How To Write a Biology PEKA Report.

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I am giving you some points on how to write a proper report. These steps can also be used in answering Question 2 in Paper 3.

Aim

- take from the question/statement given.
- start with "To investigate", "To study" etc.
- must have your Manipulated Variable (MV) followed by Responding variable (RV)
- example : ***To study the effect of air movement on the rate of transpiration***.

Problem statement

- must be question form.
- must have your Manipulated Variable (MV) followed by Responding variable (RV).
- example : ***What is the effect of air movement on the rate of transpiration?***

Hypothesis

- must answer your problem statement above.
- must have your Manipulated Variable (MV) followed by Responding variable (RV).
- use words like increases-increases / higher-higher / increases- decreases / higher-lower
- example : ***As the air movement increases, the rate of transpiration increases.***

Variables

- must have Manipulated Variable (MV), Responding variable (RV) and Fixed variable (FV)
- give one of each.
- Example : Manipulated Variable : ***The effect of air movement***.
  Responding variable : ***The rate of transpiration / the time taken for the air bubble to move from point X to Y (10cm).***
  Fixed variable : ***Type of plant used/ the distance between point X and Y (10cm).***

Apparatus

- apparatus are things which still can be used after an experiment.
- list them.
- if there are more than five apparatus, list them on the other side.
- example :
  1. ***Knife***
  2. ***beaker***
  3. ***photometer***
  4. ***stopwatch***
  5. ***fan***
  6. ***Rubber stopper***
  7. ***basin***

Materials

- materials are things which can only be used during an experiment.
- list them.
- if there are more than five materials, list them on the other side.
- example : ***1. Leafy shoot***
  2. vaseline
  3. tissue paper
  4. water

Technique

- must answer how + what + apparatus
- How = observer, measure and record / observe, weigh and record etc and it depends on the experiment.
- What = responding variable
- apparatus = what is used for the technique
- example : ***Observe, measure and record, the time taken for the air bubble to move from point X to Y (10cm), using a stopwatch***.

Procedure

- Must mention how to handle all the variables.
- if there is a formula, then show in the procedure.
- the last step in the procedure must be about a safety precaution. Give a safety precaution and the reason why the safety precaution must be taken. Choose a safety precaution that will affect the result of the experiment if not taken. Avoid safety precaution like "Do not eat in the Biology lab" etc.

Results

-depends on the type of experiment.
- can be a drawing (if it involves observation under a microscope), a graph, a table etc.
- if it is a graph, the x axis must be the manipulated variable, the y axis must be the responding variable.
- if it is a table, the units must be shown in each main column only.
- if it is a school lab report, then the results must complete in the table but if it is a Paper 3 question, then, the title of each column with the units are sufficient.

Discussion

- Only necessary for school lab report and not for Paper 3.
- discuss why the result is such and give reasons.

Conclusion

- If it is a school lab report, then copy the hypothesis and add “Therefore the hypothesis is accepted/ rejected”.
-example : ***As the air movement increases, the rate of transpiration increases. Therefore the hypothesis is accepted***.
- if I is a Paper 3 question, then just copy the hypothesis only. “Therefore the hypothesis is accepted/ rejected” is not necessary.
- example : ***As the air movement increases, the rate of transpiration increases.***