

2002 年 香港中學會考生物科（卷一）問題 4(c)(i) (篇章式參考答案 - 附圖式結構分析)

語體：描述報告

傳意功能：形容(某一類)事物的屬性、特質、活動和反應。

圖式結構：指令 ^ 概述 ^ 描述

圖式結構	語篇	語言特色
概述	在不同的溫度範圍，溫度對牛奶凝固速率有不同影響。	陳述句「在不同的溫度範圍，溫度對牛奶凝固速率有不同影響」，回應指令，概括將要描述的實驗結果，令其後的描述有明確的基礎。
描述	在 20°C 至 60°C 間，牛奶凝固速率隨溫度上升而上升； 由 80°C 至 100°C，凝固速率則隨溫度上升而下降； 在 60°C 至 80°C 間，凝固速率最高； 在 20°C 和 100°C 時，凝固速率很低。	大量使用位置(時間)環境成分「在 20°C 至 60°C 間」、「由 80°C 至 100°C」、「在 60°C 至 80°C 間」、「在 20°C 和 100°C 時」來強調所描述的四個溫度範圍。 物質過程「上升」、「下降」，關係過程「最高」、「很低」，描述牛奶的凝固速率。

2002 HKCEE Biology (Paper I) Question 4(c)(i) (Running answer text – with schematic structure)

Genre: Descriptive Report

Communicative Function: To describe the attributes, properties, behaviour, etc. of a single class of object.

Schematic Structure: **Direction** ^ General Statement ^ Description

Schematic Structure	Text	Linguistic Features
General Statement	The effect of milk temperature on the rate of milk coagulation by ginger juice varies with different ranges of temperature.	Declarative ‘The effect of milk temperature on the rate of milk coagulation by ginger juice varies with different ranges of temperature’ echoes the direction and summarizes the results of the experiment to be described.
Description	From 20 °C to 60 °C, the rate of coagulation of milk by ginger juice increases with temperature. From 80 °C to 100 °C, the rate of coagulation decreases as temperature increases. From 60 °C to 80 °C, the rate of coagulation is the highest. At 20 °C and 100 °C, the rate of coagulation is very low.	Four instances of circumstance of location (time) ‘from 20 °C to 60 °C’, ‘from 80 °C to 100 °C’, ‘from 60 °C to 80 °C’, ‘at 20 °C and 100 °C’ specify the range of temperature during which the rate of milk coagulation is to be described.

		Material processes 'increases', 'decreases', relational process 'is' and its participants 'the highest' and 'very low' describe the rate of milk coagulation.
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Comparison

- Similarities and differences regarding the question:

Similarity 1

The ways to direct students' attention in Chinese and English are similar. For example, the verbal process '描述' / 'describe' in '描述牛奶溫度對凝固速率的影響' / '*describe the effect of milk temperature on the rate of milk coagulation by ginger juice*' is used in both texts to give direction to students on how to approach the question. Besides, the clause '為了掌握牛奶凝固所需的條件' / 'To find out the conditions for milk', circumstance of extent (duration) '15 分鐘' / 'for 15 minutes' and circumstance of angle '根據以上薑汁使牛奶凝固的結果' / 'Referring to the above results' are employed in both texts to direct students attention and provide specific background information about the experiment whose results are to be described.

Difference 1

Some material processes used in the Chinese text are different from those in English. For instance, '將...混入...' (mix) in '某人將不同溫度的牛奶混入一些新鮮薑汁中' (a person mixed milk at different temperatures with some fresh ginger juice), is a kind of special verb construction in Chinese language. It emphasizes the objects while there is no such type of construction in English as in its corresponding sentence in the English text, 'a person *mixed* milk at different temperatures with some fresh ginger juice'. If the object has to be emphasized, the passive voice is one of the devices that can be used in English.

Difference 2

It is revealed from the question that sentences in English are often expressed in passive voice in science writing as in 'a person mixed milk at different temperatures with some fresh ginger juice. The mixtures *were observed* for 15 minutes to see if coagulation would occur. The results *are shown* in the table below'. In contrast, passive voice is seldom employed in Chinese language as in the counterpart of the above sentence in this Chinese text '某人將不同溫度的牛奶混入一些新鮮薑汁中，觀察混合物 15 分鐘，看其會否凝固，結果表列如下' (a person mixed milk at different temperatures with some fresh ginger juice. The mixtures were observed for 15 minutes to see if coagulation would occur. The results are shown in the table below). It shows the significant characteristic that processes are usually in active voice in Chinese, whereas in English passive voice is used more often.

■ Similarities and differences regarding the answer:

Similarity 1

The ways to introduce the general statement are similar as it is expressed in a declarative in both texts. The general statement may better help students to stay in focus by constructing and confining their answer to it.

Similarity 2

As students have to describe the rate of milk coagulation with respect to temperature, the frequent employment of circumstance of location (time) is a significant characteristic in both texts to specify the temperature ranges during which the rate of milk coagulation is to be described. For instance, ‘在 20°C 至 60°C 間’/ ‘From 20°C to 60°C’ in ‘在 20°C 至 60°C 間，牛奶凝固速率隨溫度上升而上升’/ ‘From 20°C to 60°C, the rate of coagulation of milk by ginger juice increases with temperature’ reveals this characteristic.

Difference 1

Material processes and relational processes are used to describe the rate of coagulation of milk during different ranges of temperature in both texts, such as material process ‘上升’/ ‘increases’ in ‘凝固速率上升’/ ‘the rate of coagulation increases’. However, there is a difference between Chinese and English regarding the relational processes. As revealed in this English text, relational process ‘is’ together with its participant, for example ‘very low’ in ‘the rate of coagulation is very low’, is used to describe the attributes of the rate of milk coagulation. On the contrary, the attributes of the rate of milk coagulation is described by relational process e.g. ‘很低’ (very low) in the Chinese text. It is because that the principle regarding relational processes in Chinese differs from that in English language. The counterpart of the participant ‘very low’ in English, which is ‘很低’ (very low), is considered as a relational process itself in Chinese.