AQA A Level BIOLOGY

Induction

AS AND
A-LEVEL
BIOLOGY

AS (7401)
A-level (7402)

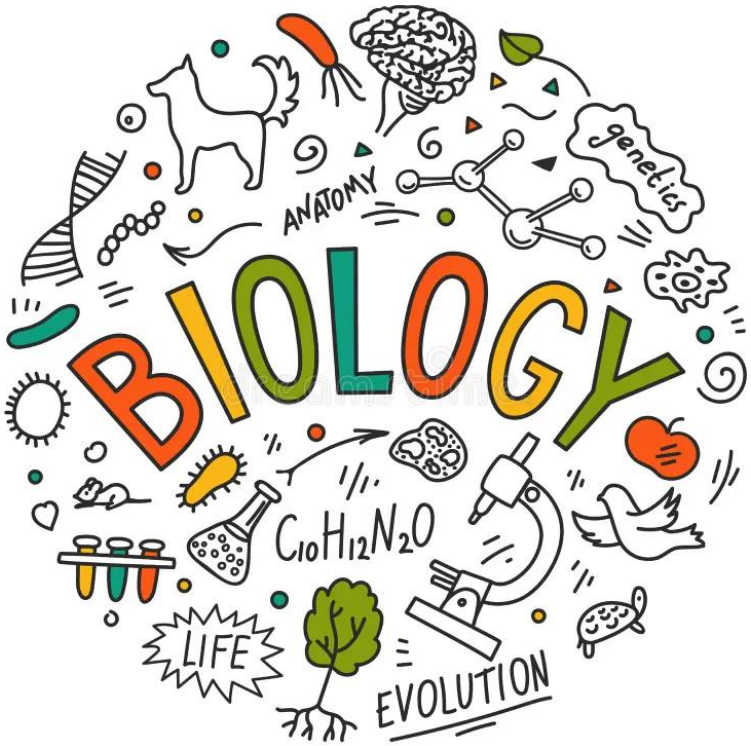
Specifications
For teaching from September 2015 onwards
For AS exams in May/June 2016 onwards
For A-level exams in May/June 2017 onwards

Version 1.5 26 November 2021

Welcome!

Welcome to Biology A level induction

- The induction process
- What to expect from Biology A Level
- What do you need to get for Biology A Level
- Field trip!



The induction process

There are some requirements that you need to meet before starting the course…

- Combined scientists will need at least 6, 6
- Separate scientists will need at least two grade 6, one in biology
- Both combine and separate science routes will need grade 5 in maths
- There is an induction exam at the beginning of the year, topics to be shared with you along with summer work via the website.

Course content

A Level Biology is made up of 8 topics;

- 4 in yr 12 (which is known as AS)
- 4 in yr 13 (which is known as A2)

There are in school assessments throughout the 2 years, but your final grade will be the result of 3 exam papers that will be sat at the end of yr 13 covering **all** topics.

Weighting of assessment objectives for A-level Biology

Assessment objectives (AOs)	Component weightings (approx %)			Overall weighting (approx %)
	Paper 1	Paper 2	Paper 3	
AO1	44–48	23–27	28–32	30–35
AO2	30–34	52–56	35–39	40–45
AO3	20–24	19–23	31–35	25–30
Overall weighting of components	35	35	30	100

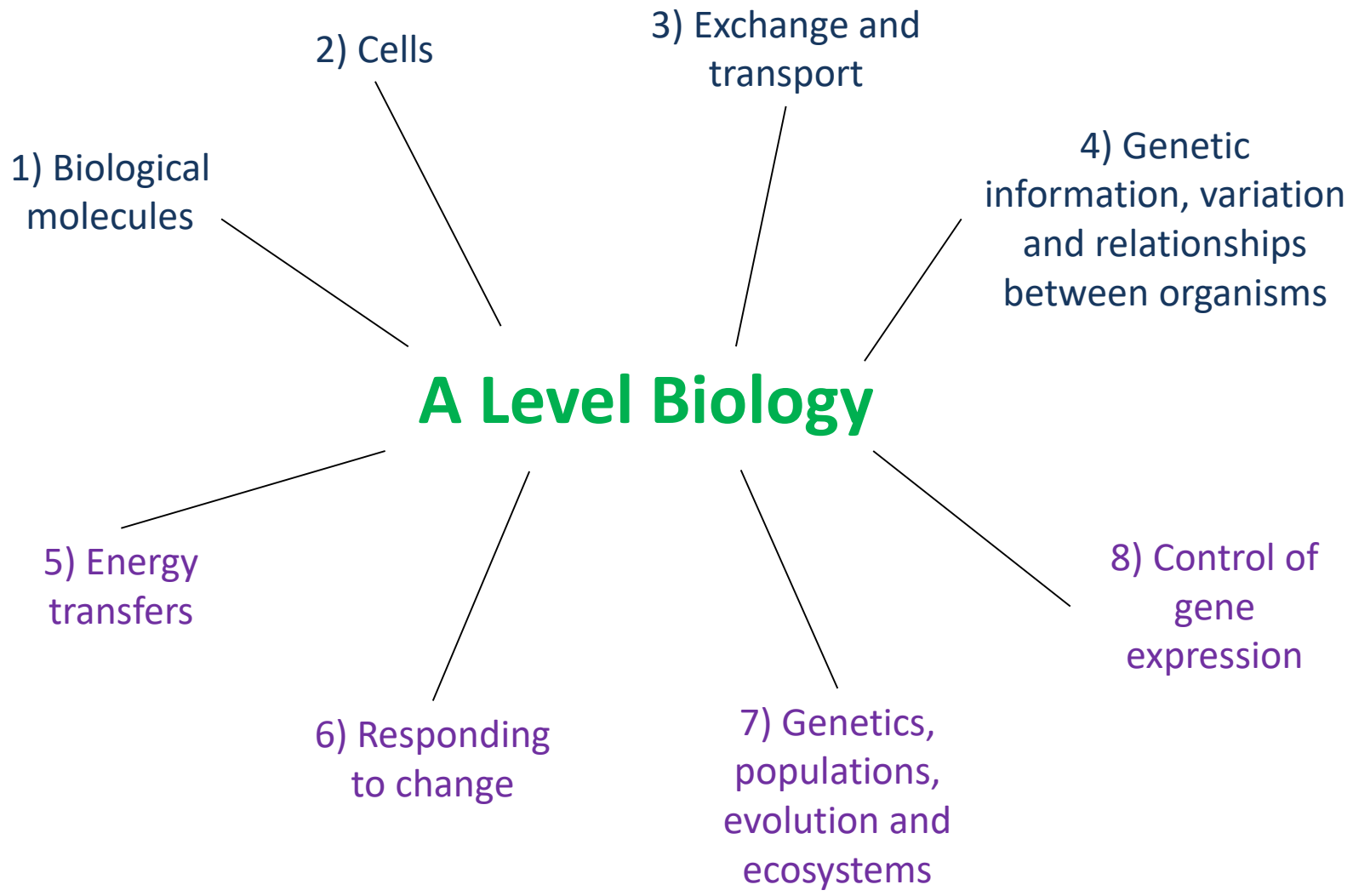
10% of the overall assessment of A-level Biology will contain mathematical skills equivalent to Level 2 or above.

At least 15% of the overall assessment of A-level Biology will assess knowledge, skills and understanding in relation to practical work.

Exams & Assessments

- Students will be assessed throughout the year. There are 4 topics in each year and an assessment in the middle and at the end of each one.
- Early in the Spring term of yr 12, students will be given an in class IPE to inform us all of any support/intervention required.
- At the end of year 12, during the summer term all students will sit formal **Internal Progression Exams (IPE's)** in the hall.

Course structure



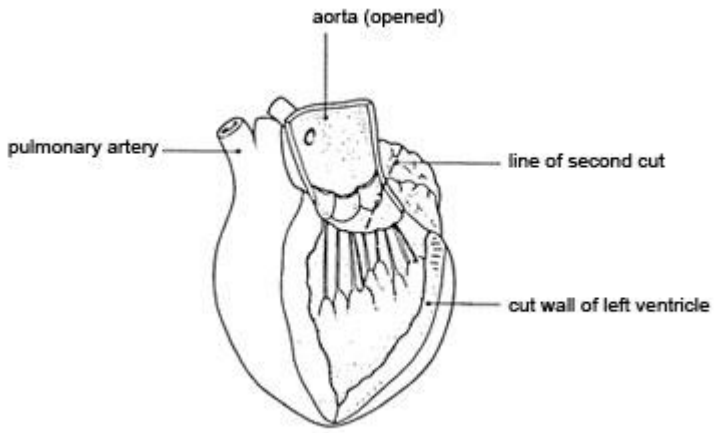
Course structure – required practicals

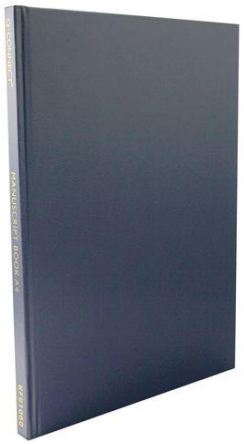
There are 12 required practicals that will be completed throughout the 2 years.

These need to be written up in a dedicated practical book.

You will be assessed on 5 CPAC (common practical assessment criteria)

- Following written methods and instructions
- Using apparatus correctly and investigative methods
- Using apparatus and materials safely
- Making observations and recording results
- Carry out supporting research and write reports using appropriate references





Expectations

All students will be expected to;

- maintain a **high attendance** level and it will be your responsibility to catch up with any work missed due to absence planned or otherwise
- You will need to buy a text book and a hard backed note book for use as a laboratory book.
- You will be expected to **study outside of school** hours to extend your knowledge and understanding of the topics being taught and produce **all work on the agreed deadlines.**
- If you are having problems, please speak to your teachers or 6th form team!

Failure of any of the above will result in yourself and your parents being asked to attend an interview with the Head of Biology and/or the Sixth Form Team to address these issues and if not resolved could result in removal from the course.

Expectations

All students will be expected to;

- Have their phones off and in bags during lesson time
- No headphones in lessons
- Model best classroom etiquette in class to ensure maximum progress – no off topic chat, no getting out of seat to put things in bin during teacher instruction etc
- Start promptly on tasks set in lessons
- Ask and answer questions (no hands up)
- No eating, chewing or drinking in labs

A level sciences are difficult subjects that require maximum focus

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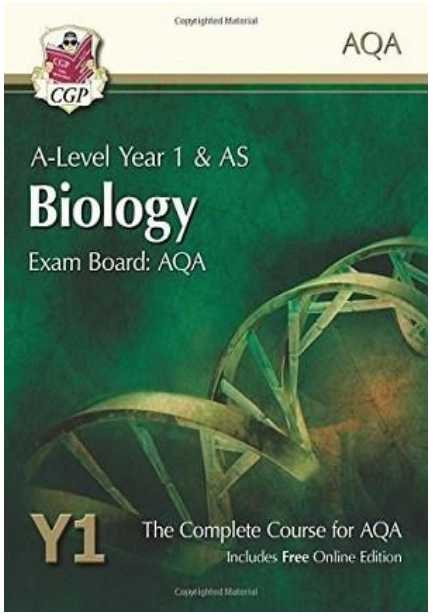
Things to buy…



TEXT BOOKS

We will be using the following text book for AS AQA Biology:
CGP A-Level Year 1 & AS Biology ISBN 978 1 78294 319 8
(A combined year 1 and year 2 book is also available)

FOR YOUR LESSONS

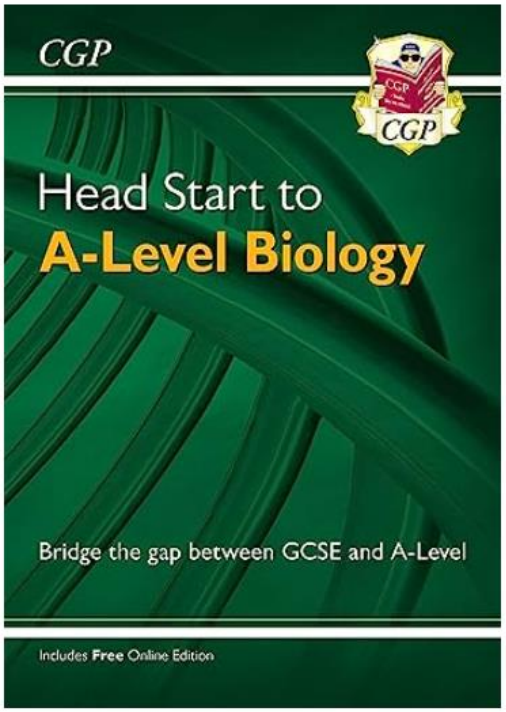
All students will be required to purchase a ring binder folder complete with plastic wallets and dividers to store and organise your notes. This will be expected to be well organised and can be checked by the 6th form team, tutors or teachers at any point. A full set of equipment – pens, pencils, highlighters, green pens, calculator, ruler, pencil sharpener

LAB BOOK (and lab coat – Sept)

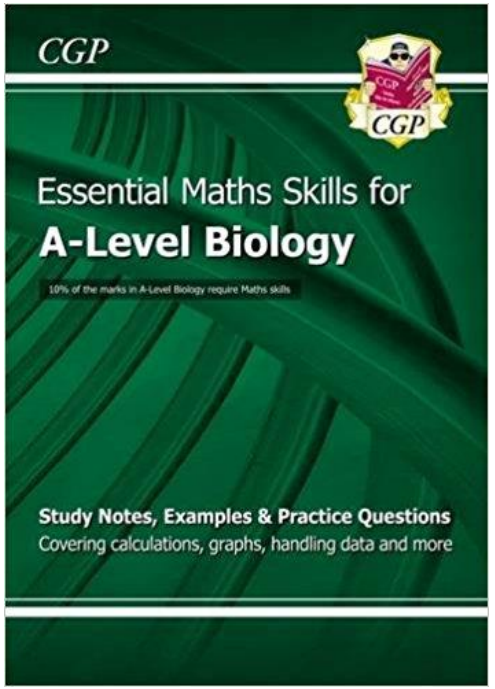
You will need to have a hard backed not spiral bound, A4 note book to record your practical notes

Bridging the gap between GCSE and A Level

There are a number of complementary books that are designed to support students bridge the gap between GCSE Biology and A level Biology.



It is also recommended that students purchase one of the books available that cover the maths skills required in A level Biology (10% of grade!). There are various books available but CGP have one entitled ‘Essential Maths Skills for A-level Biology'.



AS Biology Field Trips

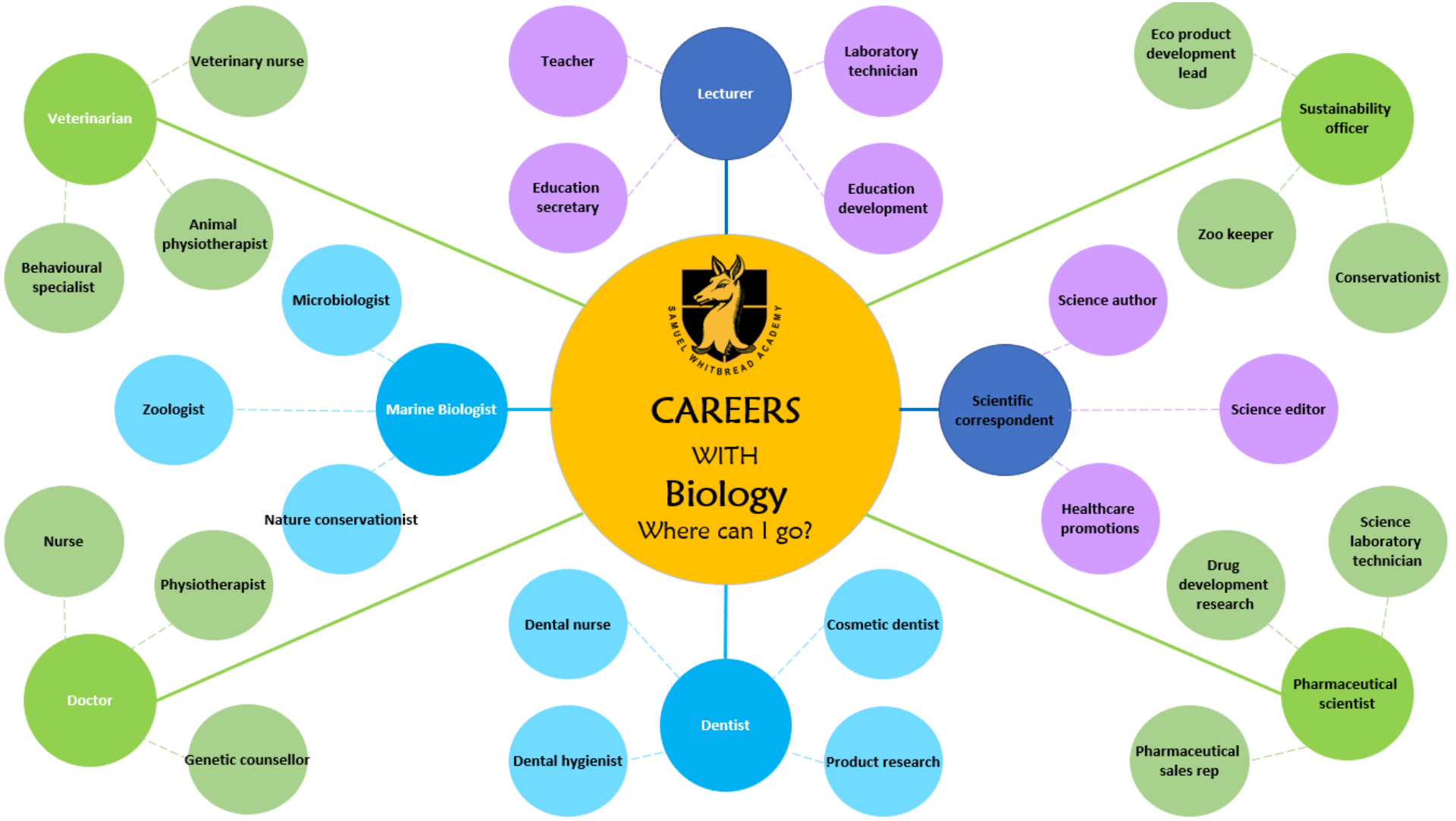
– Investigating Populations & Environments

During the summer term of Year 12 we will be running fieldtrips to the Southill Estate. The trips are mandatory to complete ecology required practicals.

This work will form part of an ongoing study as part of Charles Whitbread's Biodiversity project. The work you do will add on to work done by students in previous years to monitor the progression of the land from arable land to wild habitats. You will undertake ecology required practicals as well as enrich your knowledge and understanding and gain other field work practical skills. We will also undertake an outside lesson in situ!

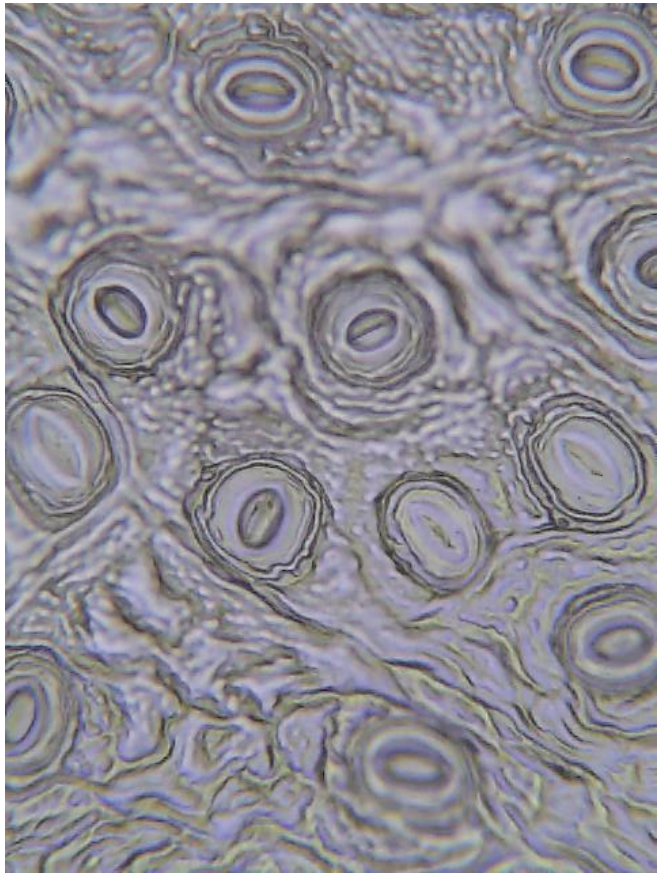

THE NORTH FACE

Why study biology?



Finding Stomata

Stoma = 1 hole
Stomata = many holes!



Leaf print showing some of the many thousands of stomata on the lower epidermis

1. Paint a small patch (~1cm^2)of nail varnish on the underside of a leaf
2. Let it dry fully before covering with Sellotape
3. Gently peel the Sellotape off the leave and transfer to a clean microscope slide
4. Using the lowest magnification, focus the microscope
5. Increase the magnification, using the fine focus to refocus each time.

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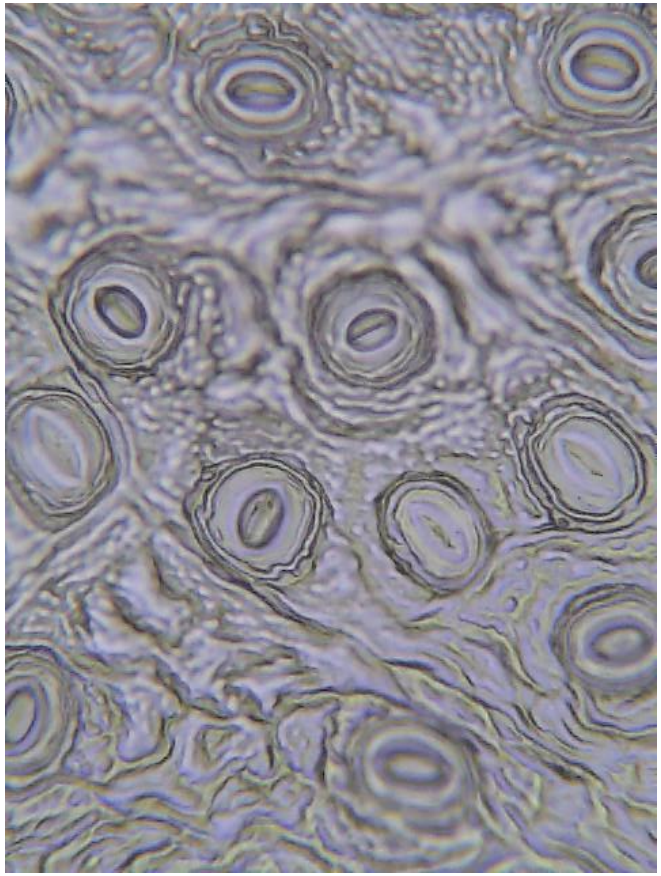

Leaf print showing some of the many thousands of stomata on the lower epidermis

The stomata need to be open to allow gas exchange for photosynthesis, however when the stomata are open, water is being lost!

Therefore when water is scarce the guard cells will be flaccid and the stomata will close. This also happens when photosynthesis is not happening.

When there is lots of water, the guard cells are turgid and the sausage shape of the cells opens the hole. This has to happen for gas exchange and photosynthesis to take place.