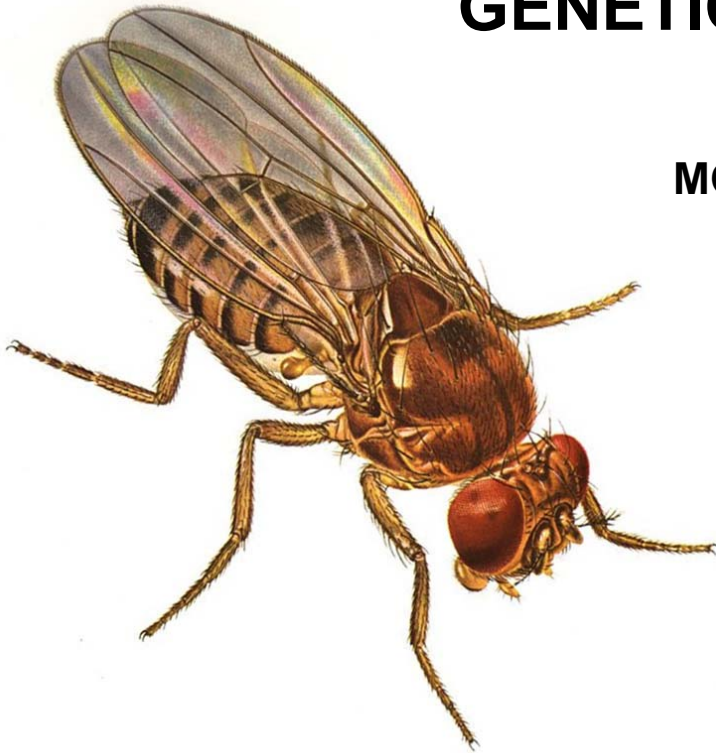


# GENETICS / Dev.Biol RSM

## MODULE 3



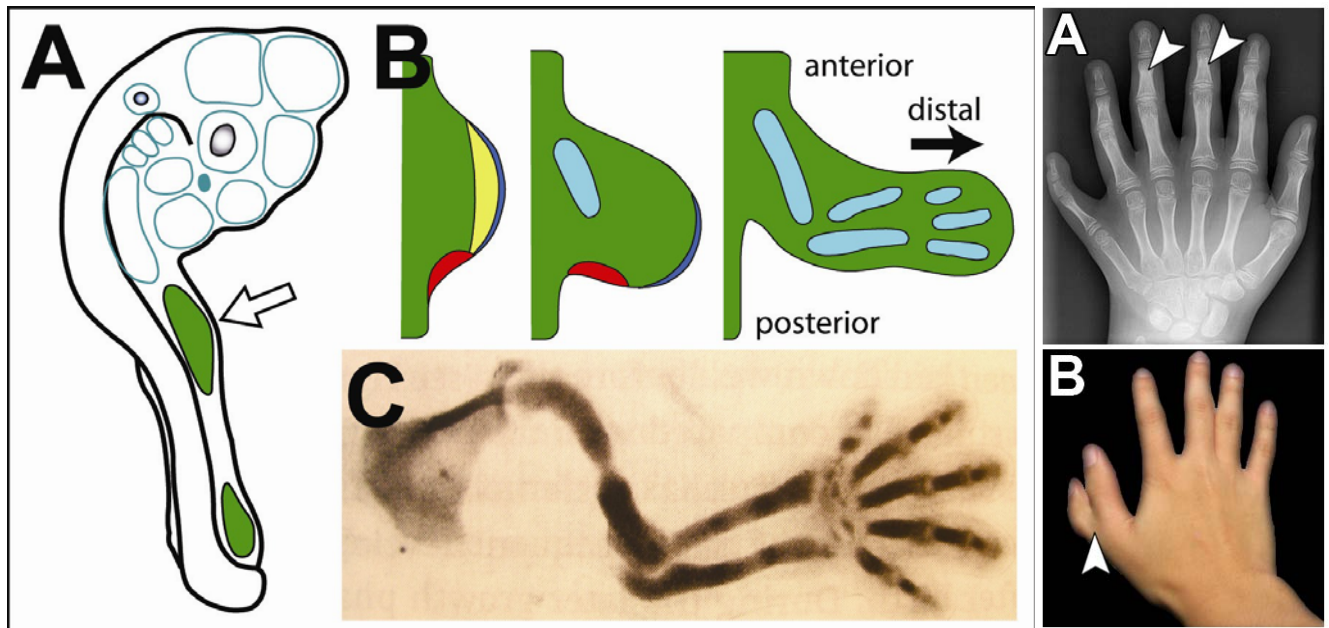
**Intro &  
Dissection of  
wing discs**

## Pattern formation

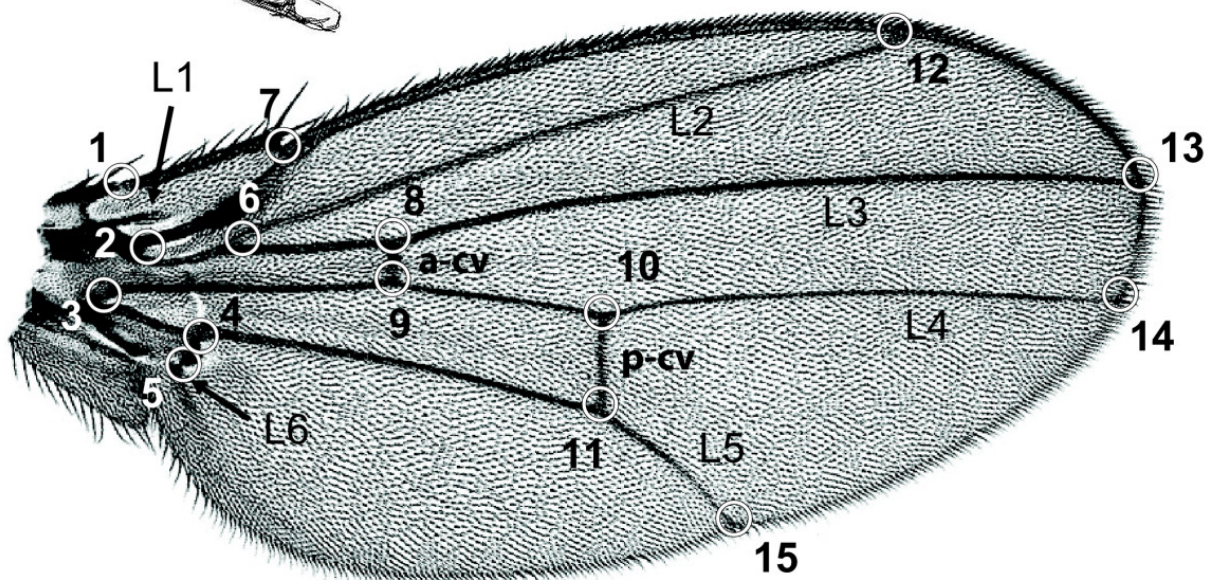
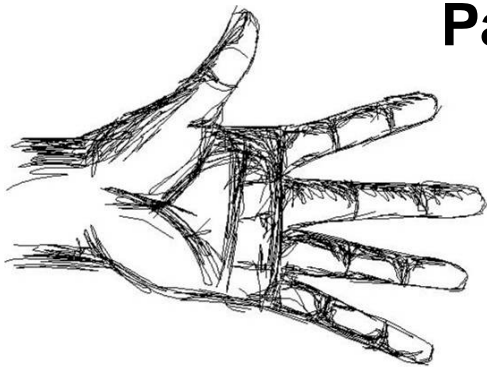
Cells acquire different shapes in different positions and arrange into position-specific tissue compositions.



## Patterning of the vertebrate limb

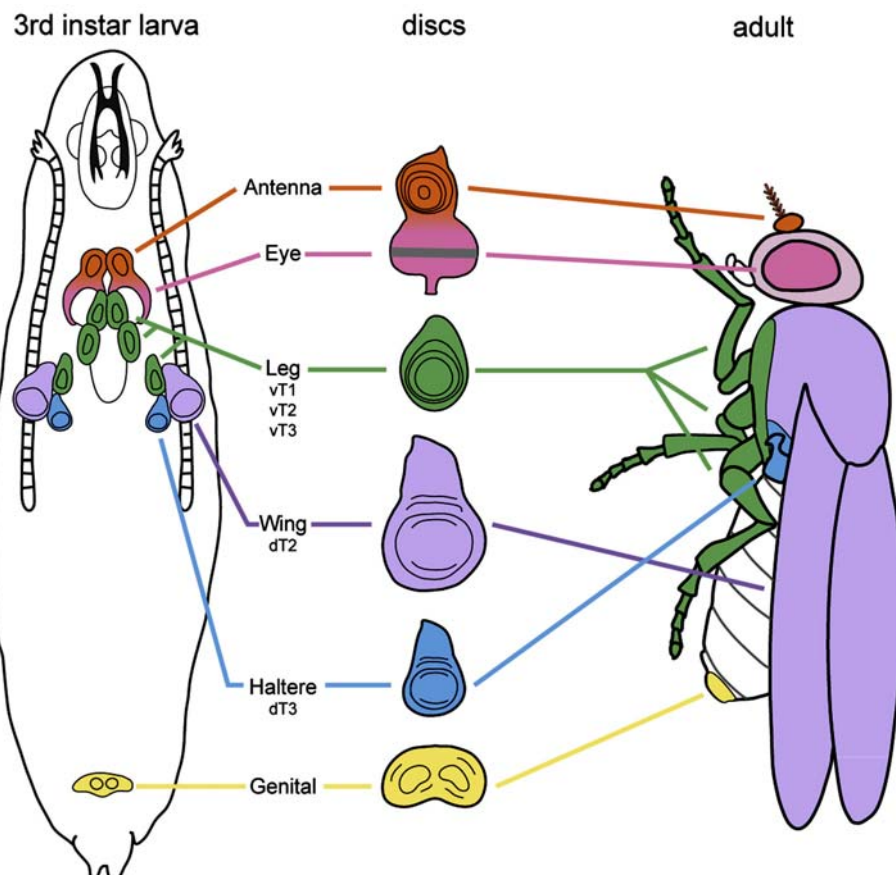
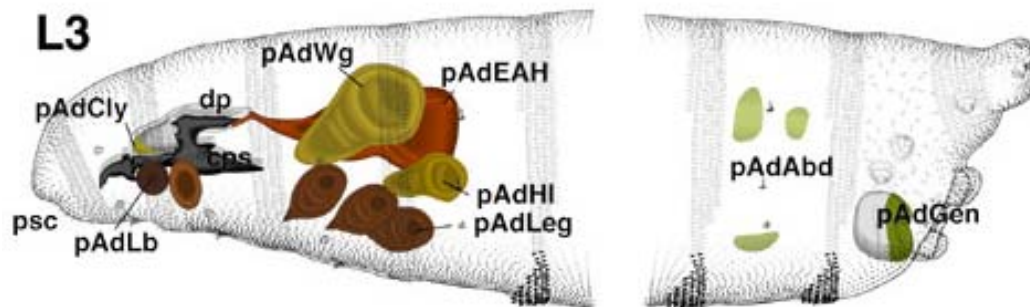
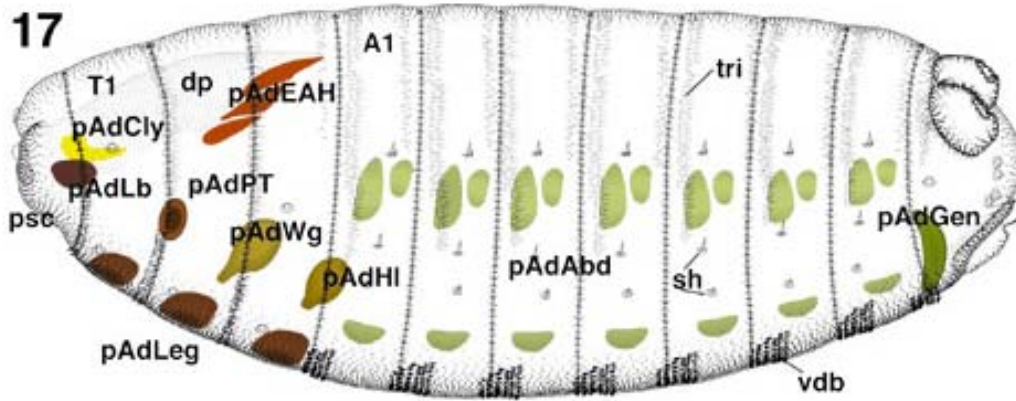


## Pattern formation

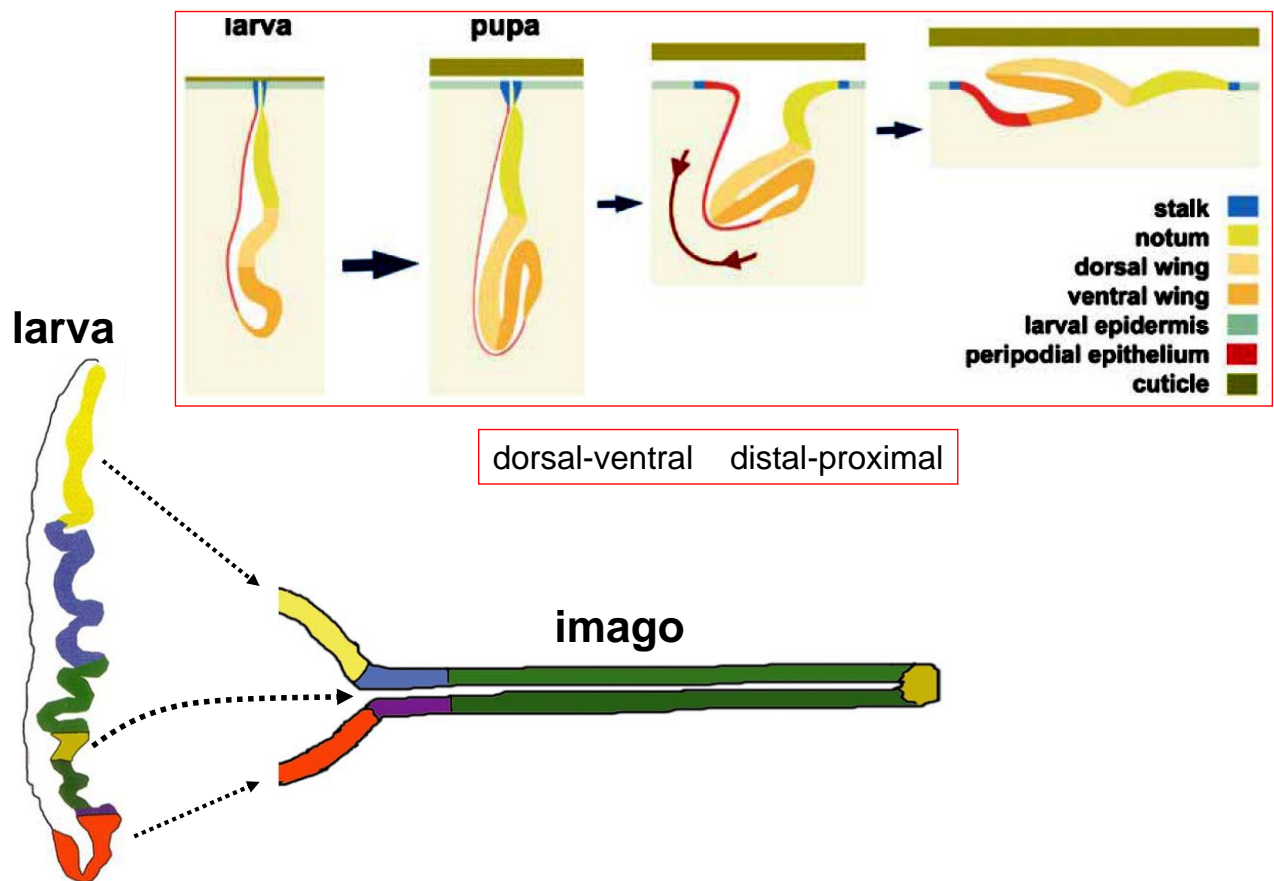




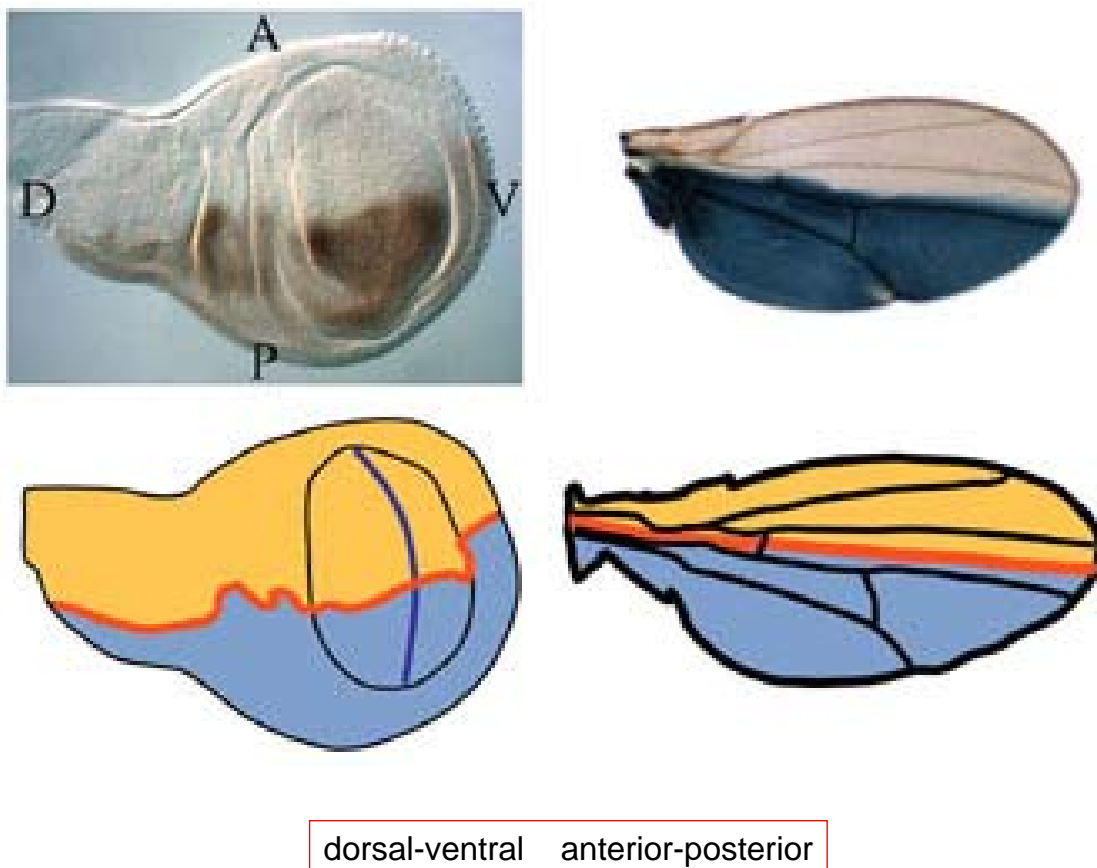
# The origin of *Drosophila* appendices (including wings)



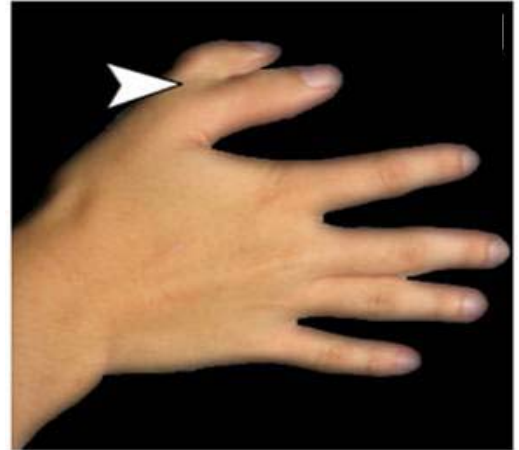
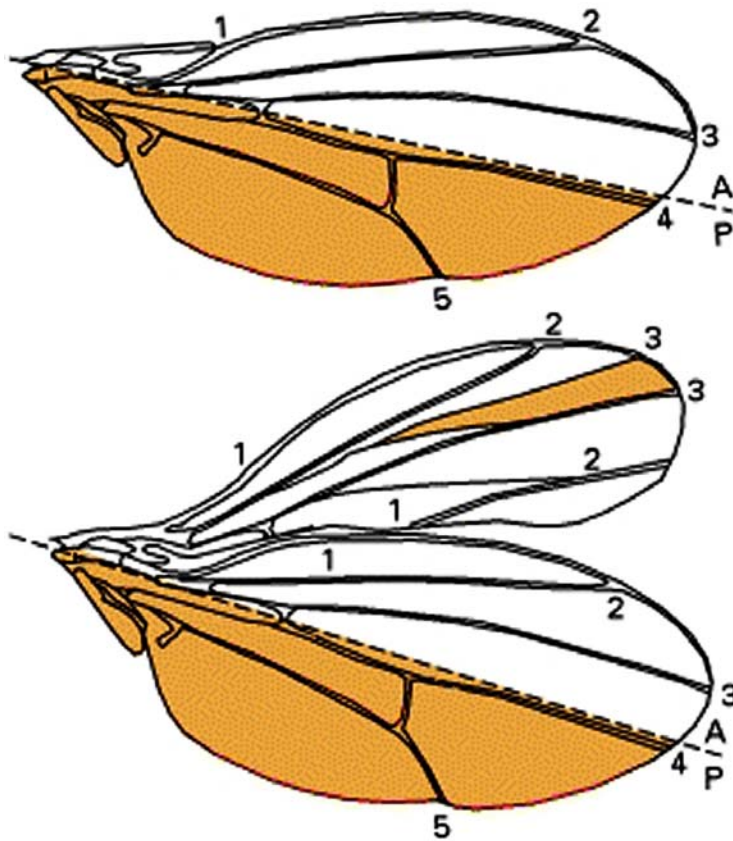
## The transformation of *Drosophila* wing imaginal discs into wings



## Wing imaginal discs have a spatial imprint of the future wing



## Wings of *Drosophila* as a paradigm for morphological patterning



### Objective for the first week:

The aim of this experiment is to capitalise on enhancer trap lines or promoter constructs of *Drosophila* to identify genes with specific positional expression patterns in imaginal discs as candidate genes for patterning mechanisms of the later appendages

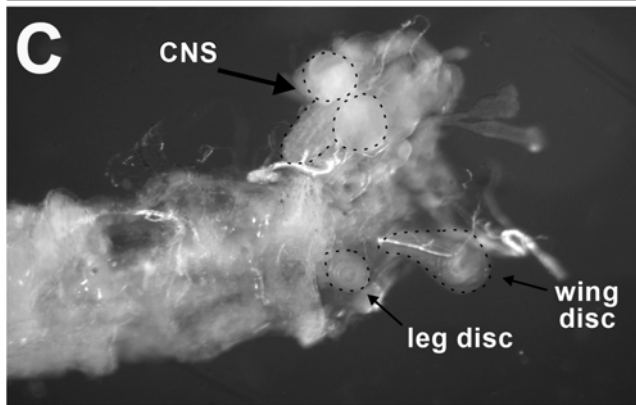
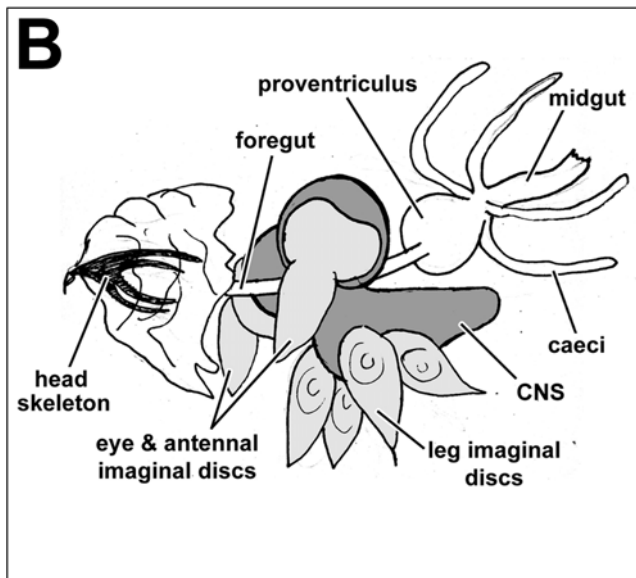
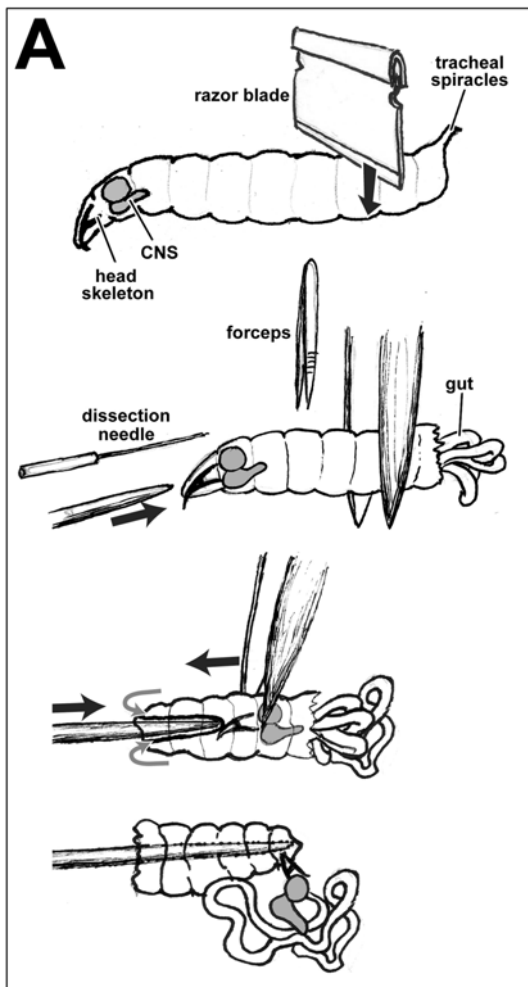
## Assessed exercise: Laboratory note book

### Why keeping laboratory notes?

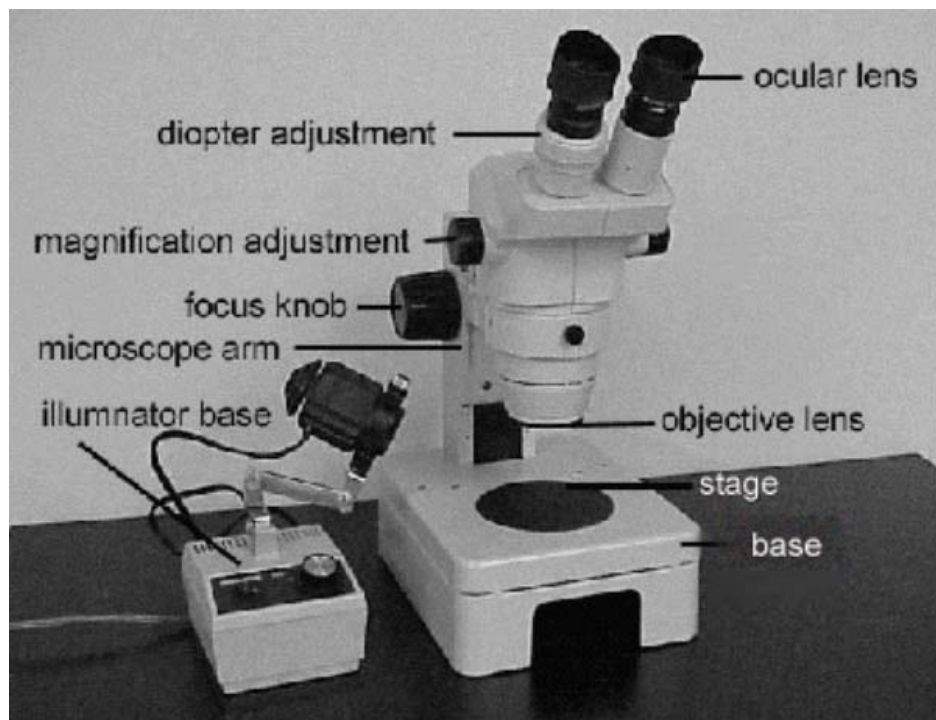
- basis for scientific publications
- guarantees reproducibility of experiments
- understanding experimental failure in retrospect
- your protection against fraud claims

## SHORT GUIDE TO THE LABORATORY PROTOCOL

- PAGE NUMBER** and **DATE**
- AIM OF EACH EXPERIMENT**
- Details about your experimental objects.** (GENOTYPE, AGE or DEVELOPMENTAL STAGE)
- Details about **MATERIALS/CHEMICALS** (e.g. fixatives, antibodies etc.).
- SINGLE STEPS OF YOUR EXPERIMENTS**
- SPECIAL OBSERVATIONS, PROBLEMS, TIPS, TRICKS, EXPLANATIONS** or **THOUGHTS**
- REFERENCES TO EXTERNAL SOURCES** (pages in manual, location of specimens, existence of documentation)
- OUTCOME** at intermediate stages and upon termination of the experiment







- adjust eye pieces!!!
- black side of stage/base plate up
- optimise lighting (flat angle)

Groups	larval genotype	staining	comments
	<i>A-lacZ</i>	2hr 37°C, then o.N. 26°C	
	<i>B-lacZ</i>	2hr 37°C	
	<i>C-lacZ</i>	2hr 26°C	
	<i>D-lacZ</i>	2hr 37°C, then o.N. 26°C	
	<i>E-Gal4;UAS-lacZ</i>	2hr 26°C	
	<i>F-Gal4;UAS-lacZ</i>	2hr 37°C	
	<i>G-Gal4;UAS-lacZ</i>	2hr 37°C	
	<i>H-lacZ</i>	2hr 37°C, then o.N. 26°C	