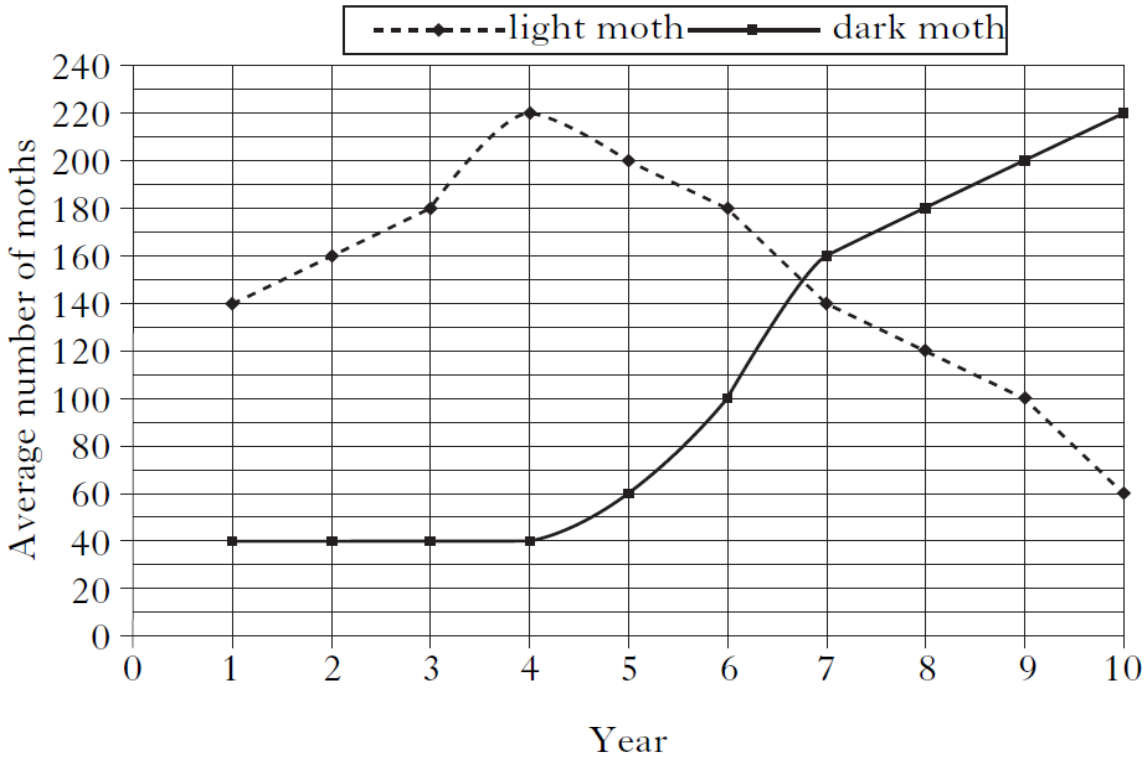
N5 Biology **LE6 Evolution of Species** Homework

1. Write notes on mutations including the following – definition, occurrence, types, factors that increase their rate and importance. [5]

2. Decide if each of the following statements about the distribution of life is **True** or **False** If the statement is **False**, write the correct word to replace the word underlined. [3]

Statement
i) An adaptation is an inherited characteristic that makes an organism well suited to survival in its environment.
ii) New genes produced by mutation can result in better adapted organisms.
iii) Variation within a population makes it impossible for a population to evolve.

3. The graph below shows the average number of peppered moths, in a woodland, in June of each year over a ten-year period.



a) Calculate the ratio of light to dark moths in Year 2. [1]

b) Calculate the **average increase per year** of the average number of dark moths from Year 4 to Year 10. [1]

c) Over the 10 year period the levels of air pollution in the woodland increased. Explain how this would give the dark moths a survival advantage. [2]

4. The diagrams below give some information about three species of Darwin's Finches which live on the Galapagos islands.

Feeds on insects | Feeds on seeds | Feeds on seeds

a) Before you answer the questions below do some resarch to fond out

i) What is Charles Darwin famous for? [1]

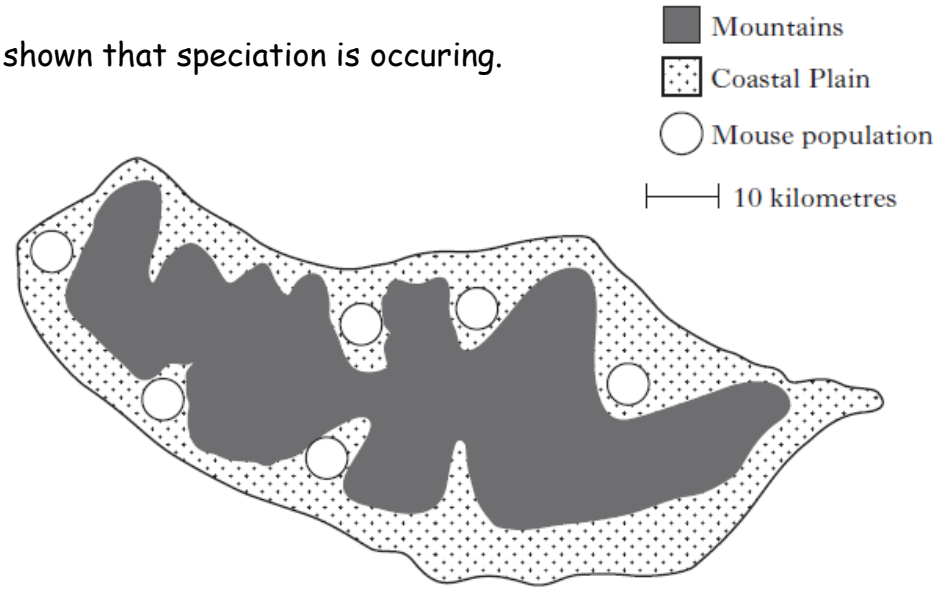
ii) Where are the Galapagos Islands? [1]

b) Using evidence form the diagrams, explain why these three finch species occupy different niches. [2]

c) What gave rise to the different beak shapes? [1]

5. The map below shows the locations of six populations of the house mouse on the island of Madeira.

Studies of mice have shown that speciation is occuring.



a) Using information in the diagram, name the isolating mechanism involved in speciation of the mice. [1]

b) Describe evidence which would confirm that the populations of mice had evolved to become separate species. [2]

TOTAL = 20 marks