

3. Ecologists regularly study habitats to measure the species present and the effect of any changes. One team of ecologists investigated the habitat shown in the picture below:

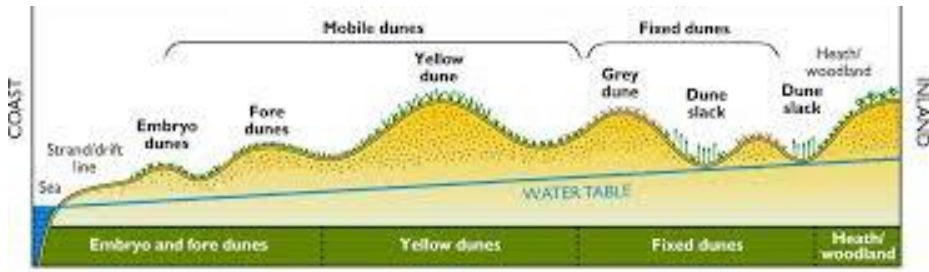


Image taken from <http://www.macaulay.ac.uk/soilquality/Dune%20Succession.pdf>

a) Define the following keywords:

i) Population

.....

ii) Community

.....

(2)

b) Give an example of one biotic factor and one abiotic factor that would be present in this habitat

Biotic:

Abiotic:

(2)

c) Describe how the ecologists would go about measuring the species present between the coast and the inland.

.....

(6)

4. Every living organism is made of cells.



Image taken from <http://prestigebox.com/worksheet/label-an-animal-cell-worksheet>

a) Label the following parts of the animal cell:

- 2
- 5
- 8

(3)

b) Describe how is the structure of the cell membrane related to its function?

.....

(3)

5. A medical research team investigated how quickly the body deals with glucose after a meal. They studied the blood glucose concentration of people who exercised versus those who did not. Here are their results:

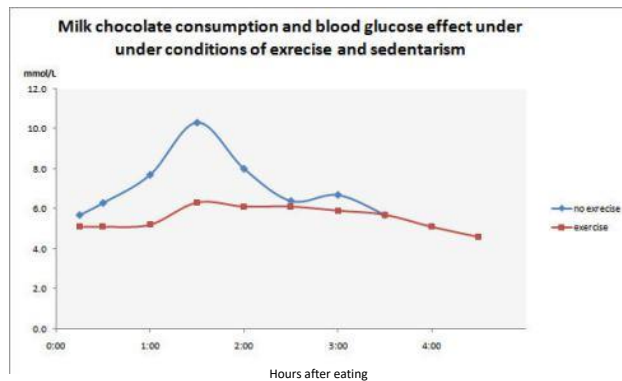


Image taken from <https://memoirsofanamnesic.wordpress.com/category/blood-glucose/>

a) What organ in the body regulates blood glucose concentration?

.....

(1)

b) Explain how the stages that would bring about a return to normal blood glucose concentrations.

.....

.....

.....

.....

(4)

c) Name one variable the researchers will have controlled.

.....

(1)

d) The researchers made the following conclusion:

“Blood glucose returns to normal values for all people after 4 hours”

To what extent do you agree with this conclusion.

.....

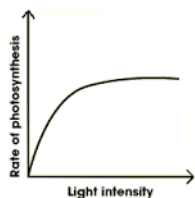
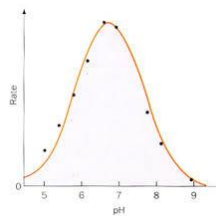
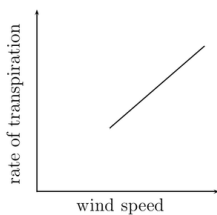
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(3)

6. Scientists need to be able to interpret data in graphs to decide if there are trends in the results. For each graph below, describe the trend.



(4)