

# **NSS BIOLOGY** **Intensive Notes and Exercises** FOR THE **HKDSE Book 1**

Martindale

**ANDY TSE**

B. Sc. (Hons), P. C. Ed., HKU

M. A. (Dean's list), Adv. PGDE (Distinction), CUHK



# Introduction 書本簡介

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作者	Andy Tse
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- 新高中生物科參考書系列
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本書共有232頁

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# NUTRITION IN HUMANS

## 5

### 5.1 Mode of Nutrition of Humans

- Organisms can be classified into two major groups according to their modes of nutrition: autotrophs and heterotrophs\*.

Autotrophs	Heterotrophs
can synthesize organic nutrients from simple <i>inorganic</i> substances	<i>cannot</i> synthesize organic nutrients, which must be <i>obtained from other organisms or dead organic matter</i>
e.g. plants	e.g. animals, bacteria, fungi

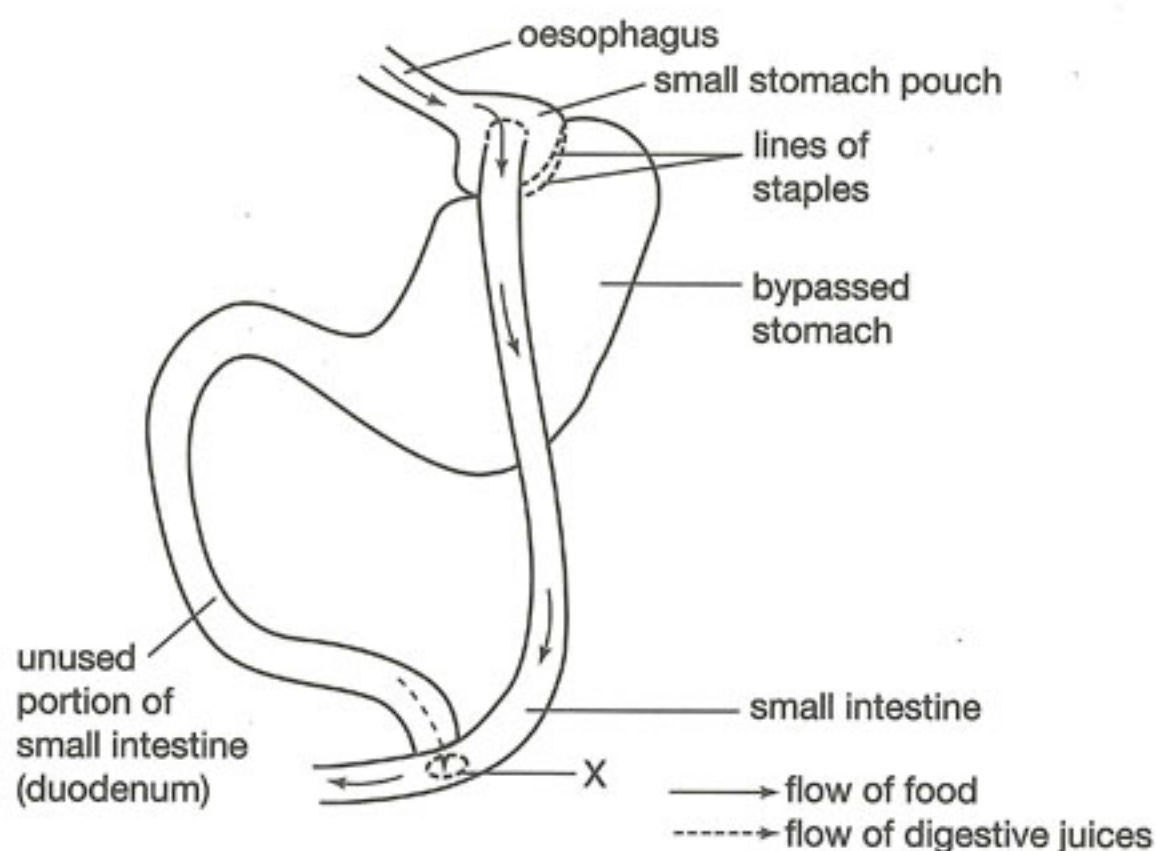
- Since humans take in organic food, they are heterotrophs.

\* Types of heterotrophic nutrition:

Holozoic	Saprophytic	Parasitic
take in complex organic compounds in form of <i>solid food</i> particles	obtain soluble organic nutrients from <i>dead organic matter</i>	obtain organic nutrients from another organism, the <i>host</i>
food is digested internally into soluble products which are then absorbed	food is digested outside the body before absorption	may or may not need digestion
e.g. animals	e.g. most bacteria and fungi	e.g. some bacteria, fungi, protists and worms



12. Metabolic syndrome is the name for a group of risk factors linked to overweight and obesity that increase a person's chance for heart disease and other health problems such as diabetes and stroke. Seriously obese people may need to undergo surgery to prevent developing such serious diseases. The diagram below shows a surgical method to help reduce obesity:



- (a) Give *two* reasons why this surgery can help reduce the patient's body weight. Explain your answer. (4 marks)

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- (b) Explain why the opening at point X is necessary. (2 marks)

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- (c) Explain why the patient may suffer from osteoporosis after the surgery. (3 marks)

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**Total: 9 marks**

- #13. To treat central obesity, drug M is used to act on a certain enzyme in pancreatic juice to help reduce body weight.

- (a) After taking drug M, Simon's faeces becomes oily. Based on this observation, propose a mechanism for the action of this drug. (3 marks)

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- (b) The doctor also prescribes vitamin A for Simon as a daily supplement. Suggest a reason for this. (2 marks)

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- (c) By taking this drug, the risks for Simon to get coronary heart disease and diabetes are also reduced. Suggest *two* substances which levels in blood can be reduced by this drug. (2 marks)

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**Total: 7 marks**





## ANDY TSE

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M. A. (Dean's list), Adv. PGDE (Distinction), CUHK

### About the Author

Mr. Andy Tse has been teaching senior-form Biology in EMI schools with great success for 23 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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