

# BIOLOGY ATP WORKSHOP by Dr. Fauzia

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M/J19

BDC

## Drawing

- Use sharp HB pencil
- No shading. Highlight regions (small dots)
- No colouring
- Clear and continuous
- Accurate proportion
- Drawing should cover 75% of the given space
- Count # of structures drawn
- Straight line labelling showing use of ruler
- Label with capital letters
- Double lines for cell wall
- Lines of labelling should not cross
- No arrow head
- In drawing of food chain, only horizontal lines with arrow heads
- Plan drawing → no cells shown, only ratio and proportion of tissues

Plan drawing e.g.



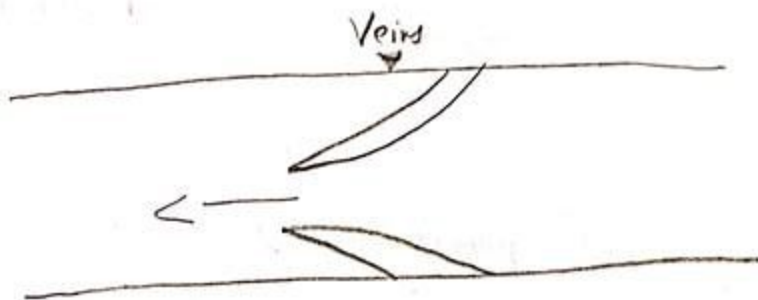
## Imp topics

- Photosynthesis
- Enzymes
- Diffusion and osmosis
- Respiration
- Excretion
- Nervous system
- Biotechnology
- Germination
- Heredity
- Plant reproduction

## ATP Revision

- 16-18 past papers all variants
- Drawing for last 10 years
- Drawings from book
- Investigations





- If it is a detailed drawing, then draw individual descriptive
  - If it is an annotated drawing, then draw cells, labels and one description of labelled structure
  - Always write main labelling of the bottom of drawing
- direction of V will be direction of blood flow.

Image  $\times$  mag  $\leftarrow$  Always write formulae

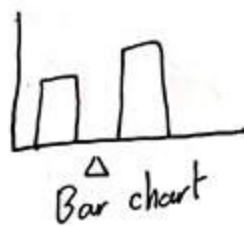
- Actual
- Use same units
  - Multiply if magnification give
  - Always use pencil

### Graphs

- Circle the points for point to point (best fit)
- Independent variable  $\rightarrow$  x-axis
- Dependent variable  $\rightarrow$  y-axis
- 75% space should be covered

### Bar charts/Histograms

- Pencil usage
- Highlight the area
- Do not join bar in bar charts
- Join bars in histogram
- Label axis properly



## Food tests \*Imp

- Benedict -> reducing sugar
- Always have equal quantity of sample and reagent
- Always heat till boiling
- Water bath for heating
- Biuret test -> protein
- Fat emulsion -> lipids
- Iodine for starch
- Starch test for photosynthesis
- Cobalt chloride test for transpiration  
paper turns from blue-pink

blue -> green -> yellow -> orange -> red  
+H<sub>2</sub>S +Br<sub>2</sub>

purple/violet if protein present  
White cloudy layer if fats present  
blue-black

## Observations of slides

- Take glass slide
- Put a thin section of tissue
- Place a cover slip
- Fix it on a stage of microscope
- Do not tap or press the cover slip

## Reliability

- Range of concentration should be taken
- Repeat the experiment
- Take mean (average should be written in exam)

## Standardizing

- Keep temperature constant
- pH constant
- Take some variety of tissue
- Take same mass