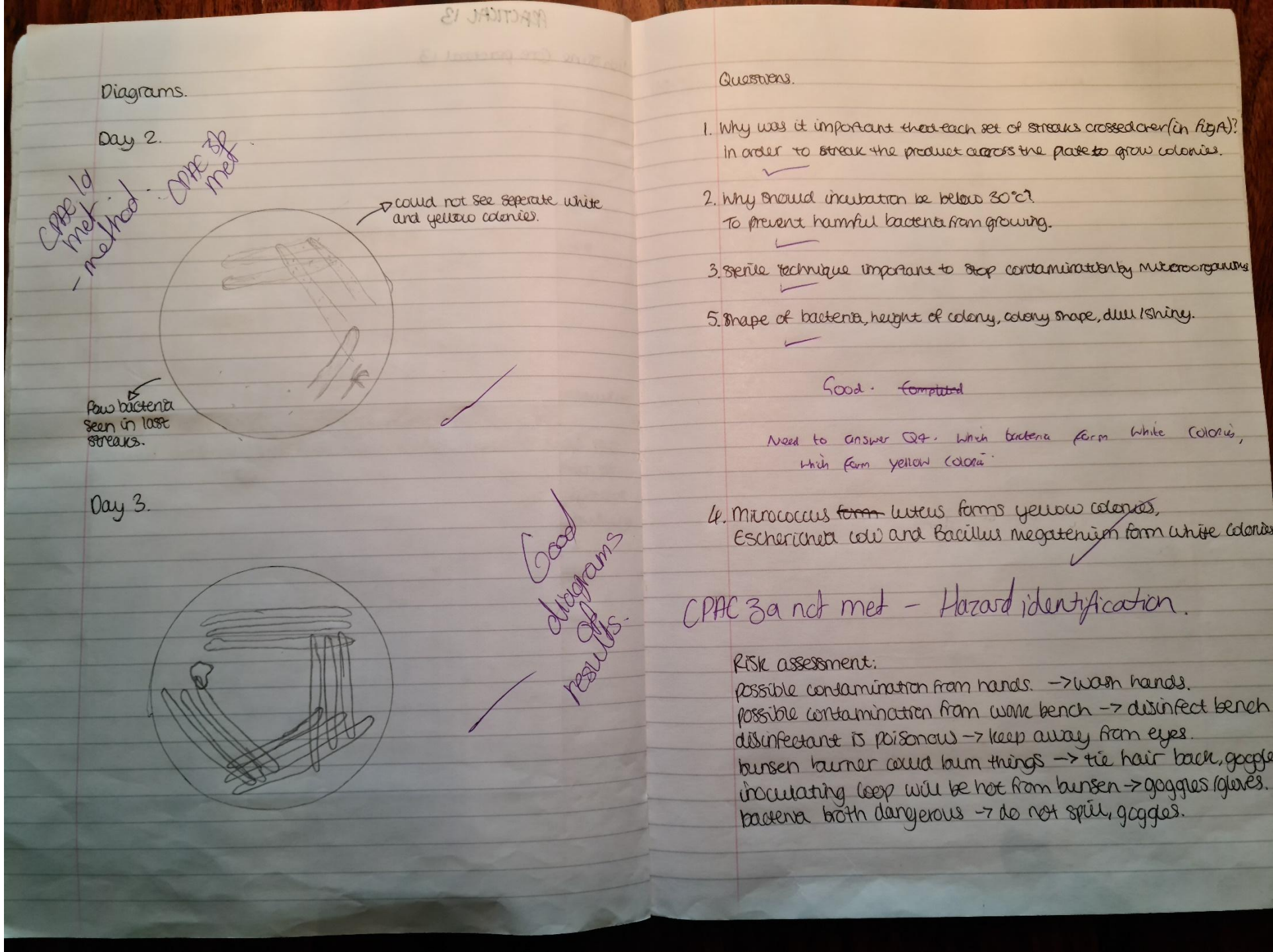
"A level specifications must include at least 12 core practicals to provide suitable opportunities for students to gain sufficient practical experience over the course of their two years of study." **Pearson Education Ltd 2015**



Practical	Date	Questions mark	Notes	Teacher sign off
1: Investigate a factor affecting the initial rate of an enzyme controlled reaction. ✓	27/11/18		Completed.	FC.
2: Use of the light microscope, including simple stage and eyepiece micrometers and drawing small numbers of cells from a specialised tissue. ✓	12/9/18	5/8	Completed.	FC.
3: Make a temporary squash preparation of a root tip to show stages of mitosis in the meristem under the light microscope. ✓	17/10/18	9/18	Completed.	FC.
4: Investigate the effect of sucrose concentrations on pollen tube growth. ✓	14/11/18		Completed.	FC.
5: Investigate the effect of temperature on beetroot membrane permeability. ✓	5/12/18		Completed.	FC.
6: Determine the water potential of a plant tissue.	10/1/19		Completed.	FC.
7: Dissect an insect to show the structure of the gas exchange system. ✓	12/12/18		Completed.	FC.
8: Investigate factors affecting water uptake by plant shoots using a potometer.	30/1/20		Completed.	FC.

Which core practicals will you complete during year 12?

How are the core practicals assessed?



Diagrams.

Day 2.

CPAC 1d met - method

CPAC 3f met

could not see seperate white and yellow colonies.

Few bacteria seen in last streaks.

Day 3.

Good diagrams of results.

Questions.

1. Why was it important that each set of streaks crossed over (in fig A)?
In order to streak the product across the plate to grow colonies.

2. Why should incubation be below 30°C?
To prevent harmful bacteria from growing.

3. Sterile technique important to stop contamination by microorganisms

5. Shape of bacteria, height of colony, colony shape, dull / shiny.

Good. ~~Completed~~

Need to answer Q4. which bacteria form white colonies, which form yellow colonies.

4. Micrococcus ~~form~~ lutes forms yellow colonies, Escherichia coli and Bacillus megaterium form white colonies

CPAC 3a not met - Hazard identification.

Risk assessment:
possible contamination from hands. -> wash hands.
possible contamination from work bench -> disinfect bench
disinfectant is poisonous -> keep away from eyes.
bunsen burner could burn things -> tie hair back, goggle
inoculating loop will be hot from bunsen -> goggles / gloves.
bacteria broth dangerous -> do not spill, goggles.

How to be organised in biology

You will need a ring binder (which you will bring into school every lesson) and a lever arch folder (which you will keep at home, unless it is folder check time).

For each topic, you will be given a topic cover sheet which you will need to keep in your ring binder for each topic you are working on, alongside assessed work for each topic, handouts, your notes etc

As you move onto a new topic, transfer the work for the previous topic into your lever arch folder

Your core practical work will be kept in a ring binder at school and will not be taken home. On occasions you may be able to take home work from a single core practical to complete it and then bring it again the following lesson

Transition tasks to be completed

Transition task 1 – Should take 5 hours

Complete the student guide booklet and answer the questions – Due date **4th September**

Revise the following topics for a baseline assessment in the second biology lesson in September

DNA structure and genetics

Protein synthesis and enzymes

Cell structures

Biodiversity

Heart and blood flow

Transition task 2 – Should take 3 hours

Complete the higher GCSE question papers (paper 1 and 2 from 2019) - Due date **4th September**

Any other questions?