

NSS BIOLOGY

Intensive Notes and Exercises

FOR THE
HKDSE

Book 3

sugar phosphate
backbone

Martindale

deoxyribose

guanine

ribose

adenine

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Introduction 書本簡介

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本書共有296頁

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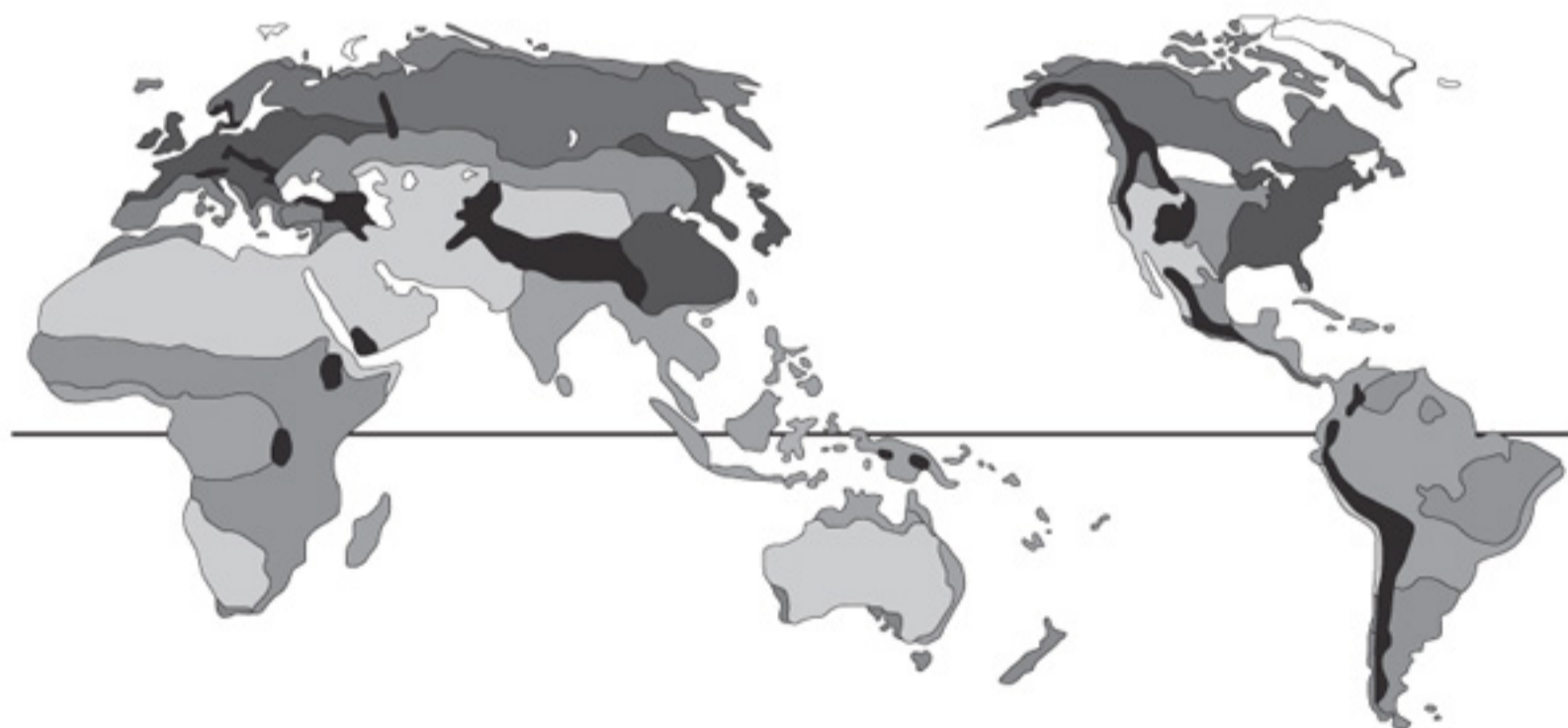
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17.1 Introduction to Ecology

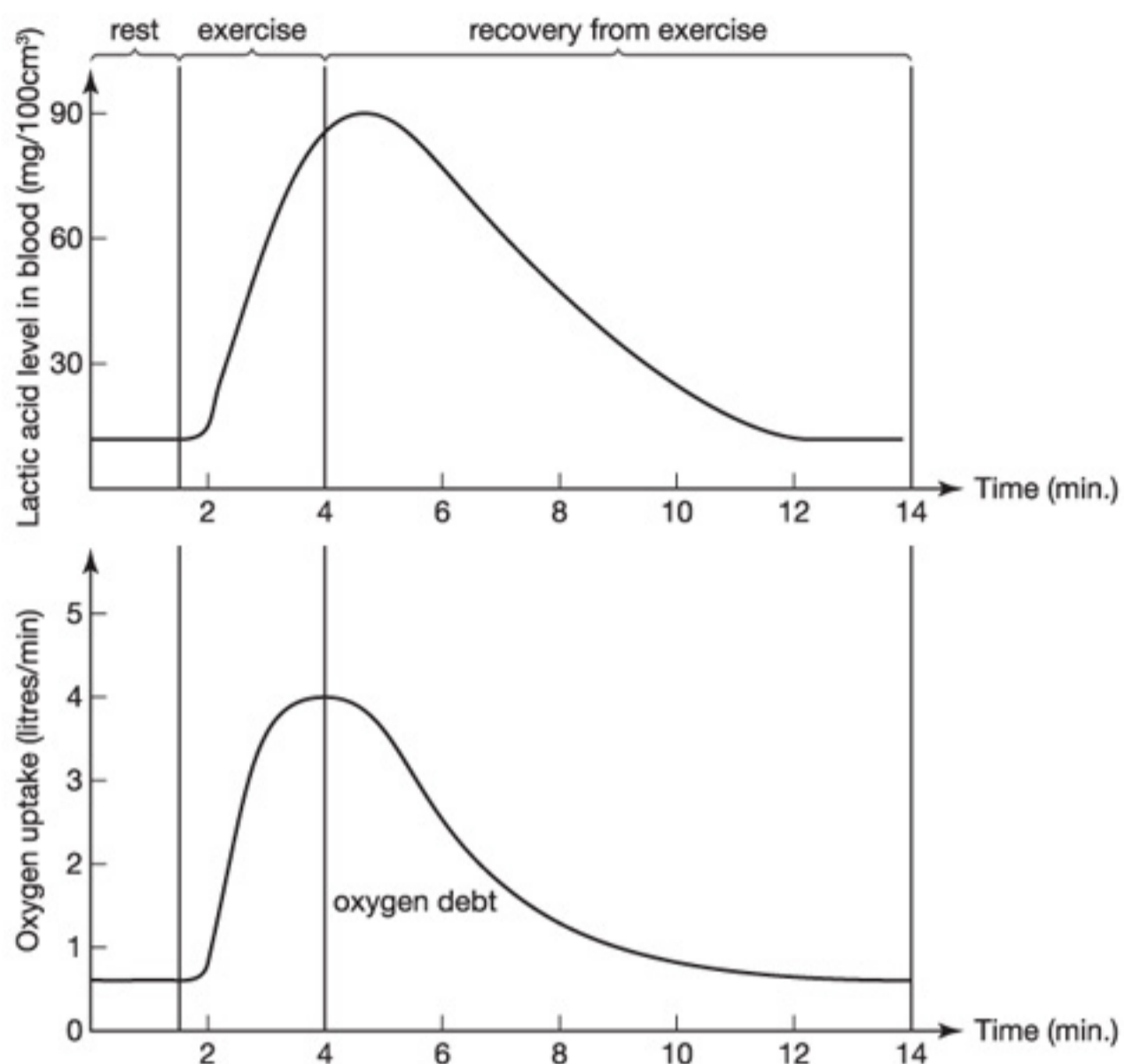
A. Levels of organisation in ecological investigation

- **Biosphere** – the *largest* and most nearly self-sufficient biological system which includes *all the Earth's living organisms* interacting with the *abiotic environment* as a whole.
- **Biome** – a *large geographical, community* unit established by complex interactions of *climate*, other physical and biotic factors, e.g. tropical rain forest, Savannah, tundra, etc.



Tundra
 Chaparral
 Grassland
 Taiga
 Desert
 Mountain Zones
 Tropical Rainforest
 Temperate Evergreen Forest
 Temperate Deciduous Forest
 Polar Ice

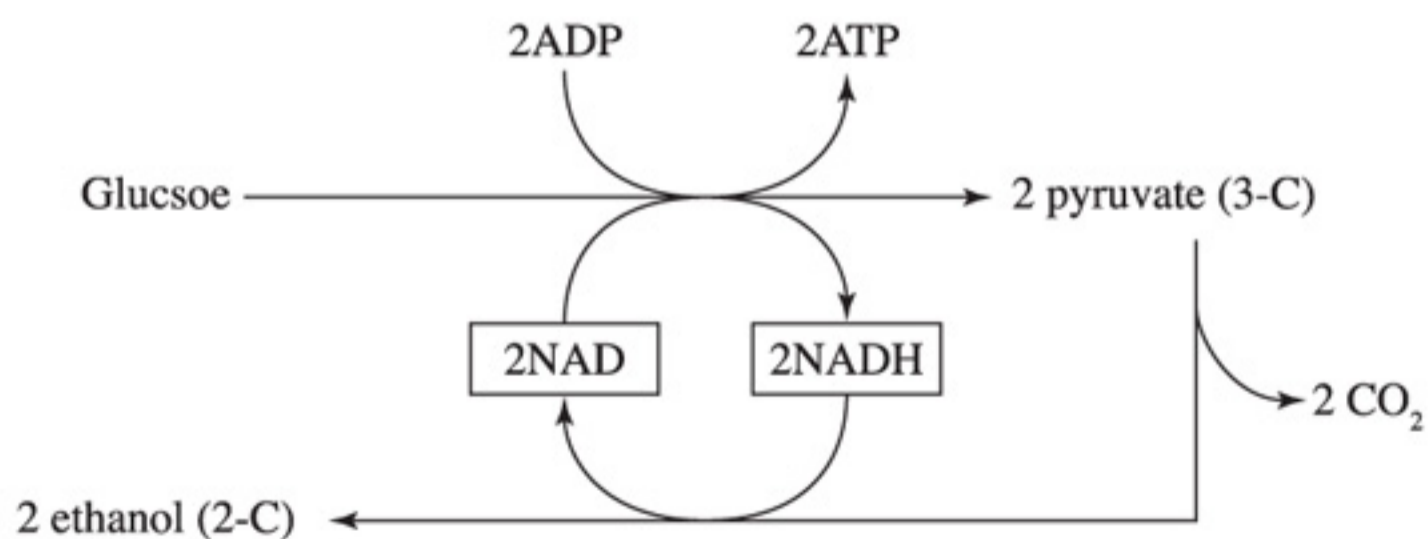
- **Ecosystem** – a natural unit consisting of the *community* of organisms in a *given area* together with the *abiotic environment* that *interact* to produce a *stable, self-sufficient* system.



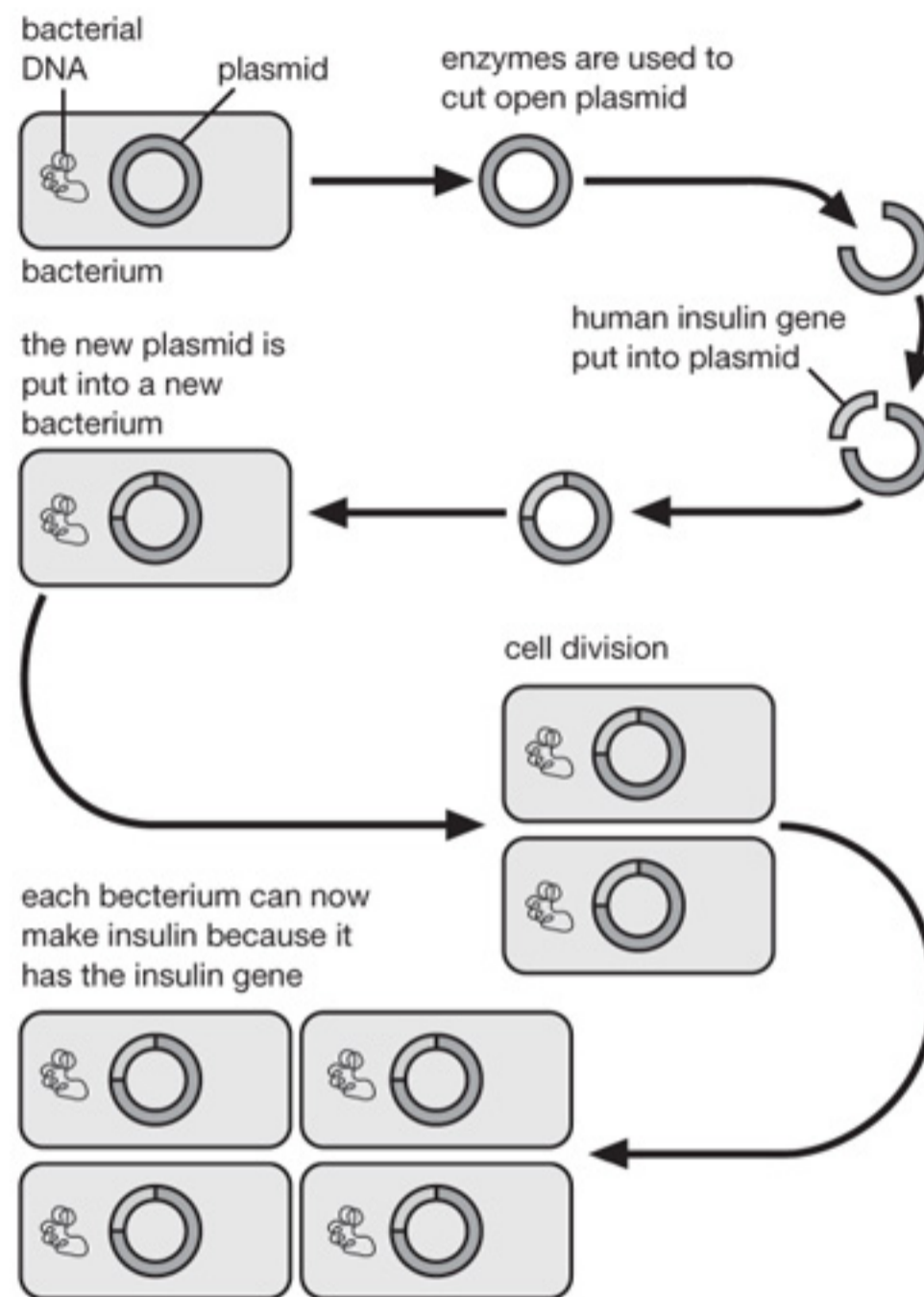
Graphs to show the level of lactic acid in blood and amount of oxygen uptake at rest, during and after exercise

c. Formation of ethanol in root cells / yeast

- ☹ In plant cells and yeast cells, ethanol *cannot be further metabolised*. It is *toxic* when allowed to accumulate.



9. Insulin-dependent diabetes is due to the destruction of pancreas cells which are specialised for insulin secretion. It can be treated by insulin injections. In the past, insulin was extracted from the pancreas of cattle and pigs. Nowadays, insulin is produced by genetically modified bacteria.



- (a) Why is it possible for the bacteria that carry the human insulin gene to produce insulin?

(1 mark)

- (b) (i) Name the type of cell division carried out by the bacterium.

(1 mark)

- (ii) Explain why all bacterial cells resulted from this type of cell division are able to produce insulin.

(1 mark)



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About the Author

Mr. Andy Tse has been teaching senior-form Biology in EMI schools with great success for 25 years. He has written many tailor-made exercise books to help local Biology students in their daily assessments and public examinations. This new series of books represents Mr. Tse's determination in preparing Biology students to meet the challenges imposed by the NSS Curriculum and to tackle the unprecedented HKDSE Examination.

About the Book

NSS Biology – Intensive Notes and Exercises is a series written for the Biology and Combined Science (Biology) Curricula. It aims to prepare local students to tackle the HKDSE Examination effectively.

Key features:

- notes are concise and comprehensive
- questions resemble closely those of the HKDSE sample papers
- questions are written in line with the Curriculum Emphases of the NSS Biology Curriculum



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