

Assessment of Dietary Pattern in Primary Schools 2008

Part 2 - Provision of Snacks and Lunch in School

**Central Health Education Unit
Centre for Health Protection
Department of Health**

July 2009



衛生署
Department of Health

Copyright of this report is held by the Department of Health

Table of Contents

Executive Summary	i
Chapter 1: Introduction	1
Chapter 2: Research Methodology	3
Chapter 3: Snacks Provision in Schools	9
Chapter 4: Lunch Provision in Schools	14
Chapter 5: Discussion	21
Chapter 6: Recommendations	24
References	26
List of Tables	
Annex	

Executive Summary

Introduction

The second part of the “Assessment of Dietary Pattern in Primary Schools 2008” (*the Study*) focused on examining the provision of snacks and lunch in schools. The objectives of this part of study were:

- (a) to assess the concurrence of students’ popular lunch choices with DH’s nutritional guidelines; and
- (b) to assess the concurrence of students’ snack choices with DH’s nutritional guidelines.

Methodology

A total of 51 primary schools were selected by using stratified cluster sampling method according to the number of schools and their funding types from each of the 18 districts in Hong Kong.

Self-administered record forms on items sold in the tuck shops or the vending machines, as well as choices of school lunch were sent to all 51 participating schools in December 2007. Information on the most popular food and beverages sold in the week prior to the survey were collected. Three categories were used to classify snacks, namely ‘Snacks to choose more’, ‘Snacks to choose in moderation’ and ‘Snacks to choose less’ in accordance with the ‘*Nutritional Guidelines on Snacks for Primary School Students*’ issued by DH in 2006. In addition, the most popular lunch choices of five consecutive school days were collected from schools to check for the presence of vegetables and fruit, as well as ‘encouraged’, ‘limited’ and ‘strongly discouraged’ food items as defined by the ‘*Nutritional Guidelines on School Lunch for Primary School Students*’ issued by DH in 2006, and to weigh the content of vegetables.

Key Findings

This study showed that over 70% (36 of the 51) participating schools had either their own tuck shop or beverage/ food vending machine(s) in the campus.

On Snacks (including Beverages)

Of the 450 food items from the school tuck shops and 83 from the vending machines analysed, most belonged to ‘Snacks to choose in moderation’ (46.2% from tuck shops vs. 20.5% from vending machines) and ‘Snacks to choose less’ (47.1% from tuck shops vs. 72.3% from vending machines).

In school tuck shops, the most popular food items sold were fish dumplings (siu mai), sausages and sandwiches (various types), while in school vending machines, they were snack noodles, gummy candies and wafers. All these food items belonged to either the ‘Snacks to choose in moderation’ or ‘Snacks to choose less’ category.

Of the 306 beverages items from school tuck shops and 398 from vending machines analysed, most of them belonged to ‘Snacks to choose in moderation’ (39.5% from tuck shops vs. 33.4% from vending machines) and ‘Snacks to choose less’ (47.7% from tuck shop vs. 60.8% from vending machines).

Lemon tea, soymilk and chocolate milk (full cream) were reported to be the most popular beverages sold in tuck shops and vending machines. These items belonged to either the ‘Snacks to choose in moderation’ or ‘Snacks to choose less’ category.

On School Lunch

Only 43 of the 51 participating schools provided school lunch to students of all grades. The percentage of P4 and P5 students of these 43 schools subscribing to school lunch was 69.1% on average, which ranged from 28% to 97%. About 80% of the school lunch were served in lunch boxes.

Most of the lunch samples (96.2%) contained some vegetables. Among them, 62.7% contained at least half a standard bowl of vegetables as recommended by the DH. There were 18.6% samples supplying extra fruit, and 19 such samples (9.0%) used fruit as the ingredient for preparation. On the proportion of grains / cereals, vegetables and meat, 33.8% samples met the ratio of 3:2:1 as recommended by DH. For those samples that did not meet the recommendations, the majority (89.6%) provided a relatively small volume of vegetables.

As far as ingredients are concerned, 8.6% and 15.2% of samples respectively contained whole grains/ rice with added vegetables and calcium-rich food items. (Food items to be “encouraged”)

Some 43.3% samples had fatty cut of meat and poultry with skin; 42.9% contained meat, eggs or vegetable products that were either processed or preserved; 31.4% provided grains and cereals with

added fat or oil; 22.9% used whole fat dairy products in cooking; and 41.4% had high-salt or high-fat sauce/gravy coming in the lunch sets. (Food items to be ‘limited’)

The percentages of samples containing deep-fried foods and food items with added animal fat/ plant sources of saturated fat or trans fat were 15.2% and 15.7% respectively. In addition, 15.7% lunch sets included high-sugar beverages or desserts and 2.9% contained items with very high salt content. (Food items to be “strongly discouraged”)

Relationship between the number of daily lunch choices and nutritional quality of lunch

Significantly higher proportions of samples from schools with two or fewer lunch choices had better nutritional quality than those from schools with three or more choices. Samples from schools with two or fewer lunch choices were more likely to have adequate amounts of vegetables, contain ‘encouraged’ food item(s) and meet the 3:2:1 ratio for grains /cereals, vegetables and meat.

Recommendations

For the Government

1. The DH should widely publicise important findings generated from this study to raise public awareness to the issue of healthy eating in schools, not least to schools, parents and food suppliers as they are key parties involved in determining the quality of food that are served to children.
2. The DH should enhance understanding of schools, parents and food suppliers on snack and lunch guidelines, and continue providing practical support to them with an aim of addressing limitations and barriers encountered by schools in the use of the snack and lunch guidelines.
3. The DH should work closely with the Education Bureau to encourage schools to take a keen interest in promoting healthy eating among students especially through the application of and compliance with the snack and lunch guidelines.
4. The Government should conduct similar studies on an ongoing basis to track the nutritional quality of food served in the school setting, and as an aid to assess effectiveness of healthy eating promotional work.

For Schools

5. All primary schools should acquire an understanding of the snack and lunch guidelines, apply them diligently (to tuck shops, vending machines and lunch supply) and monitor their use by checking on the quality of food provided as a result.
6. Schools should go for elimination of “Snacks to choose less” items from school tuck shops and vending machines when “Snacks to choose in moderation” items are readily available from the market and “Snacks to choose more” items are gaining in popularity.
7. Schools should consider limiting the number of lunch choices to a small number so that increased attention could be put on improving the content of vegetables and calcium-rich ingredients in these lunch choices.

For Parents

8. Parents should support schools’ decision to phase out “Snacks to choose less” from tuck shops and vending machines and ‘strongly discouraged food items’ from lunch supply.

For Lunch Suppliers

9. Lunch suppliers should invest in improving the nutritional quality of lunch choices to meet the requirements of the ‘*Nutritional Guidelines on Lunch for Primary School Students*’ issued by DH. Specifically, ‘strongly discouraged food items’ should not be used as ingredients and ‘limited food items’ should not be served for more than two school days per week.

For Snack Suppliers

10. Tuck shop operators and vending machine suppliers should be made aware of the content and requirements of the ‘*Nutritional Guidelines on Snacks for Primary School Students*’. To promote the health of children, tuck shop operators and vending machine suppliers should remove all “Snacks to choose less” from the list of food and beverages offered for sale to children.

Chapter 1 Introduction

1.1 Background

Like many other countries in the world, the local obesity epidemic in Hong Kong is increasing. A rising trend of obesity is observed among primary school students, increasing from 16.4% in 1997/98 to 21.3% in 2007/08. This is worrying as studies have shown that obese children have a tendency to remain obese in their adulthood.¹⁻²

Excessive energy intake through diet and low levels of physical activity are the major modifiable risk factors for obesity. Adopting a healthy eating habit is the mainstay for prevention of chronic diseases including cardiovascular diseases, diabetes, stroke, cancer, dental caries and asthma. A balanced diet is also essential for children's physical and cognitive development. Childhood is the stage for developing attitudes and habits, at which decision-making is learned. Eating habits adopted during childhood are more likely to be maintained in adulthood.³⁻⁴ It is therefore imperative to promote healthy eating habit among young children.

The 2005-2006 Policy Address undertook to promote healthy eating habits among school children to reduce their risk of developing chronic illness. To describe the situation and identify the needs of schools, children and their parents in healthy eating promotion, a study titled 'Baseline Assessment of Promoting Healthy Eating in Primary Schools' (aforesaid '*the Baseline Assessment*') was conducted in the first quarter of 2006. The study assessed the knowledge, attitudes and practices on healthy eating among primary school children, parents' perception of their children's eating habit, and the nutritional environments in primary schools. Findings from the Baseline Assessment were used to formulate intervention strategies for the EatSmart@school.hk Campaign, a healthy eating movement organised by the Department of Health (DH) for all primary schools since 2006. Further studies were considered necessary to inform ongoing service planning and facilitate programme evaluation. To describe changes in primary schools' nutritional environment and awareness, knowledge, attitudes and practices among students and parents on healthy eating, the "Assessment of Dietary Pattern in Primary Schools" (aforesaid '*the Study*') was conducted in December 2007 to January 2008. The Centre of Health Education and Health Promotion (CHEP), School of Public Health, the Chinese University of Hong Kong was commissioned to conduct the Study.

1.2 Study Components

The Study consisted of 2 parts (Part 1 and Part 2) with the following five components:

- (a) Questionnaire survey of students
- (b) Questionnaire survey of parents
- (c) Questionnaire survey of the school
- (d) Appraisal of tuck-shop and vending machine items
- (e) Physical inspection and weighting of food ingredients in the sample of the most popular lunch choices

This report (or Part 2) presents information and key findings on snacks and lunch provision in schools (i.e., items (d) and (e)). The results of the questionnaire surveys pertaining to students, parents and schools will be presented in a separate report.

1.3 Objectives of this part of the Study

The objectives were:

- (a) to assess the concurrence of students' popular lunch choices with DH's nutritional guidelines;
and
- (b) to assess the concurrence of students' snack choices with DH's nutritional guidelines.

Chapter 2 Research Methodology

2.1 Study Design

The Study was a cross-sectional study conducted among primary schools in Hong Kong in January 2008.

2.2 Selection and Recruitment of Primary Schools

A stratified cluster sampling method was used to select schools invited to participate in the Study. The sampling was based on a full list of primary schools in Hong Kong provided by the Education Bureau. Special schools were excluded from this Study. The remaining primary schools were stratified by the district (of which there were 18) and the types of financial support the schools were receiving (namely ‘government’, ‘aided’, ‘English Schools Foundation’, ‘direct subsidy scheme’ (DSS), ‘private’ and ‘private independent’). In the sampling of schools, primary schools belonged to the ‘government’ and ‘aided’ finance types were grouped under one category, whereas the remaining four finance types were grouped into another category. As such, primary schools were stratified into 36 subsets (18 districts by the aforementioned two categories of finance type). Table 2.2a illustrated the criteria for deciding the number of schools to be recruited from each subset, which was decided based on the total number of primary schools in that particular subset.

Table 2.2a Number of schools to be recruited for the Study

Government or Aided primary schools		DSS or private primary schools (including DSS, English School Foundations, private and private independent schools)	
No. of schools in each district	No. of schools to be recruited for the Study	No. of schools in each district	No. of schools to be recruited for the Study
14 or below	0	4 or below	0
15 – 29	1	5 – 9	1
30 – 44	2	10 or above	2
45 or above	3		

Based on the above criteria, a total of 51 primary schools (6.1% of the total number of primary schools in Hong Kong) had to be recruited. Within each individual subset, schools were assigned a random number. Based on the assigned number, schools were listed in sequential order for the invitation sequence. Several batches of invitation letters were sent according to the random

number of schools until the targeted number of schools in each subset was recruited successfully. Invitation letters were sent to the principals of the selected schools, inviting principals / school representatives, all the Primary 4 and 5 students as well as their parents to take part in the Study. Table 2.2b illustrated the actual number of schools recruited in each district and the school type.

Table 2.2b Actual number of schools recruited in each district

District	School types	Government or aided primary schools	DSS or private primary schools
Central and Western		1	3
Eastern		3	0
Islands		1	0
Southern		1	2
Wan Chai		1	2
Kowloon City		2	3
Kwun Tong		2	1
Sai Kung		2	1
Sham Shui Po		2	1
Wong Tai Sin		2	0
Yau Tsim Mong		2	0
North		3	0
Shatin		3	1
Tai Po		2	0
Kwai Tsing		2	0
Tsuen Wan		1	0
Tuen Mun		3	0
Yuen Long		3	1
Total		36	15
Overall		51	

2.3 Ethics

Ethical approval was obtained from the Ethics Committee of DH prior to the commencement of the Study.

2.4 Pilot Study

A pilot study was conducted in November 2007 to assess the clarity and comprehensibility of all the measurement tools and to test the logistics of the Study. A total of six primary schools, which were not recruited in the main Study, were invited to participate. Based on the feedback and comments from participants and investigators of the pilot study, measurement tools and the logistics were revised for use in the main Study.

2.5 Data Collection

2.5.1 Snacks

Self-administered record forms about tuck shops and vending machines were sent to all 51 participating schools in December 2007 for school representatives to complete. The forms which were sent to schools included:

- a) Record of food items and beverages sold by the school tuck shop, and also the three most popular food items and beverages sold in the week prior to the survey (School questionnaire Appendix 2, see Annex A),
- b) Record of beverages sold in the beverage vending machines, and also the three most popular beverages sold in the week prior to the survey (School questionnaire Appendix 3, see Annex B), and
- c) Record of food items sold in the food vending machines, and also the three most popular food items sold in the week prior to the survey (School questionnaire Appendix 4, see Annex C).

2.5.2 Lunch

Subscription information record form of school lunch provided by schools was attached as Appendix 1 in the School questionnaire (see Annex D). These questionnaires were sent to all 51 participating schools in December 2007 for school representatives to complete. Based on the subscription information of school lunch provided by each participating school, the most popular lunch choice of five consecutive school days were collected on a daily basis from schools for physical inspection and weighing of vegetables.

2.6 Fieldwork Period

Questionnaires were posted to participating schools in Decemeber 2007. All school visits and

lunch sample inspection were conducted from 9th January to 1st February 2008.

2.7 Quality Control

The following quality control (QC) measures were incorporated in the Study:

- 10% of schools with vending machines (4 schools) or tuck shops (3 schools) were randomly selected for on site validation of all self-reported snack and beverage items by a nutritionist. The QC results showed that the discrepancy between the self-reported items provided in the school tuck shop or vending machines and those inspected by the nutritionist were less than 10%.
- All lunch inspection and analysis were conducted by trained investigators under close supervision of the project dietitian. All the completed inspection forms would be checked and countersigned by the dietitian before analysis. Furthermore, 10% of lunch samples collected on the day were randomly selected for QC checking by a nutritionist, i.e., to repeat the physical inspection and weighing of vegetables for the lunch samples. The samples would pass the QC only if the discrepancy between the measurements was less than 10%. A total of 23 lunch samples underwent QC tests. QC tests showed no discrepancy between observations made by the investigators and the nutritionist for all the lunch samples.

2.8 Data processing and analysis

2.8.1 Snacks

Based on information supplied by the schools and taking reference from their ingredient lists, Snacks were classified into three categories, namely ‘Snacks to choose more’, ‘Snacks to choose in moderation’ and ‘Snacks to choose less’, and their 17 sub-categories in accordance with ‘*Nutritional Guidelines on Snacks for Primary School Students*’ issued by DH in 2006 (Table 2.8.1).

Table 2.8.1 Classification guide for the snack and beverage items according to the DH Guidelines on Snacks

A. Snacks to choose more	B. Snacks to choose in moderation	C. Snacks to choose less
A1. Bread and cereals low in fat, sugar or salt content A2. Fresh vegetables A3. Fresh or dried fruit without added sugar A4. Low-fat/ skimmed dairy products A5. Lean meat and its alternatives A6. Beverages low in added sugar	B1. Bread and cereals with added fat, sugar or salt B2. Processed and preserved vegetables B3. Fruit with added sugar B4. Whole fat dairy products B5. Fat, processed or preserved meat and alternatives B6. Beverages with added sugar but contain nutritional value	C1. Energy dense food C2. Food high in fat C3. Food high in sugar C4. Food high in salt C5. Beverages high in sugar and / or with minimal nutritional value

2.8.2 Lunch

After collecting the lunch samples from participating schools on the day, trained investigators conducted the physical inspection and weighing process of vegetables under the supervision of experienced dietitians and nutritionists. All collected lunch choices were first checked for the presence of vegetables and fruit, as well as ‘encouraged’, ‘limited’ and ‘strongly discouraged’ food items as defined by the ‘*Nutritional Guidelines on School Lunch for Primary School Students*’ issued by DH in 2006 (Table 2.8.2). Moreover, the proportions of grains, vegetables and meat were noted. All vegetables were then weighed and information entered on a standardised inspection form (see Annex H). Photographic records were taken of each lunch sample for checking purpose. All completed inspection forms were checked by the project dietitian.

Table 2.8.2 Classification guide for the lunch samples according to the DH Guidelines on School Lunch

Encouraged Food Items	Limited Food Items	Strongly Discouraged Food Items
1. Whole grains or cereals with added vegetables 2. Reduced fat dairy products or other calcium-rich food items	1. Grains and cereals with added fat or oil 2. Fatty cut of meat and poultry with skin 3. Whole fat dairy products 4. Processed or preserved meat, egg and vegetable products 5. Sauce or gravy with high salt content 6. Sauce or gravy with high fat content	1. Deep-fried food items 2. Food items with added animal fat, plant sources of saturated fat and trans fat 3. Desserts or beverages with high sugar content 4. Items with very high salt content

School lunch subscription information collected were pooled for descriptive analysis. School lunch inspection and weighing data were subject to descriptive analysis for all samples and by individual schools.

2.8.3 Data Analysis

Descriptive statistics were used to summarise the findings of the study and they were reported in frequency, percentages, means and standard deviations (SD), wherever appropriate. Some percentages in the descriptive figures might not add up to the total or 100% because of rounding up. Chi-square test was also used to test the association between the number of lunch choices offered and the nutritional quality of food served. All statistical analyses were performed using SPSS for Windows version 13.0 and a p-value <0.05 was taken to indicate a level of statistical significance.

Chapter 3 Snack Provision in Schools

3.1 General snack-related facility in schools

Among the 51 participating schools, 18 schools had tuck shops, 30 schools had beverage vending machines and 4 schools had food vending machines. More than 70% of schools had either tuck shop or beverage/ food vending machine(s) in their campus to provide snacks for their students (Table 3.1).

Table 3.1 Tuck shops and vending machines in schools

	No. of schools (%)
Has tuck shop	18 (35.3%)
Has beverage vending machines	30 (58.8%)
Has food vending machines	4 (7.8%)
Has either tuck shop or beverage/ food vending machine	36 (70.6%)
Has both tuck shop and beverage/ food vending machines	12 (23.5%)
Has tuck shop alone	6 (11.8%)
Has beverage or food vending machine alone	18 (35.3%)
Has neither tuck shop nor beverage/ food vending machine	15 (29.4%)

Base: All schools = 51

Remarks: multiple answers allowed

3.2 Descriptive Data of Tuck Shops

3.2.1 Food items

3.2.1.1 Food items by snack categories

Among the 18 schools with tuck shops, 17 provided food and beverage items while one provided only beverages for sale. A total of 451 food items were documented in these 17 tuck shops and the number of food items sold in individual tuck shop ranged from 11 to 54 (mean=26.5, SD=12.1).

All these food items were categorised into three groups based on the principles outlined in the 'Nutritional Guidelines on Snacks for Primary School Students' issued by the DH in 2006: 'Snacks to choose more', 'Snacks to choose in moderation' or 'Snacks to choose less'. Among the 451 food items enumerated, a pre-packaged cake was coded as 'unclassified' due to insufficient

information provided by the school. Among the remaining 450 food items, 6.7% belonged to the category of ‘Snacks to choose more’, while 46.2% belonged to ‘Snacks to choose in moderation’ and 47.1% belonged to ‘Snacks to choose less’ (Table 3.2.1.1). Eight out of 17 tuck shops provided no ‘Snacks to choose more’ category while one tuck shop provided no ‘Snacks to choose less’.

Table 3.2.1.1 Food items sold in tuck shops by snack categories

Snack category	No. of snacks (%)
A. Snacks to choose more	30 (6.7%)
B. Snacks to choose in moderation	208 (46.2%)
C. Snacks to choose less	212 (47.1%)

Base: Snack food items categorised = 450

3.2.1.2 Popular food items in tuck shops

Fish dumplings (siu mai), sausages and various types of sandwiches were reported by schools to be the more popular food items sold in tuck shops (Table 3.2.1.2). These items belonged to the ‘Snacks to choose in moderation’ category.

Table 3.2.1.2 Popular food items sold in school tuck shops and the number of schools selling these items

Food items	Snack categories	No. of times appeared in the top 3 list	No. of schools selling the items
Fish dumplings (siu mai)	Snacks to choose in moderation	5	11
Sausages	Snacks to choose in moderation	5	12
Sandwiches (various types)	Snacks to choose in moderation	4	11

3.2.2 Beverages

3.2.2.1 Beverage by snack categories

All 18 tuck shops in this Study sold beverages. A total of 309 beverage items were documented in 18 tuck shops and the number of beverage items sold in individual tuck shops ranged from 8 to 24 (mean = 17.2, SD=5.2). Three items (juice drinks without a specific brand or type of flavour) reported by two schools were coded as ‘unclassified’ due to insufficient information provided by the

schools. For the remaining 306 beverage items, nearly half of them (47.7%) belonged to ‘Snacks to choose less’, while 12.7% of beverages belonged to ‘Snacks to choose more’ (Table 3.2.2.1). Among the 18 tuck shops, 17 of them provided at least one beverage item belonging to the ‘Snacks to choose more’ category.

Table 3.2.2.1 Beverage sold in school tuck shops by snack categories

Snack Categories	No. of beverage items (%)
A. Snacks to choose more	39 (12.7%)
B. Snacks to choose in moderation	121 (39.5%)
C. Snacks to choose less	146 (47.7%)

Base: Beverages categorised = 306

3.2.2.2 Popular beverages in tuck shops

Lemon tea, soymilk (chocolate flavoured) and chocolate milk (full cream) were reported by schools to be the more popular beverage items sold in tuck shops (Table 3.2.2.2). These items belonged to either the ‘Snacks to choose in moderation’ or ‘Snacks to choose less’ category.

Table 3.2.2.2 Popular beverage items sold in school tuck shops and the number of schools selling these items

Food items	Snack categories	No. of times appeared in the top 3 list	No. of schools selling the items
Lemon tea	Snacks to choose less	15	15
Soymilk (chocolate flavoured)	Snacks to choose in moderation	5	10
Chocolate milk (full cream)	Snacks to choose in moderation	5	7

3.3 Descriptive Data of Vending Machines

3.3.1 Food vending machines

3.3.1.1 Food items by snack category

Among the four schools with food vending machines, three of them provided one vending machine and one school provided two vending machines. A total of 84 snack food items were documented and the total number of items available in each school ranged from 9 to 50 (mean = 21, SD=19.4).

One food item (a pre-packaged cake) was coded as ‘unclassified’ due to insufficient information provided by the school. For the remaining 83 food items, 7.2% belonged to ‘Snacks to choose more’ and 72.3% belonged to ‘Snacks to choose less’ (Table 3.3.1.1). Two out of the four schools provided food items in the ‘Snacks to choose more’ category.

Table 3.3.1.1 Food items available from school vending machines by snack categories

Snack Category	No. of snacks	%
A. Snacks to choose more	6	7.2%
B. Snacks to choose in moderation	17	20.5%
C. Snacks to choose less	60	72.3%

Base: Snack/food items available from vending machines = 83

3.3.1.2 Popular food items from vending machines

All reported popular food items available from vending machines belonged to ‘Snacks to choose less’ category. The more popular food items were fried snack noodles, gummy candies and wafers (see Table 3.3.1.2).

Table 3.3.1.2 Popular food items available from school vending machines and the number of schools selling the items

Food items	Snack categories	No. of times appeared in the top 3 list	No. of schools selling the items
Fried snack noodles	Snacks to choose less	2	2
Gummy candies	Snacks to choose less	2	2
Wafers	Snacks to choose less	2	3

3.3.2 Beverages vending machines

3.3.2.1 Beverage by snack categories

Among 30 schools with beverage vending machines, majority of them (23 schools or 76.7%) provided one to two beverage vending machines in campus (Table 3.3.2.1a). A total of 399 beverage items were documented in all beverage vending machines and the number of items available in each school ranged from 4 to 32 (mean =13.3, SD=6.5).

Table 3.3.2.1a Number of beverage vending machines in schools

Number of beverage vending machines	No. of schools (%)
1	11 (36.7%)
2	12 (40.0%)
3	4 (13.3%)
4	3 (10.0%)

Base: Number of schools had beverage vending machines = 30

One beverage item was unclassified due to insufficient information provided by the school. For the remaining 398 beverage items, 5.8% belonged to ‘Snacks to choose more’ category and over 60% belonged to the ‘Snacks to choose less’ category (Table 3.3.2.1b). Among the 30 schools with beverage vending machines, 18 (60%) schools had their machines providing ‘Snacks to choose more’ beverage items while one school had its vending machine providing no ‘Snacks to choose less’ beverage item.

Table 3.3.2.1b Beverages sold in school vending machines by snack categories

Snack categories	No. of snacks (%)
A. Snacks to choose more	23 (5.8%)
B. Snacks to choose in moderation	133 (33.4%)
C. Snacks to choose less	242 (60.8%)

Base: Beverage items available at vending machines categorised = 398

3.3.2.2 Popular beverages from vending machines

Lemon tea, soymilk (original flavoured) and chocolate milk (full cream) were the more popular beverage items available in vending machines. These beverage items were in either the ‘Snacks to choose in moderation’ or ‘Snacks to choose less’ category (Table 3.3.2.2).

Table 3.3.2.2 Popular beverage items sold in school vending machines and the number of schools selling these items

Beverage	Subclass	No. of times appeared in the top 3 list	No. of schools selling the items
Lemon tea	Snacks to choose less	17	27
Soymilk (original flavoured)	Snacks to choose in moderation	7	22
Chocolate milk (full cream)	Snacks to choose in moderation	7	14

Chapter 4 Lunch Provision in Schools

4.1 General Information

Out of the 51 participating schools, 4 were half-day schools and there were 4 schools operated on half-day basis for P4 to P6 students. The results in this Chapter were based on the remaining 43 schools which provided school lunch to students of all grades.

4.2 Descriptive Data of Lunch

4.2.1 Lunch Subscription Percentage in P4 and P5 Students

The lunch subscription percentage of P4 and P5 students for these 43 schools ranged from 28% to 97%, with an average of 69.1% (Table 4.2.1).

Table 4.2.1 Number of schools and their distribution of lunch subscription

Percentage of lunch subscription	No. of schools (%)
90% or above	3 (7.0%)
80% to 89%	6 (14.0%)
70% to 79%	16 (37.2%)
60% to 69%	8 (18.6%)
50% to 59%	4 (9.3%)
Less than 50%	6 (14.0%)

Base: Schools provided lunch to students of all grades = 43

4.2.2 Number of Lunch Choices Available

About half of the schools provided four lunch options for students to choose from while around one-tenth of schools (9.3%) offered a single lunch menu for students (Table 4.2.2).

Table 4.2.2 Number of lunch choices provided per day

No. of lunch choices available	No. of schools (%)
1	4 (9.3%)
2	3 (7.0%)
3	9 (20.9%)
4	21 (48.8%)
5	6 (14.0%)

Base: Schools provided lunch to students of all grades = 43

4.2.3 Way of Serving Lunch

About 80% of the school lunch were provided in lunch box style by the food suppliers and around one-tenth of school lunch were prepared in the school kitchen (Table 4.2.3).

Table 4.2.3 Way of serving lunch

Serving lunch	No. of Schools (%)
Lunch box	34 (79.1%)
Cooked in school kitchen	4 (9.3%)
Catering service in school canteen	3 (7.0%)
Both lunch box and catering service	2 (4.7%)

Base: Schools provided lunch to students of all grades = 43

4.2.4 Price Range of Lunch

The average price of lunch was HK\$16.7 per day (range from HK\$14 to HK\$31, S.D = 4.3). More than three quarters of school lunch cost HK\$14 to HK\$15.9, while 16.7% of lunch cost \$22 or more (Table 4.2.4).

Table 4.2.4 Price range of lunch provided in schools

Price of Lunch	No. of Schools (%)
\$14 to less than \$14.9	15(34.9%)
\$15 to less than \$15.9	18(41.9%)
\$16 to less than \$16.9	3(7.0%)
\$17 to less than \$21.9	0
\$22 or above	7 (16.3%)

Base: Schools provided lunch to students of all grades = 43

4.3 Inspection of the Most Popular Lunch Choices

Schools were asked to provide the most popular lunch choice of five consecutive school days for inspection and analysis. However, one school could not provide any lunch sample because its lunch provision had been suspended in January 2008 due to special arrangements for examinations. As a result, analysis of lunch samples was conducted on 42 primary schools only. A total of 210 lunch samples consumed by P4 and P5 students were collected for inspection.

4.3.1 Net Weight of Lunch

One school provided lunch as buffet style and the weighting process was not carried out for this school (i.e. 5 lunch samples were excluded). Therefore, a total of 205 lunch samples were analysed. The average net weight was 461.9g (SD=132.2g).

4.3.2 Provision of Vegetables

Of the 210 samples inspected, 202 (96.2%) contained some vegetables. Among these samples, 89% had vegetables cut into small pieces to aid eating.

Among the 205 lunch samples not served in buffet style, one sample was found to serve vegetables in puree form and therefore could not be weighed. The mean weight of vegetables of the remaining 204 samples was 94.9g (SD =63.9g).

In terms of a standard bowl, it was found that 128 samples (62.7%) provided at least half a standard bowl of vegetables as recommended in the “*Nutritional Guidelines on School Lunch for Primary School Students*” issued by the DH. A few lunch samples (3.4%) did not provide any vegetables (Table 4.3.2).

Table 4.3.2 Amount of vegetables supplied in lunch (in terms of a standard bowl*)

Amount of vegetables supplied	No. of lunch (%)
No vegetables at all	7 (3.4%)
Less than 1/4 bowl	32 (15.7%)
1/4 bowl	37 (18.1%)
1/2 bowl	47 (23.0%)
3/4 bowl	43 (21.1%)
1 bowl	36 (17.6%)
More than 1 bowl	2 (1.0%)

Base: Lunch samples (excluded lunch in buffet style and vegetable come in puree form) = 204

*Remarks: Volume of one standard bowl =240ml

4.3.3 Provision of Fruit

Of the 210 lunch samples inspected, 39 (18.6%) supplied extra fruit. The mean weight of fruit provided was 120g (SD = 57.2g). Apple, banana, orange, pear and melon dices were the common choices.

From ingredient inspection, 19 lunch samples (9.0%) used fruit as the ingredient, with pineapple and peach as more common.

4.3.4 Proportion of Grains/Cereals, Vegetables and Meat

A total of 204 samples were assessed for the proportion of grains/cereals, vegetables and meat. Among these samples, 69 samples (33.8%) provided grains/cereals, vegetables and meat in the ratio of 3:2:1 as recommended by DH. For the remaining 135 samples that did not meet the recommendations, most of them (89.6%) provided relatively low proportions of vegetables and more than half (53.3%) provided relatively high proportions of meat products. Besides, 37.0% provided relatively high proportions of grains/cereals products.

4.3.5 Other Food Ingredients

The ingredients of lunch were categorised according to the '*Nutritional Guidelines on School Lunch for Primary School Students*' issued by DH.

Encouraged food items

Ingredient inspection of 210 lunch samples revealed that 18 samples (8.6%) provided whole grains or rice with added vegetables and 32 samples (15.2%) included calcium-rich food items in their lunch sets.

Limited food items

The use of 'limited food items' in school lunch was common. Among 210 lunch samples, fatty cut of meat and poultry with skin were found in 43.3% samples. Processed or preserved meat, eggs or vegetable products were found in 42.9% samples. Besides, 31.4% provided grains and cereals with added fat or oil (including 5 samples that were served with evaporated milk based sauce such as Portuguese sauce). Moreover, 22.9% used whole fat dairy products in cooking.

Thirty-four samples (16.2%) contained high-salt sauce or gravy. Of these samples, 26 (76.5%) had the sauce or gravy served separately. There were 56 samples (26.7%) containing high-fat sauce or gravy, among which 31 (55.4%) served the sauce or gravy separately (Table 4.3.5a).

Table 4.3.5a Presence of ‘limited food items’

Limited food items	No. of lunch (%)
Fatty cut of meat and poultry with skin (e.g. chicken wings, chicken legs)	91 (43.3%)
Processed or preserved meat, egg and vegetable products (e.g. sausages, ham, fish ball)	90 (42.9%)
Grains and cereals with added fat or oil (e.g. fried rice, fried noodles)	66 (31.4%)
Limited food items	No. of lunch (%)
Whole fat dairy products (e.g. regular cheese)	48 (22.9%)
Sauce or gravy with high salt content (e.g. black soy sauce, oyster sauce)	34 (16.2%)
Sauce or gravy served separately	26 (76.5%)
Sauce or gravy mixed together with grains/cereal	8 (23.5%)
Sauce or gravy with high fat content (e.g. white sauce, Portuguese sauce)	56 (26.7%)
Sauce or gravy served separately	31 (55.4%)
Sauce or gravy mixed together with grains/cereals	25 (44.6%)

Base: Lunch samples = 210

*Remarks: multiple answers allowed

Strongly discouraged food items

‘Strongly discouraged food items’ were also detected in the lunch samples. Among 210 samples, 15.2% of the samples included deep-fried foods and 15.7% included food items with added animal fat, plant sources of saturated fat or trans fat. Besides, there were 15.7% of samples that provided high sugar beverage or dessert with lunch. Six lunch samples (2.9%) included items with very high salt content (all were Chinese preserved sausage) (Table 4.3.5b).

Table 4.3.5b Presences of ‘Strongly discouraged food items’

Strongly discourage food items	No. of lunch (%)
Deep-fried food items (e.g. deep-fried fillet, deep-fried pork chop)	32 (15.2%)
Food items with added animal fat, plant sources of saturated fat and trans fat (e.g. food items with added coconut oil and butter, such as curry sauce)	33 (15.7%)
Desserts or beverages with high sugar content (e.g. puddings, jelly, juice drinks with high sugar content)	33 (15.7%)
Items with very high salt content (Chinese preserved sausage)	6 (2.9%)

4.3.6 Food Items by Schools

Among the 42 schools which provided lunch samples for analysis, 41 (97.6%) supplied ‘limited food items’ more than 2 out of 5 consecutive school days while 36 (85.7%) schools supplied ‘strongly discouraged food items’ at least once during the same inspection period (Table 4.3.6).

Table 4.3.6 Presence of food items in three major categories in the most popular lunch in 5 consecutive school days

No. of days present	Encouraged food items	Limited food items	Strongly discouraged food items
	No. of schools (%)	No. of schools (%)	No. of schools (%)
0 day	17 (40.5%)	0	6 (14.3%)
1 day	11 (26.2%)	0	14 (33.3%)
2 days	10 (23.8%)	1 (2.4%)	12 (28.6%)
3 days	4 (9.5%)	5 (11.9%)	7 (16.7%)
4 days	0	9 (21.4%)	3 (7.1%)
5 days (daily)	0	27 (64.3%)	0

Base: Schools provided lunch samples for analysis = 42

4.4 Further Analysis

Analysis was made to identify any relationship between the number of daily lunch choices in schools and the nutritional quality, namely provision of vegetables, proportion of grains / cereals, vegetables and meat, and presence of ‘Encouraged food items’, ‘Limited food items’ and ‘Strongly discouraged food items’, of their popular lunch choices. For this analysis, schools were classified according to whether they had -

- (1) two or fewer choices, or
- (2) three or more choices.

4.4.1 Provision of Vegetables

A significantly higher proportion of lunch samples from schools with two or fewer choices had adequate amounts of vegetables (half a bowl or more) than those from schools with three or more choices (Table 4.4.1).

Table 4.4.1 Association between amounts of vegetables and the number of lunch choices available

No. of lunch choices provided on the day	Total	Provision of vegetables		p-value (Chi-square test)
		Half a bowl or more	Less than half a bowl	
1-2	30	25 (83.3%)	5 (16.7%)	p=0.012*
3 or more	174	103 (59.2%)	71 (40.8%)	

4.4.2 Proportion of Grains/cereals, Vegetables and Meat

A significantly higher proportion of lunch samples from schools with two or fewer choices met the 3:2:1 ratio for grains/cereals, vegetables and meat than those from schools with three or more choices (Table 4.4.2).

Table 4.4.2 Association between samples meeting the 3:2:1 ratio of grains/cereals, vegetables and meat and the number of lunch choices available

No. of lunch choices provided on the day	Total	Meeting the 3:2:1 ratio for grains/cereals, vegetables and meat		p-value (Chi-square test)
		Meeting 3:2:1	Not meeting 3:2:1	
1-2	30	15 (50.0%)	15 (50.0%)	p=0.043*
3 or more	174	54 (31.0%)	120 (69.0%)	

4.4.3 Presence of 'Encouraged Food Items'

A significantly higher proportion of lunch samples from schools with two or fewer choices had 'Encouraged food items' than those from schools with three or more choices (Table 4.4.3).

Table 4.4.3 Association between presence of encouraged food items and the number of lunch choices available

No. of lunch choices provided on the day	Total	Presence of encourage food items		p-value (Chi-square test)
		Yes	No	
1-2	30	11 (36.7%)	19 (63.3%)	p=0.018*
3 or more	180	32 (17.8%)	148 (82.2%)	

Chapter 5 Discussion

School is a vital setting for students to learn and form good eating habits. The kinds of food supplied over school lunch and by tuck shops or vending machines may impact on children's health in positive or negative ways. It requires concerted efforts of school administrators, teachers, parents and food suppliers to ensure children are served healthy food.

Snack Guidelines and snacks available at school

Tuck shops

Around one third of participating schools had a tuck shop. However, nearly half of the food items and beverages sold in tuck shops came from the 'Snacks to choose less' category as judged by the "*Nutritional Guidelines on Snacks for Primary School Students*" issued by the Hong Kong Department of Health (DH). 'Snacks to choose less' included items low in nutritional value or high in fat, added sugar and salt.

Healthy snack choices were not commonly available in school tuck shops. This study showed that 6.7% of food items and 12.7% of beverages sold in school tuck shops belonged to the 'Snacks to choose more' category. Nearly half (47.1%) of the schools with tuck shop did not provide any food item belonging to the 'Snacks to choose more' category. The situation was better for beverages as majority of tuck shops provided at least one beverage item belonging to the "Snacks to choose more' category.

The most popular food items and beverages chosen by students belonged to either the 'Snacks to choose in moderation' or 'Snacks to choose less' category.

Vending machines

More than half of the participating schools had beverage vending machines which were more common than food vending machines in schools. The most popular food or beverage items provided in vending machines were those high in sugar content.

Of all beverages sold in the beverage vending machines, 5.8% belonged to the 'Snacks to choose more' category, and nearly two-thirds belonged to the 'Snacks to choose less' category, i.e. high in sugar, contained caffeine (e.g. tea or coffee) or had minimal nutritional value.

More than 70% of food items sold in food vending machines belonged to the 'Snacks to choose less' category, contrasting with 47.1% of similar food items sold in tuck shops.

Compliance with the ‘Nutritional Guidelines on Snacks for Primary School Students’

Part 1 of the Assessment of dietary pattern in primary schools 2008 revealed that while 82.4% of schools with tuck shop and/or vending machines were aware of the snack guidelines, only 50.0% and 40.9% respectively reported incorporating the guidelines into the contract with the suppliers. *Part 2* (this part) of the study showed that compliance with the snack guidelines was far from satisfactory.

Lunch Guidelines and the most popular lunch choices at school

Forty-three out of 51 participating schools served lunch to students of all grades. Lunch boxes were the most common serving method (79.1%). Cooking in school kitchen, catering service in school canteen and both lunch box and catering service made up the remaining 9.3%, 7.0% and 4.7% respectively.

Among the most popular lunch samples collected for ingredient inspection, about one-third (33.8%) met the recommended 3:2:1 proportion for grains/cereals, vegetables and meat. The remaining failed to meet the recommended proportions because they contained too much meat, too much grains/cereals or too little vegetables. Out of the 210 lunch samples, most lunch samples (96.2%) contained vegetables. Of the 204 lunch samples excluding those served in buffet style and vegetables come in puree form, 62.7% met the recommended serving size of half a bowl of cooked vegetables.

With respect to ‘encouraged food items’, 18 samples (8.6%) provided whole grains or rice with added vegetables and 32 samples (15.2%) included calcium-rich food items.

Presence of ‘limited food items’ was common in the most popular lunch choices. Nearly all schools supplied ‘limited food items’ more than 2 out of 5 consecutive school days. For ‘strongly discouraged food items’, 85.7% of schools supplied these food items at least once during the same inspection period.

The number of daily lunch choices seemed to have some bearing on the nutritional quality of food served. Where schools provided fewer lunch choices (1 or 2), the likelihood of lunch meeting the recommended serving of vegetables; the 3:2:1 ratio of grains/cereals, vegetables and meat; and containing ‘encouraged food items’ was greater than when schools provided 3 or more lunch choices.

Compliance with the ‘Nutritional Guidelines on Lunch for Primary School Students’

Similar to the findings for snacks, discrepancy existed between awareness of and compliance with the lunch guidelines. *Part 1 of the Assessment of dietary pattern in primary schools 2008* revealed

that while 92.2% of schools reported that they were aware of the guidelines, only 70.0% of them had incorporated it into the lunch contract. Current findings further showed that compliance with the guidelines was not satisfactory and needed improvement.

Limitations

Several limitations were acknowledged in this study. The information on food and beverages sold in tuck shops or vending machines were self-reported by schools, in which case the data were subject to reporting bias and errors. Schools might not accurately report all items available in schools or the three most popular food or beverage items sold even though efforts had been made to double-check the information when research staff visited the schools.

Moreover, classification of snacks was based primarily on the product name provided by schools. Not all products, especially beverage items, had nutritional labels to indicate the energy, fat and sugar content. As such, researchers had to rely on information shown on the ingredient list on the food packaging. A few food or beverage items could not be classified into a suitable snack category due to insufficient information provided by schools.

As for lunch provision, the current study collected the most popular lunch samples on five consecutive school days from the participating schools for ingredient inspection and weighing of vegetables. This could only reflect the concurrence of nutritional quality of students' favourite choices with DH's nutritional guidelines at the particular time point. It could not represent the nutritional quality of all school lunches provided during the investigation period. Moreover, it provided little information about students' actual consumption. Furthermore, menu and snacks provision were subject to seasonal changes and supply situation, and hence could not reflect the whole year situation.

Chapter 6 Recommendations

This report provided insight into the nutritional quality of snacks and lunch available in local primary schools. In some ways, this reflected the situation of the application of and compliance with the *‘Nutritional Guidelines on Snacks for Primary School Students’* and *‘Nutritional Guidelines on Lunch for Primary School Students’* issued by DH. Overall, the findings suggested considerable scope for improvement.

The Government

1. The DH should widely publicise important findings generated from this study to raise public awareness to the issue of healthy eating in schools, not least to schools, parents and food suppliers as they are key parties involved in determining the quality of food that are served to children.
2. The DH should enhance understanding of schools, parents and food suppliers on snack and lunch guidelines, and continue providing practical support for their use with an aim of addressing limitations and barriers encountered by schools in the use of the snack and lunch guidelines.
3. The DH should work closely with the Education Bureau to encourage schools to take a keen interest in promoting healthy eating among students especially through the application of and compliance with the snack and lunch guidelines.
4. The Government should conduct similar studies on an ongoing basis to track the nutritional quality of food served in the school setting, and as an aid to assess effectiveness of healthy eating promotional work.

Schools

5. All primary schools should acquire an understanding of the snack and lunch guidelines, apply them diligently (to tuck shops, vending machines and lunch supply) and monitor their use by checking on the quality of food provided as a result.
6. Schools should go for elimination of “Snacks to choose less” items from school tuck shops and vending machines when “Snacks to choose in moderation” items are readily available from the market and “Snacks to choose more” items are gaining in popularity.

7. Schools should consider limiting the number of lunch choices to a small number so that increased attention could be put on improving the content of vegetables and calcium-rich ingredients in these lunch choices instead.

Parents

8. Parents should support schools' decision to phase out "Snacks to choose less" from tuck shops and vending machines and 'strongly discouraged food items' from lunch supply.

Lunch suppliers

9. Lunch suppliers should invest in improving the nutritional quality of lunch choices to meet the requirements of the '*Nutritional Guidelines on Lunch for Primary School Students*' issued by DH. Specifically, 'strongly discouraged food items' should not be used as ingredients and 'limited food items' should not be served for more than two school days per week.

Snack suppliers

10. Tuck shop operators and vending machine suppliers should be made aware of the content and requirements of the '*Nutritional Guidelines on Snacks for Primary School Students*'. As responsible business enterprises, they should remove all "Snacks to choose less" from the list of food and beverages offered for sale to children.

Reference

1. Reilly JJ, Methven E, McDowell ZC, Hacking B, Alexander D, Stewart L, Kelnar CJH. Health consequences of obesity. *Arch. Dis. Child.* 2003; 88: 748-752.
2. Freedman DS, Khan LK, Serdula MK, Dietz WH, Srinivasan SR, Berenson GS. Racial Differences in the Tracking of Childhood BMI to Adulthood. *Obesity Research.* 2005; 12(5):928-35.
3. Singer MR, Moore LL, Garrahie EJ, Ellison RC. The tracking of nutrient intake in young children: The Framingham Children's Study. *Am J Public Health.* 1995; 85: 1673-77.
4. Wan YF, Bentley ME, Zhai FY, Popkin BM. Tracking of dietary intake patterns of Chinese from childhood to adolescence over a six-year follow-up period. *J. Nutr.* 2002; 132: 430-438.

List of Tables

2.2a	Number of schools to be recruited for the Study	3
2.2b	Actual number of schools recruited in each district	4
2.8.1	Classification guide for the snack and beverage items according to the DH Guidelines on Snacks	7
2.8.2	Classification guide for the lunch samples according to the DH Guidelines on School Lunch	8
3.1	Tuck shops and vending machines in schools	9
3.2.1.1	Food items sold in tuck shops by snack categories	10
3.2.1.2	Popular food items sold in school tuck shops and the number of schools selling these items	10
3.2.2.1	Beverage sold in school tuck shops by snack categories	11
3.2.2.2	Popular beverage items sold in school tuck shops and the number of schools selling these items	11
3.3.1.1	Food items available from school vending machines by snack categories	12
3.3.1.2	Popular food items sold in school tuck shops and the number of schools selling these items	12
3.3.2.1a	Number of beverage vending machines in schools	13
3.3.2.1b	Beverages sold in school vending machines by snack categories	13
3.3.2.2	Popular beverage items sold in school vending machines and the number of schools selling these items	13
4.2.1	Number of schools and their distribution of lunch subscription	14
4.2.2	Number of lunch choices provided per day	14
4.2.3	Way of serving lunch	15
4.2.4	Price range of lunch provided in schools	15
4.3.2	Amount of vegetables supplied in lunch (in terms of a standard bowl*)	16
4.3.5a	Presence of ‘limited food items’	17
4.3.5b	Presence of ‘strongly discouraged food items’	18
4.3.6	Presence of food items in three major categories in the most popular lunch in 5 consecutive school days	19
4.4.1	Association between amounts of vegetables and the number of lunch choices available	20
4.4.2	Association between samples meeting the 3:2:1 ratio of grains/cereals, vegetables and meat and the number of lunch choices available	20
4.4.3	Association between presence of encouraged food items and the number of lunch choices available	20

Annex

Annex A Record of food and beverages provided by the school tuck shop

Annex B Record of food items provided in the food vending machines

Annex C Record of beverages provided in the beverage vending machines

Annex D Information and subscription amount of school lunch

**Annex E Record form for physical inspection and weighing of vegetables
(Chinese Version Only)**

Annex F Detail of food products and beverages being sold in school tuck shops

Annex G Detail of food products and beverages being sold via vending machines in schools



Appendix 2: Record of food and beverages provided by the school tuck shop

Part 1: Food Record

Please record all categories of food provided by the school tuck shop in the following tables. Please fill the corresponding to your answers (→) and state the **brand and name of food product, weight or volume per serving, and package**. You may record more than one food product in each category. If space provided is not sufficient, please feel free to make copies of this record sheet or use alternative way to provide the required information.

A. Pre-packaged food

1.1 Crackers

Food category	Brand and Name of food product	Net weight (g)/ Volume (g/ml) per serving	Package (pack/box)	Food category	Brand and Name of food product	Net weight (g)/ Volume (g/ml) per serving	Package (pack/box)
<input type="radio"/> Potato chips 1101				<input type="radio"/> Egg rolls/ corn rolls 1108			
<input type="radio"/> Potato rings 1102				<input type="radio"/> Fish shape crackers 1109			
<input type="radio"/> Prawn crackers 1103				<input type="radio"/> Dried seaweed 1110			
<input type="radio"/> Corn snacks (e.g. Grill-A- Corn) 1104				<input type="radio"/> Fried snack noodles (e.g. Mamee snack noodle) 1111			
<input type="radio"/> Cheese rings 1105				Others (please state):			
<input type="radio"/> Rice crackers (e.g. Want Want Maipen) 1106							
<input type="radio"/> Biscuit sticks 1107							

1.2 Bread (pre-packaged)

Food category	Brand and Name of food product	Net weight (g)/ Volume (g/ml) per serving	Package (pack/box)	Food category	Brand and Name of food product	Net weight (g)/ Volume (g/ml) per serving	Package (pack/box)
<input type="radio"/> Cream buns 1201				<input type="radio"/> Swiss rolls 1205			
<input type="radio"/> Butter loafs 1202				Others (please state):			
<input type="radio"/> Chiffon cake 1203							
<input type="radio"/> Cakes with nuts 1204							

1.3 Biscuits and Cereals

Food category	Brand and Name of food product	Net weight (g)/ Volume (g/ml) per serving	Package (pack/box)	Food category	Brand and Name of food product	Net weight (g)/ Volume (g/ml) per serving	Package (pack/box)
<input type="radio"/> Wafers 1301				<input type="radio"/> Cereal bars 1309			
<input type="radio"/> Plain crackers 1302				<input type="radio"/> Corn flakes 1310			
<input type="radio"/> Cookies 1303				<input type="radio"/> Other cereals in coco or honey flavour 13102			
<input type="radio"/> Chocolate biscuits 1304				Others (please state):			
<input type="radio"/> Sandwich biscuits 1305							
<input type="radio"/> Animal crackers 1306							
<input type="radio"/> Cubic pastries 1307							
<input type="radio"/> Digestive biscuits 1308							

1.4 Sweets and Candies

Food category	Brand and Name of food product	Net weight (g)/ Volume (g/ml) per serving	Package (pack/box)	Food category	Brand and Name of food product	Net weight (g)/ Volume (g/ml) per serving	Package (pack/box)
<input type="radio"/> Gummy candies 1401				<input type="radio"/> Sparkling candies 1408			
<input type="radio"/> Candies (hard) 1402				<input type="radio"/> Chocolate beans (including candies and bars) 14091			
<input type="radio"/> Candies (soft) 1403				<input type="radio"/> Chocolate (bar or cube) 14092			
<input type="radio"/> Maltose candies / milk candies 1404				<input type="radio"/> Chocolate (stick) 14093			
<input type="radio"/> Lollipops 1405				Others (please state):			
<input type="radio"/> Marshmallows 1406							
<input type="radio"/> Chewing gums 1407							

1.5 Desserts

Food category	Brand and Name of food product	Net weight (g)/ Volume (g/ml) per serving	Package (pack/box)	Food category	Brand and Name of food product	Net weight (g)/ Volume (g/ml) per serving	Package (pack/box)
<input type="radio"/> Ice-cream cone 1501				<input type="radio"/> Chocolate cake 1507			
<input type="radio"/> Popsicle 1502				<input type="radio"/> Soya bean custard 1508			
<input type="radio"/> Ice-cream 1503				Others (please state):			
<input type="radio"/> Jellies 1504							
<input type="radio"/> Cream puffs 1505							
<input type="radio"/> Yoghurt 1506							

1.6 Dried fruit

Food category	Brand and Name of food product	Net weight (g)/ Volume (g/ml) per serving	Package (pack/box)	Food category	Brand and Name of food product	Net weight (g)/ Volume (g/ml) per serving	Package (pack/box)
<input type="radio"/> Raisins 1601				<input type="radio"/> Dried hawthorn 1607			
<input type="radio"/> Apple chips 1602				<input type="radio"/> Dried mango 1608			
<input type="radio"/> Dried apricot 1603				<input type="radio"/> Dried pineapple 1609			
<input type="radio"/> Pitted prunes 1604				Others (please state):			
<input type="radio"/> Preserved sweet plums 1605							
<input type="radio"/> Plum candies 1606							

1.7 Meat and nuts

Food category	Brand and Name of food product	Net weight (g)/ Volume (g/ml) per serving	Package (pack/box)	Food category	Brand and Name of food product	Net weight (g)/ Volume (g/ml) per serving	Package (pack/box)
<input type="radio"/> Jerky 1701				<input type="radio"/> Peanuts 1706			
<input type="radio"/> Shredded pork flosses 1702				<input type="radio"/> Mixed nuts 1707			
<input type="radio"/> Shredded cuttlefish 17031				<input type="radio"/> Fried peas 17081			
<input type="radio"/> Roller cuttlefish 17032				<input type="radio"/> Wasabi peas 17082			
<input type="radio"/> Dried fish fillets 1704				Others (please state):			
<input type="radio"/> Fish sausages 1705							

B. Fresh and cooked food

Please select the categories of fresh and cooked food provided by the school tuck shop and fill the corresponding to your answers (→ .

2.1 Bread, toast and sandwich:

- Egg sandwiches 2101
- Ham sandwiches 2102
- Luncheon meat sandwiches 2103
- Luncheon meat and egg sandwiches 2104
- Ham and egg sandwiches 2105
- Tuna sandwiches 2106
- Egg and tomato sandwiches 2107
- Cheese and ham sandwiches 2108
- Toasts with butter and jam 2109
- Toasts with condensed milk and peanut butter 2110
- Toasts with condensed milk and butter 2111
- French toasts 2112
- Hamburgers 2113
- Hotdogs 2114
- Bread roll 2115
- Raisin buns 2116
- Tuna fish buns 2117
- Sausage buns 2118
- Rocky buns 2119
- Cocktail buns 2120

Others (please state): _____

2.2 Noodles and rice:

- Instant noodles(fried) 2201
- Instant noodles(non-fried) 2202
- Macaronis 2203
- Egg noodles 2204
- E-Fu noodles 2205
- Rice vermicelli 2206
- Fried rice vermicelli 2207
- Fried noodles 2208
- Spaghetti 2209
- Rice dumplings (please specify the stuff: 2210)

Other (please state): _____

2.3 Chinese bread roll, dim sum and dessert:

- Steamed meat and vegetable buns 2301
- Steamed barbecued pork buns 2302
- Red bean (paste steamed) buns 2303
- Sweet cream buns 2304
- Steamed buns 2305
- Glutinous rice dumplings 2306
- Glutinous rice rolls 2307
- Turnip cakes 2308
- Steamed mixed meat dumplings with peanut 2309
- Rice noodle rolls (with sauce) 2310
- Steamed rice cakes 2311
- Malaysia puddings 2312

Others (please state): _____

2.4 Vegetables, roots/ tubers and fruits:

- Fresh vegetables 2401
- Fresh Fruits 2402
- Boiled fresh sweet corns 2403
 - (with butter)
 - (without butter)
- Cheery tomatoes 2404
- Boiled sweet potatoes 2405
- Hush brown 2406
- Fruit cups (with mixed fresh fruit) 2407
 - (without salad dressing)
 - (with salad dressing)
- Fruit cups (with mixed fresh and canned fruit) 2408
 - (without salad dressing)
 - (with salad dressing)
- Canned fruits (such as pineapples and peaches) 2409

Other (please state): _____

2.5 Meat and egg :

- Fried egg 2501
- Pork luncheon meat 2502
- Spiced pork cubes 2503
- Corned beef 2504
- Fish dumplings (Siu Mai) 2505
- Sausages 2506
- Hams 2507
- Steamed beef balls 2508
- Deep fried fish balls 2509
- Squid balls 2510
- Beef balls 2511
- Deep fried chicken drumsticks 2512
- Chicken drumsticks in brine 25121
- Deep fried chicken wings 2513
- Chicken wings in brine 25131
- Deep fried pork chops 2514
- Deep fried fish fillets 2515
- Boiled eggs 2516
- Eggs in brine 25161
- Tea leaf eggs 25162

Others (please state): _____

Part 2: Record of the Most Popular Food

Please ask the tuck shop owner for the **three most popular** food items sold over the **past one week** (please also state the **brand and name of food product, weight or volume per serving, and package** if they are pre-packaged food):

	Name of Food Item	Brand	Net weight (g)/ Volume (g/ml) per serving	Package (pack/box)
1 st				
2 nd				
3 rd				

Part 3: Beverage record

Please record all categories of beverages provided by the school tuck shop in the following tables. Please fill the corresponding to your answers (→) and state the **name, brand, volume and package** of each beverage. You may record more than one beverage in each category. If space provided is not sufficient, please feel free to make copies of this record sheet or use alternative way to provide the required information.

3.1 Water

Beverage category	Brand and Name of beverage	<i>Volume per serving (ml)</i>	<i>Package (pack/can/bottle)</i>	Beverage category	Brand and Name of beverage	<i>Volume per serving (ml)</i>	<i>Package (pack/can/bottle)</i>
<input type="radio"/> Distilled water 3101				Others (please state):			
<input type="radio"/> Mineral water 3102							

3.2 Tea

Beverage category	Brand and Name of beverage	Volume per serving (ml)	Package (pack/can/bottle)	Beverage category	Brand and Name of beverage	Volume per serving (ml)	Package (pack/can/bottle)
<input type="radio"/> Green tea or Red tea (original flavoured) 3201				<input type="radio"/> Fruit tea (e.g. apple green tea, pear tea, peach tea etc.) 3207-10			
<input type="radio"/> Oolong tea 3202							
<input type="radio"/> Barley tea / brown rice tea 3203							
<input type="radio"/> Lemon tea 3204				<input type="radio"/> Herbal tea / Chinese drinks (e.g. Floral herbal tea drink, common selfheal fruit-spike, sugarcane juice drink) 4001-14			
<input type="radio"/> Chrysanthemum tea 3205							
<input type="radio"/> Honey tea (e.g. Honey green tea, honey red tea) 3206				Others (please state):			

3.3 Soft drink

Beverage category	Brand and Name of beverage	Volume per serving (ml)	Package (pack/can/bottle)	Beverage category	Brand and Name of beverage	Volume per serving (ml)	Package (pack/can/bottle)
<input type="radio"/> Coke 3301				<input type="radio"/> Cream soda (Diet/ sugar-free) 33011 <input type="radio"/> Orange soda 3304 Others (please state):			
<input type="radio"/> Coke (Diet/ sugar-free) 33011							
<input type="radio"/> Sprite 3302							
<input type="radio"/> Sprite (Diet/ sugar-free) 33021							
<input type="radio"/> Cream soda 3303							

3.4 Fruit juice

Beverage category	Brand and Name of beverage	Volume per serving (ml)	Package (pack/can/bottle)	Beverage category	Brand and Name of beverage	Volume per serving (ml)	Package (pack/can/bottle)
<input type="radio"/> Pure orange juice 3401				<input type="radio"/> Other fruit drinks 3406			
<input type="radio"/> Orange drinks 34012							
<input type="radio"/> Pure apple juice 3402							
<input type="radio"/> Apple drinks 34021				<input type="radio"/> Honey drinks (e.g. Mandarin lemon with honey, citron tea, lemon juice with honey) 4101-9			
<input type="radio"/> Pure grapefruit juice 3403							
<input type="radio"/> Grapefruit drinks 34032				Others (please state):			
<input type="radio"/> Pure grape juice 3404							
<input type="radio"/> Black-currant drinks 3405							

3.5 Soymilk

Beverage category	Brand and Name of beverage	Volume per serving (ml)	Package (pack/can/bottle)	Beverage category	Brand and Name of beverage	Volume per serving (ml)	Package (pack/can/bottle)
<input type="radio"/> Soymilk (e.g. Vitasoy) 3501				<input type="radio"/> Fresh soymilk (sugar added) 3506			
<input type="radio"/> Malt soymilk 3502				<input type="radio"/> Fresh soymilk (low-sugar) 35061			
<input type="radio"/> Fruit soymilk 3503				Others (please state):			
<input type="radio"/> Chocolate soymilk 3504							
<input type="radio"/> Calcium-fortified soymilk (e.g. CALCI-PLUS) 3505							

3.6 Milk drinks

Beverage category	Brand and Name of beverage	Volume per serving (ml)	Package (pack/can/bottle)	Beverage category	Brand and Name of beverage	Volume per serving (ml)	Package (pack/can/bottle)
<input type="radio"/> Fresh milk 3601				<input type="radio"/> Milk (fruit-flavoured) 3603			
<input type="radio"/> High-calciu m-low-fat milk 36011				<input type="radio"/> Lacto-bacill us drinks (e.g. Yakult) ³⁶⁰⁴			
<input type="radio"/> Low-fat milk 36012-3				<input type="radio"/> Yoghurt drinks 3605			
<input type="radio"/> Chocolate milk (full cream) 3602				Others (please state):			
<input type="radio"/> Chocolate milk (low-fat) 36021							

3.7 Other drinks

Beverage category	Brand and Name of beverage	Volume per serving (ml)	Package (pack/can/bottle)	Beverage category	Brand and Name of beverage	Volume per serving (ml)	Package (pack/can/bottle)
<input type="radio"/> Sport drinks (e.g. Pocari Sweat) 3701				<input type="radio"/> Milk tea 3211			
<input type="radio"/> Energy drinks (e.g. Lucozade) 3801				Others (please state):			
<input type="radio"/> Coffee 3901							

Part 4: Record of the Most Popular Beverage

Please ask the tuck shop owner for the **three most popular** beverages sold over the **past one week** (please also state the **name, brand, volume and package**):

	Name of Beverage	Brand	Volume per serving (ml)	Package (pack/can/bottle)
1 st				
2 nd				
3 rd				



Appendix 4: Record of food items provided in the food vending machines

1. There is/ are _____ food vending machine(s) in our school.
2. Where is/are the above vending machine(s) located at school?

3. Please record all kinds of food items provided in the food vending machine(s) at your school in the following table, and state the **name, brand, net weight/volume and package** of each item. If there are more than one food vending machine in your school, please record all the items provided in all the vending machines collectively in the same table below. If space provided is not sufficient, please feel free to make copies of this record sheet or use alternative way to provide the required information.

<i>Name of Food</i>	<i>Brand</i>	<i>Net weight (g)/ Volume (g/ml) per serving</i>	<i>Package (pack/box)</i>	<i>Name of Food</i>	<i>Brand</i>	<i>Net weight (g)/ Volume (g/ml) per serving</i>	<i>Package (pack/box)</i>

4. Please ask the person-in-charge about the **three most popular** food items sold over the **past one week** (please state the **name, brand, net weight/volume and package** of them):

	<i>Name of Food</i>	<i>Brand</i>	<i>Net weight (g)/ Volume (g/ml) per serving</i>	<i>Package (pack/box)</i>
First				
Second				
Third				



Ref. code : _____

Date of completion : _____

Please reply to XXX, the research assistant, and submit with the lunch menu of January 2008, by fax on or before XXXXX (fax no.: XXXXXXXX)

Appendix 1 : Information and Subscription Amount of

School Lunch in January 2008.

Please refer to the following recording format in preparing (1) the menu of school lunch in January 2008, (2) the price of each choice, (3) the number of lunch orders for all students and (4) the number of lunch orders for P4 and P5 students. **Please collect these information from your School Lunch Caterer.** We accept record from your School Lunch Caterer in a format different from ours if the record contains ALL the above information. You may simply submit that record to us.

1. Format of School lunch provision:

- Lunch box for all grades Catering service in school canteen for all grades
- Both, lunch box for grades ____ and catering service for grades ____ in school canteen (Please provide the following information of both formats by photocopying our form. Or you submit both information provided by your School Lunch Caterer.)
- Others. Please specify: _____

	Choice (A)	Choice (B)	Choice (C)	Choice (D)	Choice (E)
Price of choice (HK\$)					

2. Name and price of lunch choice

3. Number of lunch orders

Date	Choice (A)		Choice (B)		Choice (C)		Choice (D)		Choice (E)	
	For all students of all grades	For P4 & P5 students Only	For all students of all grades	For P4 & P5 students Only	For all students of all grades	For P4 & P5 students Only	For all students of all grades	For P4 & P5 students Only	For all students of all grades	For P4 & P5 students Only
2/1 (Wed)										
3/1 (Thu)										
4/1 (Fri)										
7/1 (Mon)										
8/1 (Tue)										
9/1 (Wed)										
10/1 (Thu)										
11/1 (Fri)										

Date	Choice (A)		Choice (B)		Choice (C)		Choice (D)		Choice (E)	
	For all students of all grades	For P4 & P5 students Only	For all students of all grades	For P4 & P5 students Only	For all students of all grades	For P4 & P5 students Only	For all students of all grades	For P4 & P5 students Only	For all students of all grades	For P4 & P5 students Only
14/1 (Mon)										
15/1 (Tue)										
16/1 (Wed)										
17/1 (Thu)										
18/1 (Fri)										
21/1 (Mon)										
22/1 (Tue)										
23/1 (Wed)										
24/1 (Thu)										
25/1 (Fri)										
28/1 (Mon)										
29/1 (Tue)										
30/1 (Wed)										
31/1 (Thu)										
Remarks										



參考編號：_____
午膳樣本編號：_____

學校午膳質量分析 – 材料審視與蔬菜供應量記錄表

第一部份：基本資料

學校名稱：_____ 午膳樣本領取日期：2008年1月____日

午膳供應商名稱：_____

午膳餐款名稱：_____

午膳樣本

相片檔案號碼：_____

	名稱	份量	相片檔案號碼
<input type="checkbox"/>	隨餐附送飲品	毫升	
<input type="checkbox"/>	隨餐附送甜品	克	
<input type="checkbox"/>	隨餐附送水果	克	

備註：

第二部份：蔬菜的份量和重量

(2a) 包裝形式： 單盒裝 雙盒裝 餐盤裝 (轉用指定盛器收集樣本)

(2b) 午餐總重量(連盛器)：_____克

(2c) 盛器淨重量：_____克

→ (2d) 午膳食物淨重量(即不連盛器)：_____克 **2b - 2c = 2d**

(2e) 蔬菜出現的模式： 按照該蔬菜食用部份的常見形態原條出現 (如原條小白菜、小棠菜、珍珠筍、西蘭花塊等)

為方便進食而切成體積較少的塊狀/條狀/粒狀/薄片等 (如紅蘿蔔片、紅蘿蔔條、青瓜片、珍珠筍段等)

為鼓勵進食而刻意切割的蔬菜

吸引進食的特色形狀，如：_____

體積非常細小的蔬菜碎粒

攪拌成蔬菜汁 (請註明蔬菜成分：_____)

其他，請註明：_____

(2f) 以標準飯碗(240 毫升)作量度單位，午餐含有

< 1/4 1/4 1/2 3/4 1 > 1 碗蔬菜。

蔬菜份量

相片檔案號碼：_____

(2g) 標準碗的淨重量：_____克

(2h) 蔬菜連標準碗的總重量：_____克 [包括所有蔬菜]

→ (2i) 午餐所含蔬菜的重量：_____克 [包括所有蔬菜] **2h - 2g = 2i**

(2j) [如適用] 可同時被歸類為五穀類及蔬菜類食物包括_____，
其淨重量：_____克

第三部份：午膳食物比例審視

此午膳飯盒是否符合五穀類：蔬菜類：肉類等於 3:2:1 的標準？

是 否，比例分佈如下：

	比例標準	比例偏高	比例偏低
五穀類	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
蔬菜類	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
肉類	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

備註：_____在食物比例審視過程中被歸類為 五穀類 或 蔬菜類。

午膳飯盒裏五穀類：蔬菜類：肉類食物的比例

相片檔案號碼：_____

第四部份：午膳材料審視

(4a) 根據衛生署編製的《小學午膳營養指引》，此款午膳提供了以下類別的食物：

	食物類別	食品〔請參考調查員指引內的例子〕	附註
蔬菜 [1]	(1) 蔬菜類	<input type="checkbox"/> 葉菜 <input type="checkbox"/> 花、芽或莖菜 <input type="checkbox"/> 果菜 <input type="checkbox"/> 根莖 <input type="checkbox"/> 種籽 <input type="checkbox"/> 豆莢 <input type="checkbox"/> 菌藻 <input type="checkbox"/> 其他：_____	所提供的蔬菜包括： _____ _____ _____
鼓勵多供應的食物 [2]	(2.1) 全麥五穀類或加添蔬菜的五穀類	<input type="checkbox"/> 糙米／紅米 <input type="checkbox"/> 多穀飯／燕麥飯 <input type="checkbox"/> 粟米飯 <input type="checkbox"/> 全穀或全麥包 <input type="checkbox"/> 菜飯 <input type="checkbox"/> 香菇飯 <input type="checkbox"/> 其他：_____	

	食物類別	食品〔請參考調查員指引內的例子〕	附註
	(2.2) 低脂奶品類食物或其他鈣質豐富的食物*	<input type="checkbox"/> 深綠色蔬菜如西蘭花、菠菜、白菜、菜心、莧菜、芥菜、芥蘭等 <input type="checkbox"/> 豆腐／豆腐乾／腐竹 <input type="checkbox"/> 茄汁豆 <input type="checkbox"/> 白飯魚／鯪魚肉 <input type="checkbox"/> 蝦米 <input type="checkbox"/> 加鈣豆漿 <input type="checkbox"/> 低脂或脫脂奶／低脂芝士／低脂乳酪 <input type="checkbox"/> 其他：_____	
限制供應的食物 [3]	(3.1) 添加了脂肪、油分及醬汁的五穀類	<input type="checkbox"/> 炒飯／炒麵／炒米粉／炒意粉 <input type="checkbox"/> 河粉／伊麵／油麵 <input type="checkbox"/> 糯米雞／珍珠雞／荷葉飯 <input type="checkbox"/> 有醬汁的焗飯／焗麵／焗意粉等 <input type="checkbox"/> 包裹點心的高油分外皮 (如粉果皮) <input type="checkbox"/> 其他：_____	
	(3.2) 脂肪比例較高的肉類及連皮的禽肉	<input type="checkbox"/> 牛腩／肥牛肉 <input type="checkbox"/> 肥叉燒／燒肉 <input type="checkbox"/> 排骨／金沙骨 <input type="checkbox"/> 免治豬肉／肉餅／肉丸 <input type="checkbox"/> 雞翼 <input type="checkbox"/> 鳳爪 <input type="checkbox"/> 連皮的雞／鴨／鵝 <input type="checkbox"/> 燒賣／牛肉球等高脂肪中式點心 <input type="checkbox"/> 其他：_____	
	(3.3) 全脂奶品類	<input type="checkbox"/> 以全脂牛奶／全脂芝士／全脂乳酪等作為配料或烹煮的食物*	
	(3.4) 加工或醃製的肉類、蛋類及蔬菜類食品	<input type="checkbox"/> 叉燒 <input type="checkbox"/> 火腿 <input type="checkbox"/> 煙肉 <input type="checkbox"/> 香腸 <input type="checkbox"/> 餐肉 <input type="checkbox"/> 魚蛋 <input type="checkbox"/> 素肉 <input type="checkbox"/> 雪菜／酸菜／炸菜／酸瓜等 <input type="checkbox"/> 其他：_____	
	(3.5.1) 高鹽分醬汁或芡汁	<input type="checkbox"/> 豉汁 <input type="checkbox"/> 黑椒汁 <input type="checkbox"/> 鹹蝦醬 <input type="checkbox"/> 使用腐乳／豆瓣醬／蠔油等製成的醬汁或芡汁 <input type="checkbox"/> 其他：_____	<input type="checkbox"/> 已拌入五穀類中 <input type="checkbox"/> 與五穀類分隔
	(3.5.2) 高脂肪醬汁或芡汁	<input type="checkbox"/> 使用芝士／淡奶製成的醬汁或芡汁 (如白汁) <input type="checkbox"/> 沙律醬 <input type="checkbox"/> 其他：_____	<input type="checkbox"/> 已拌入五穀類中 <input type="checkbox"/> 與五穀類分隔
強烈不鼓勵供應的食物 [4]	(4.1) 油炸食物	<input type="checkbox"/> 炸／吉列豬扒 <input type="checkbox"/> 炸／吉列魚柳 <input type="checkbox"/> 炸／吉列雞扒 <input type="checkbox"/> 炸雞 (雞脾／雞翼) <input type="checkbox"/> 炸薯條 <input type="checkbox"/> 炸點心 (如：春卷和咖喱角) <input type="checkbox"/> 其他：_____	

備註 *如餐單上並無列明該奶品類食物是低脂或脫脂產品，該奶品類食物將被視為全脂奶品

	食物類別	食品〔請參考調查員指引內的例子〕	附註
	(4.2) 添加了動物脂肪、植物性飽和脂肪以及反式脂肪的食物	<input type="checkbox"/> 含牛油或植物牛油的食物 (如牛油蛋糕／芝士蛋糕／曲奇) <input type="checkbox"/> 使用豬油或雞油製成的食物 <input type="checkbox"/> 含椰油或椰子製品的食物 (如泰式或印尼咖喱、椰絲曲奇) <input type="checkbox"/> 含植物牛油或起酥油的食物 (如餅乾、餡餅、酥皮糕點) <input type="checkbox"/> 其他：_____	食物名稱： _____ _____ _____
	(4.3) 添加糖分的甜品或「少選為佳」的飲品	<input type="checkbox"/> 甜品 (如雪糕／啫喱／果凍／布甸) <input type="checkbox"/> 中式甜點 (如奶皇包／豆沙包) <input type="checkbox"/> 高糖分紙包或樽裝飲品 <input type="checkbox"/> 汽水 <input type="checkbox"/> 果味飲品 <input type="checkbox"/> 能量飲品(如葡萄適) <input type="checkbox"/> 茶類飲品 <input type="checkbox"/> 咖啡 <input type="checkbox"/> 三合一即溶飲品 <input type="checkbox"/> 其他：_____	
	(4.4) 極高鹽分的食物	<input type="checkbox"/> 鹹魚 <input type="checkbox"/> 鹹蛋 <input type="checkbox"/> 臘腸／臘肉 <input type="checkbox"/> 其他：_____	

(4b) 總結：

食品類別	蔬菜 [1]	鼓勵多供應的食物 [2]	限制供應的食物 [3]	強烈不鼓勵供應的食物 [4]
有否包含右列食品？ (個別類別)	1. <input type="checkbox"/> 有 <input type="checkbox"/> 沒有	2.1 <input type="checkbox"/> 有 <input type="checkbox"/> 沒有 2.2 <input type="checkbox"/> 有 <input type="checkbox"/> 沒有	3.1 <input type="checkbox"/> 有 <input type="checkbox"/> 沒有 3.2 <input type="checkbox"/> 有 <input type="checkbox"/> 沒有 3.3 <input type="checkbox"/> 有 <input type="checkbox"/> 沒有 3.4 <input type="checkbox"/> 有 <input type="checkbox"/> 沒有 3.5.1 <input type="checkbox"/> 有 <input type="checkbox"/> 沒有 3.5.2 <input type="checkbox"/> 有 <input type="checkbox"/> 沒有	4.1 <input type="checkbox"/> 有 <input type="checkbox"/> 沒有 4.2 <input type="checkbox"/> 有 <input type="checkbox"/> 沒有 4.3 <input type="checkbox"/> 有 <input type="checkbox"/> 沒有 4.4 <input type="checkbox"/> 有 <input type="checkbox"/> 沒有
有否包含右列食品？ (整體)	<input type="checkbox"/> 有 <input type="checkbox"/> 沒有	<input type="checkbox"/> 有 <input type="checkbox"/> 沒有	<input type="checkbox"/> 有 <input type="checkbox"/> 沒有	<input type="checkbox"/> 有 <input type="checkbox"/> 沒有

調查員姓名：_____ 調查員簽署：_____ 日期：_____

調查員姓名：_____ 調查員簽署：_____ 日期：_____

項目負責人姓名：_____ 項目負責人加簽：_____ 日期：_____

備註： 午膳含有水果作為配料之一，請註明名稱：_____

其他：_____

<p>項目負責人專用</p> <p>此樣本是否被選作品質檢定？</p> <p><input type="checkbox"/>否 <input type="checkbox"/>是 品質檢定核對編號：_____ → <input type="radio"/> 通過品質檢定，或</p> <p><input type="radio"/> 有待跟進及改善，原因：_____</p>
--

Annex F: Detail of food products and beverages being sold in school tuck shops

Table F1: Food products being sold in tuck shops which belong to “Snacks to Choose more”

Name of food product	No. of schools selling the food product (%)	Name of food product	No. of schools selling the food product (%)
(1) High-fibre biscuit	3 (17.6%)	(7) Rice vermicelli	2 (11.8%)
(2) Fresh fruits	3 (17.6%)	(8) Raisin bun	1 (5.9%)
(3) Raisins	2 (11.8%)	(9) Dried apricot	1 (5.9%)
(4) Boiled sweet corn	2 (11.8%)	(10) Banana chips	1 (5.9%)
(5) Boiled egg	2 (11.8%)	(11) Corn flakes	1 (5.9%)
(6) Macaroni	2 (11.8%)	(12) Rice noodle roll (no sauce added)	1 (5.9%)

Table F2: Food products being sold in tuck shops which belong to “Snacks to Choose in Moderation”

Name of food product	No. of schools selling the food product (%)	Name of food product	No. of schools selling the food product (%)
(1) Dried seaweed	13 (76.5%)	(21) Ham	3 (17.6%)
(2) Rice cracker	12 (70.6%)	(22) Beef balls	3 (17.6%)
(3) Sausage	12 (70.6%)	(23) Brine chicken drumstick	3 (17.6%)
(4) Fish dumplings (Siu Mai)	11 (64.7%)	(24) Tuna sandwich	3 (17.6%)
(5) Biscuit sticks	10 (58.8%)	(25) Glutinous rice dumpling	3 (17.6%)
(6) Fish-shaped crackers	10 (58.8%)	(26) Cereal bar	2 (11.8%)
(7) Ham sandwich	9 (52.9%)	(27) Fried egg	2 (11.8%)
(8) Fish snack	8 (47.1%)	(28) Squid balls	2 (11.8%)
(9) Shredded cuttlefish	7 (41.2%)	(29) Pork luncheon meat	2 (11.8%)
(10) Fish sausage	6 (35.3%)	(30) Spiced pork cubes	2 (11.8%)
(11) Egg sandwich	6 (35.3%)	(31) Toast with condensed milk and peanut butter	2 (11.8%)
(12) Ham and egg sandwich	6 (35.3%)	(32) Hotdog	2 (11.8%)
(13) Brine egg	5 (29.4%)	(33) Steamed beef balls	2 (11.8%)
(14) Cheese and ham sandwich	5 (29.4%)	(34) Turnip cake	2 (11.8%)
(15) Prawn biscuits	4 (23.5%)	(35) Little bun crackers	1 (5.9%)
(16) Brine chicken wings	4 (23.5%)	(36) Cheese biscuits	1 (5.9%)
(17) Luncheon meat sandwich	4 (23.5%)	(37) Tomato biscuits	1 (5.9%)
(18) Luncheon meat and egg sandwich	4 (23.5%)	(38) Calcium-added biscuits	1 (5.9%)
(19) Animal crackers	3 (17.6%)	(39) Coco-flavoured cereals	1 (5.9%)
(20) Roller cuttlefish	3 (17.6%)	(40) Soy bean custard	1 (5.9%)

Table F2: Food products being sold in tuck shops which belong to “Snacks to Choose in Moderation” (continued)

Name of food product	No. of schools selling the food product (%)		Name of food product	No. of schools selling the food product (%)	
(41) Yoghurt	1	(5.9%)	(49) Toast with peanut butter	1	(5.9%)
(42) Dried mango	1	(5.9%)	(50) Toast with condensed milk and butter	1	(5.9%)
(43) Canned fruits	1	(5.9%)	(51) Tuna fish bun	1	(5.9%)
(44) Boiled sweet corn with butter	1	(5.9%)	(52) Sausage bun	1	(5.9%)
(45) Baked hash browns	1	(5.9%)	(53) Glutinous rice rolls	1	(5.9%)
(46) Corned beef	1	(5.9%)	(54) Fried glutinous rice	1	(5.9%)
(47) Instant noodle (non-fried)	1	(5.9%)	(55) Steamed mixed meat dumplings with peanuts	1	(5.9%)
(48) Egg and tomato sandwich	1	(5.9%)			

Table F3: Food products being sold in tuck shops which belong to “Snacks to Choose Less”

Name of food product	No. of schools selling the food product (%)		Name of food product	No. of schools selling the food product (%)	
(1) Gummy candies	13	(76.5%)	(20) Ice-cream	3	(17.6%)
(2) Hard candies	11	(64.7%)	(21) Instant noodle (fried)	3	(17.6%)
(3) Chocolate bar	11	(64.7%)	(22) Biscuit sticks (with sweet coating)	2	(11.8%)
(4) Soft candies	10	(58.8%)	(23) Chilli fried fish	2	(11.8%)
(5) Prawn crackers	8	(47.1%)	(24) Wafers	2	(11.8%)
(6) Sandwich biscuits	8	(47.1%)	(25) Chocolate biscuits	2	(11.8%)
(7) Potato chips	7	(41.2%)	(26) Chocolate sticks	2	(11.8%)
(8) Maltose candies	7	(41.2%)	(27) French fries	1	(5.9%)
(9) Chocolate beans	7	(41.2%)	(28) Onion rings	1	(5.9%)
(10) Cream puffs	6	(35.3%)	(29) Cuttlefish-flavoured crackers	1	(5.9%)
(11) Deep-fried fish balls	6	(35.3%)	(30) Dried seaweed (fried)	1	(5.9%)
(12) Cheese rings	5	(29.4%)	(31) Fried crab	1	(5.9%)
(13) Potato rings	4	(23.5%)	(32) Cookies	1	(5.9%)
(14) Corn crackers	4	(23.5%)	(33) Sparkling candies	1	(5.9%)
(15) Fried snack noodle	4	(23.5%)	(34) Ice-cream cones	1	(5.9%)
(16) Chocolate cake	4	(23.5%)	(35) Jelly	1	(5.9%)
(17) Egg rolls/ wafer rolls	3	(17.6%)	(36) Hawthorn flakes	1	(5.9%)
(18) Cheese-flavoured crackers	3	(17.6%)	(37) Rocky bun	1	(5.9%)
(19) Ice-lolly	3	(17.6%)			

Table F4: Beverages being sold in tuck shops which belong to “Snacks to Choose more”

Name of beverage		No. of schools selling the beverage (%)		Name of beverage		No. of schools selling the beverage (%)	
(1)	Distilled water	12	(66.7%)	(6)	Pure apple juice	1	(5.6%)
(2)	Mineral water	5	(27.8%)	(7)	Pure water melon juice	1	(5.6%)
(3)	Calcium-fortified soymilk (low-sugar)	5	(27.8%)	(8)	Pure grapefruit juice	1	(5.6%)
(4)	High-calcium-low-fat milk	3	(16.7%)	(9)	Fresh soymilk (low-sugar)	1	(5.6%)
(5)	Pure orange juice	2	(11.1%)	(10)	Chocolate milk (low-fat)	1	(5.6%)

Table F5: Beverages being sold in tuck shops which belong to “Snacks to Choose in Moderation”

Name of beverage		No. of schools selling the beverage (%)		Name of beverage		No. of schools selling the beverage (%)	
(1)	Soymilk (sugar-added)	17	(94.4%)	(11)	Fresh milk	3	(16.7%)
(2)	Malt soymilk	17	(94.4%)	(12)	Grape juice (sugar-added)	2	(11.1%)
(3)	Honeydew melon soymilk	10	(55.6%)	(13)	Azuki bean-flavoured soymilk	2	(11.1%)
(4)	Chocolate soymilk	10	(55.6%)	(14)	Mango juice (sugar-added)	1	(5.6%)
(5)	Orange juice (sugar-added)	9	(50.0%)	(15)	Kiwi fruit juice (sugar-added)	1	(5.6%)
(6)	Apple juice (sugar-added)	7	(38.9%)	(16)	Litchi juice (sugar-added)	1	(5.6%)
(7)	Chocolate milk (full cream)	7	(38.9%)	(17)	Strawberry juice (sugar-added)	1	(5.6%)
(8)	Sport drink	7	(38.9%)	(18)	Tropical fruit juice (sugar-added)	1	(5.6%)
(9)	Fermented milk drink	6	(33.3%)	(19)	Malt drink	1	(5.6%)
(10)	Pineapple and orange juice (sugar-added)	3	(16.7%)				

Table F6: Beverages being sold in tuck shops which belong to “Snacks to Choose Less”

Name of beverage	No. of schools selling the beverage (%)	Name of beverage	No. of schools selling the beverage (%)
(1) Lemon tea	15 (83.3%)	(19) Mango tea	2 (11.1%)
(2) Chrysan-themum tea	10 (55.6%)	(20) Grapefruit tea	2 (11.1%)
(3) Apple tea	9 (50.0%)	(21) Orange soda	2 (11.1%)
(4) Asian pear tea	7 (38.9%)	(22) Lychee-flavoured drink	2 (11.1%)
(5) Peach tea	7 (38.9%)	(23) Grape tea	1 (5.6%)
(6) Black-currant drink	7 (38.9%)	(24) Lime and honey tea	1 (5.6%)
(7) Grape drink	6 (33.3%)	(25) Aloe vera tea	1 (5.6%)
(8) Lemon tea (less sweet)	5 (27.8%)	(26) Sprite (diet/sugar-free)	1 (5.6%)
(9) Cream soda	5 (27.8%)	(27) Grape soda	1 (5.6%)
(10) Green tea or red tea (original-flavoured)	4 (22.2%)	(28) Orange drink	1 (5.6%)
(11) Honey tea	4 (22.2%)	(29) Strawberry drink	1 (5.6%)
(12) Coke (original)	4 (22.2%)	(30) Jelly drink	1 (5.6%)
(13) Coke (diet/sugar-free)	4 (22.2%)	(31) Citrus fruit and lemon drink	1 (5.6%)
(14) Sprite (original)	4 (22.2%)	(32) Passion fruit juice with honey drink	1 (5.6%)
(15) Lychee and honey tea	3 (16.7%)	(33) Pineapple drink	1 (5.6%)
(16) Apple drink	3 (16.7%)	(34) Chocolate drink	1 (5.6%)
(17) Citrus fruit and lemon drink	3 (16.7%)	(35) Coffee	1 (5.6%)
(18) Oolong tea (original-flavoured)	2 (11.1%)		

Note: The percentages are calculated based on the 17 tuck shops which provide food products and 18 tuck shops which provide beverages.

Annex G: Detail of food products and beverages being sold via vending machines in schools

Table G1: Food products being sold via vending machines in schools which belong to “Snacks to Choose More”

Name of food product		No. of schools selling the food product (%)		Name of food product		No. of schools selling the food product (%)	
(1)	Soda crackers	2	(50.0%)	(3)	Apple chips	1	(25.0%)
(2)	High-fibre biscuits	1	(25.0%)	(4)	Chestnuts	1	(25.0%)

Table G2: Food products being sold via vending machines in schools which belong to “Snacks to Choose in Moderation”

Name of food product		No. of schools selling the food product (%)		Name of food product		No. of schools selling the food product (%)	
(1)	Prawn biscuits	3	(75.0%)	(7)	Coco-flavoured cereals	1	(25.0%)
(2)	Maltose biscuits	2	(50.0%)	(8)	Rice crackers	1	(25.0%)
(3)	Biscuit sticks	1	(25.0%)	(9)	Dried seaweed	1	(25.0%)
(4)	Fish-shaped crackers	1	(25.0%)	(10)	Fish sausage	1	(25.0%)
(5)	Spring onion biscuits	1	(25.0%)	(11)	Peanuts	1	(25.0%)
(6)	Digestive biscuits	1	(25.0%)				

Table G3: Food products being sold via vending machines in schools which belong to “Snacks to Choose Less”

Name of food product		No. of schools selling the food product (%)		Name of food product		No. of schools selling the food product (%)	
(1)	Corn crackers	3	(75.0%)	(10)	Cookies	1	(25.0%)
(2)	Dried seaweed (fried)	3	(75.0%)	(11)	Butter rolls	1	(25.0%)
(3)	Wafers	3	(75.0%)	(12)	BBQ fried dough	1	(25.0%)
(4)	Soft candies	3	(75.0%)	(13)	Hard candies	1	(25.0%)
(5)	Potato chips	2	(50.0%)	(14)	Maltose candies	1	(25.0%)
(6)	Fried snack noodle	2	(50.0%)	(15)	Chocolate beans	1	(25.0%)
(7)	Sandwich biscuits	2	(50.0%)	(16)	Chocolate sticks	1	(25.0%)
(8)	Gummy candies	2	(50.0%)	(17)	Chocolate bars	1	(25.0%)
(9)	Prawn crackers	1	(25.0%)				

Table G4: Beverages being sold via vending machines in schools which belong to “Snacks to Choose More”

Name of beverage	No. of schools selling the beverage (%)	Name of beverage	No. of schools selling the beverage (%)
(1) Distilled water	14 (46.7%)	(3) Calcium-fortified soymilk (low-sugar)	3 (10.0%)
(2) Mineral water	5 (16.7%)		

Table G5: Beverages being sold via vending machines in schools which belong to “Snacks to Choose in Moderation”

Name of beverage	No. of schools selling the beverage (%)	Name of beverage	No. of schools selling the beverage (%)
(1) Soymilk (sugar-added)	22 (73.3%)	(7) Sport drink	6 (20.0%)
(2) Honeydew melon soymilk	19 (63.3%)	(8) Apple juice (sugar-added)	4 (13.3%)
(3) Malt soymilk	19 (63.3%)	(9) Pineapple and orange juice (sugar-added)	4 (13.3%)
(4) Mango juice (sugar-added)	17 (56.7%)	(10) Pineapple juice (sugar-added)	1 (3.3%)
(5) Chocolate milk (full cream)	14 (46.7%)	(11) Strawberry-flavoured milk	1 (3.3%)
(6) Orange juice (sugar-added)	11 (36.7%)	(12) Coconut soymilk	1 (3.3%)

Table G6: Beverages being sold via vending machines in schools which belong to “Snacks to Choose Less”

Name of beverage	No. of schools selling the beverage (%)	Name of beverage	No. of schools selling the beverage (%)
(1) Lemon tea	27 (90.0%)	(13) Green tea or red tea (original-flavoured)	4 (13.3%)
(2) Black-currant drink	19 (63.3%)	(14) Peach tea	4 (13.3%)
(3) Apple tea	18 (60.0%)	(15) Cream soda	4 (13.3%)
(4) Chrysan-themum tea	15 (50.0%)	(16) Citrus fruit and tea	3 (10.0%)
(5) Asian pear tea	14 (46.7%)	(17) Lime and honey tea	3 (10.0%)
(6) Grape drink	12 (40.0%)	(18) Mango tea	3 (10.0%)
(7) Apple drink	9 (30.0%)	(19) Lychee and honey tea	3 (10.0%)
(8) Lemon tea (less sweet)	7 (23.3%)	(20) Sprite (original)	2 (6.7%)
(9) Coke (original)	7 (23.3%)	(21) Pineapple drink	2 (6.7%)
(10) Coke (diet/sugar-free)	6 (20.0%)	(22) Mandarin and aloe vera drink	2 (6.7%)
(11) Orange soda	6 (20.0%)	(23) Grape soda	1 (3.3%)
(12) Pineapple drink	5 (16.7%)	(24) Grapefruit soda	1 (3.3%)

Table G6: Beverages being sold via vending machines in schools which belong to “Snacks to Choose Less” (continued)

Name of beverage	No. of schools selling the beverage (%)		Name of beverage	No. of schools selling the beverage (%)	
(25) Orange soda	1	(3.3%)	(29) Grape tea	1	(3.3%)
(26) Lychee drink	1	(3.3%)	(30) Citrus fruit and lemon drink	1	(3.3%)
(27) Grapefruit tea	1	(3.3%)	(31) Passion fruit and honey drink	1	(3.3%)
(28) Pineapple and banana tea	1	(3.3%)	(32) Coffee	1	(3.3%)

Note: The percentages are calculated based on the 4 schools which have food vending machines and 30 schools which have beverage vending machines.