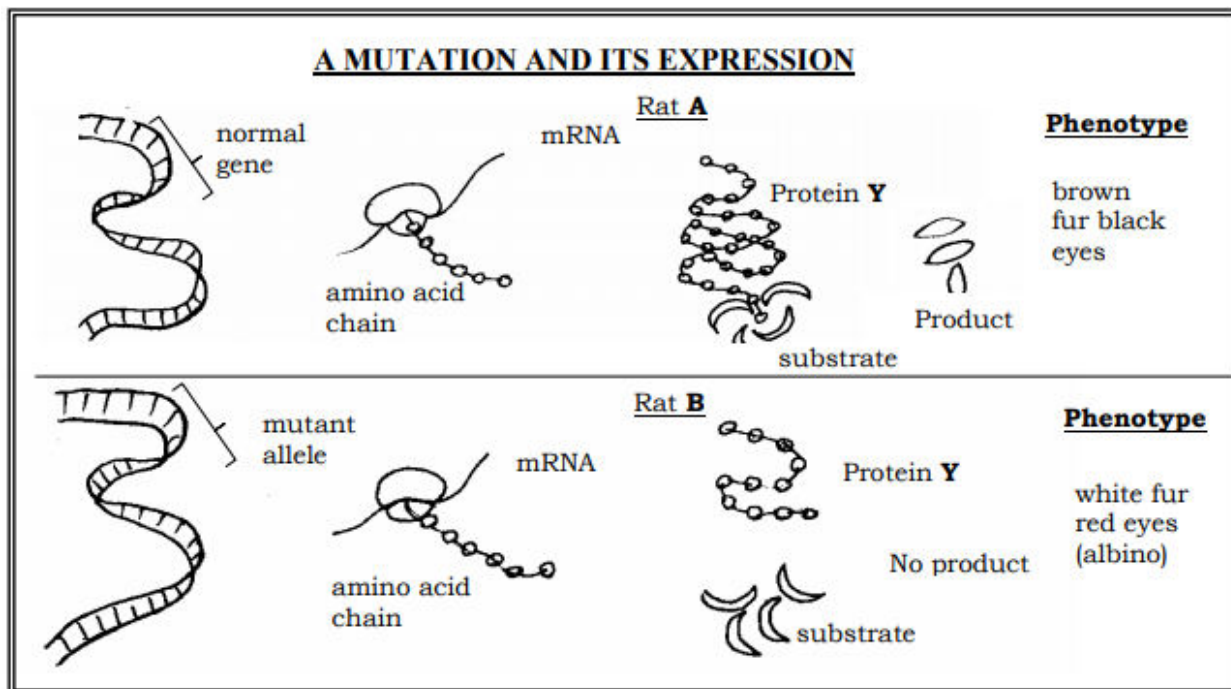


PENANG SANGAM HIGH SCHOOL

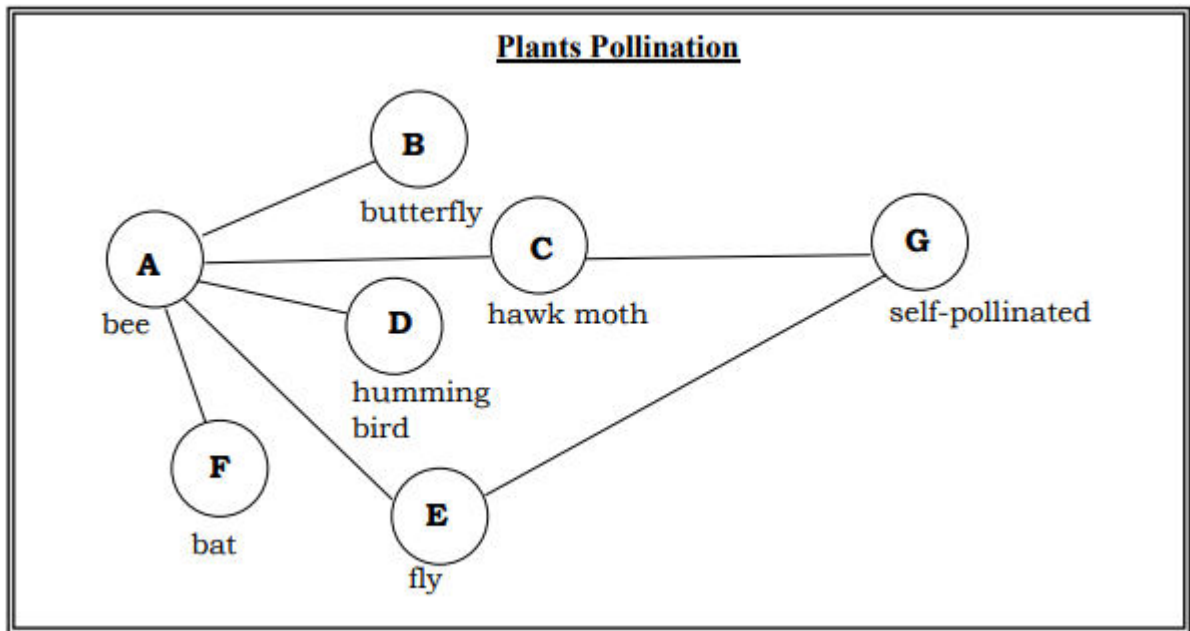
YEAR 13 BIOLOGY – SUPPLEMENTARY RESOURCES 2(7th JUNE – 11TH JUNE)

1. An experiment of rats was carried out to study the effects of a gene mutation on fur and eye color. Study the diagram given below and answer the questions that follow.



- (i) Define the term allele.
- (ii) How does protein Y, produced by Rat A differ from protein Y produced by Rat B ?
- (iii) Suggest an explanation for the difference you have identified in (ii) above.
- (iv) What could be the role of protein Y in the rats ?
- (v) Where does a rat get the amino acids it uses to make proteins ?
- (vi) In its natural habitat, what effect would the mutation shown have on the survival of Rat B ?

2. The plant family, Polimoniaceae, has, over time, produced several plant forms with different flowers adapted for different agents of pollination. In the diagram given below, the letters refer to different plant forms and below each is the name of the pollinator.



- (i) Name the pattern of changes shown by the plant family Polimoniaceae.

- (ii) Explain how these changes could have arisen.

- (iii) Suggest a reason why plants A and G are classed as different species.

- (iv) Suggest a feature of the flowers of plant D that is an adaptation for its method of pollination.

LAB QUESTIONS

3. In a practical class, you are required to prepare a wet mount of a small piece of newsprint containing letter e.
 - (i) Identify the 4 steps involved in preparing the wet mount.

 - (ii) Three observations were made for letter e under the microscope. One of which was that it was magnified.
State the other two observations that were made.

