

Home Economics Syllabus

Lower Secondary

Express / Normal (Academic / Technical) Courses

2008



CURRICULUM PLANNING & DEVELOPMENT DIVISION
Ministry of Education
Singapore

© Copyright 2007 Curriculum Planning and Development Division. This publication is not for sale. FOR RESTRICTED PUBLICATION ONLY. All rights reserved. No part of this publication may be reproduced without the prior permission of the Ministry of Education, Singapore.

Year of Implementation 2008

ISBN 978-981-05-7534-2

CONTENTS

SYLLABUS CONTENT

1. AIMS	1
2. RATIONALE FOR SYLLABUS	1
3. OBJECTIVES	1
4. CONTENT OF SYLLABUS	2

METHODOLOGY

5. ORGANISATION OF SYLLABUS	7
• White Space	
6. CURRICULUM TIME	8
7. TEACHING APPROACHES	9
• Problem-Based Learning	
• Inquiry-Based Learning	
• Differentiated Learning	

ASSESSMENT

8. Assessment Objectives	10
9. Assessment Format and Weighting	10
10. Assessment Structure	11
11. Assessment Criteria for Coursework	12

SAMPLE LESSONS

• Sample Lesson Module 1	13
• Sample Lesson Module 2	16

1 AIMS

To provide students with knowledge and skills, and inculcate in them positive attitudes that will empower them to make informed food and consumer choices in their daily life.

2 RATIONALE FOR SYLLABUS

There have been rapid changes in Singapore in recent years. Changes in lifestyles include more people eating out and increased expenditure on household items. These changes impact our students significantly as many are left to make decisions on the purchase of food and other consumer products. It is therefore important that the syllabus equips students with the relevant life skills to independently navigate the wealth of information available to them to make informed choices for everyday living.

3 OBJECTIVES

The aim of this syllabus is to empower students to take responsibility in making choices and decisions about health and daily needs. Students will be expected to demonstrate:

- a. an understanding of the relationship between health and nutrition;
- b. an understanding of the importance of making informed decisions about food, and consumer products and services;
- c. the ability to apply the basic principles of nutrition and food management for healthy living;
- d. the ability to apply the basic principles of consumer education to make informed choices as a consumer; and
- e. behaviour and attitudes that show understanding of nutritional and consumer concepts

4 CONTENT OF SYLLABUS

The syllabus content is intended for Secondary 1 and 2.

FOOD STUDIES	
Component	Learning Outcomes
1. FOOD GROUPS	
<p>Healthy Diet Pyramid</p> <p>➤ Rice and Alternatives</p> <ul style="list-style-type: none"> • Types of Rice and Alternatives • Nutrients supplied from this food group • Reasons for the body's need of these foods • Number of servings / amount <p>➤ Fruit and Vegetables</p> <ul style="list-style-type: none"> • Types of fruit and vegetables • Nutrients supplied from this food group • Reasons for the body's need of these foods • Number of servings / amount 	<p>Students will be able to:</p> <ul style="list-style-type: none"> • list the food groups in the Healthy Diet Pyramid • list the types of food in the Rice and Alternative group: <ul style="list-style-type: none"> - Rice: polished and unpolished rice - Wheat and by-products: plain, wholemeal and wholegrain products • state the main nutrient present in this food group: <ul style="list-style-type: none"> - carbohydrates (complex) • state other important nutrients present in this group: vitamins and minerals • explain the importance of including this food group in the diet • explain the importance of including a variety of food from this group • state the suggested servings required in the daily meals for a healthy body • list common categories of fruit and give examples <ul style="list-style-type: none"> - citrus, tropical, melons, berries, pome, stoned • identify common categories of vegetables and give examples: <ul style="list-style-type: none"> - roots, tubers, bulbs, leaves, stems, flowers, fruit, seeds (pulses and legumes) • state the main nutrients present in fruit and vegetables: <ul style="list-style-type: none"> - vitamins and minerals • name fruit and vegetables that are especially high in fibre and water • explain the importance of including this food group in the diet • discuss the importance of including a variety of food from this group • identify other constituents present in this food group: water and dietary fibre • discuss the importance of dietary fibre and water in the diet • state the suggested number of servings required in the daily meals for a healthy body

FOOD STUDIES	
Component	Learning Outcomes
<ul style="list-style-type: none"> ➤ Meat and Alternatives <ul style="list-style-type: none"> • Types of meat and alternatives • Nutrients supplied from this food group • Reasons for the body's need of these foods • Number of servings / amount 	<ul style="list-style-type: none"> • list the different types of food present in the Meat and Alternative food group: <ul style="list-style-type: none"> - Red meat and white meat - White and oily fish - Shellfish - Soya beans and by-products • state the main nutrients present in this group of food: protein • state other important nutrients present in this group: vitamins, minerals and fat • explain the importance of including this food group in the diet • discuss the importance of including a variety of food from this group • state the suggested number of servings required in the daily meals for a healthy body
<ul style="list-style-type: none"> ➤ Others (Tip of the Healthy Diet Pyramid) 	<ul style="list-style-type: none"> • state the items listed at the tip of the Healthy Diet Pyramid • state the functions of salt, sugar and oil in the diet • discuss the effects of excessive consumption of these items • list foods that contain high amounts of sugar, salt and fat • suggest ways to reduce salt, sugar and fat in the diet
2. DIETARY PLANNING	
<ul style="list-style-type: none"> ➤ Balanced Diet ➤ Dietary Planning <ul style="list-style-type: none"> • Factors to consider • Nutritional guide and food information in dietary planning 	<p>Students will be able to:</p> <ul style="list-style-type: none"> • define a balanced diet in terms of balance, moderation and variety • list the factors to consider when: <ul style="list-style-type: none"> - planning meals or dishes - eating out • explain the factors to consider when planning meals for teenagers and children / elderly • list the nutritional guides and state their functions in dietary planning: <ul style="list-style-type: none"> - Singapore National Dietary Guidelines - Singapore Healthy Diet Pyramid Guide - Recommended Dietary Allowance • list the food information and state their functions in dietary planning: <ul style="list-style-type: none"> - Food Composition Tables - Food Labels • calculate the nutrition values of different dishes using the food information • compare the differences in nutrition value of similar food products using the food information • apply the nutritional guide and food information when planning meals and dishes

FOOD STUDIES	
Component	Learning Outcomes
<ul style="list-style-type: none"> • Use of fresh and process food in dietary planning 	<ul style="list-style-type: none"> • choose fresh and/or process foods suitable for the chosen dishes/meal • plan nutritious dishes/meals by combining fresh and processed food
<ul style="list-style-type: none"> ➤ Energy Balance <ul style="list-style-type: none"> • Managing energy intake and energy output 	<ul style="list-style-type: none"> • explain energy balance • evaluate the energy values of a meal for teenagers using food information
3. DIET-RELATED DISEASES	
<ul style="list-style-type: none"> ➤ Types of diet-related diseases 	<p>Students will be able to:</p> <ul style="list-style-type: none"> • describe the effects of excessive and deficient consumption of the various nutrients and dietary fibre on health, focusing on: <ul style="list-style-type: none"> - obesity - diabetes - coronary heart diseases - high blood pressure - cancers - anaemia - osteoporosis - constipation • state the effects of insufficient consumption of water on health
4. FOOD MANAGEMENT	
<ul style="list-style-type: none"> ➤ Methods of cooking <ul style="list-style-type: none"> • Reasons for cooking food ➤ Effects of different methods of cooking on food ➤ Food safety 	<p>Students will be able to:</p> <ul style="list-style-type: none"> • explain why food is cooked • list the different methods of cooking: <ul style="list-style-type: none"> - Boiling - Steaming - Stir-frying - Deep-frying - Grilling - Baking - Microwaving • describe the basic principles of the different methods of cooking • compare the advantages and disadvantages of the different methods of cooking • investigate and describe the effects of different methods on the appearance (colour), flavour, texture and nutritive value of foods • suggest ways to minimise the loss of nutrients, time, fuel and waste • explain how and why food is contaminated • identify the stages at which food can be contaminated: <ul style="list-style-type: none"> - Handling of food - Preparation of food - Storage of food • describe and apply safe and hygienic practices when handling and storing food

FOOD STUDIES	
Component	Learning Outcomes
➤ Evaluation of food	<ul style="list-style-type: none"> • state reasons for conducting a sensory evaluation • state the criteria for evaluating food <ul style="list-style-type: none"> - Appearance - Flavour - Texture - Nutritive value • apply criteria and nutritional tools for sensory and nutritive evaluation of dishes explain factors to consider when improving their dishes <ul style="list-style-type: none"> - healthy methods of cooking - use of different ingredients, flavouring, garnishes - presentation of food • apply the factors to improve a dish / meal

CONSUMER STUDIES	
Component	Learning Outcomes
1. MANAGEMENT OF RESOURCES	
<ul style="list-style-type: none"> ➤ Budgeting <ul style="list-style-type: none"> • Needs and wants • Money management ➤ Care and maintenance 	<p>Students will be able to:</p> <ul style="list-style-type: none"> • distinguish between needs and wants • identify what determines our needs and wants • explain with examples some of the ways needs and wants can be satisfied • apply money management skills in real situations • list the various methods of payment: cash, cash cards, cheques, electronic transfers, hire purchase and instalments • differentiate between various methods of payment • explain the advantages and disadvantages of various methods of payment • state the importance of caring and maintaining ones clothes • explain the importance of care labels • show how common stains can be removed: e.g. food and drinks, blood, oil, paint, ink • perform simple maintenance procedures: e.g. mending hems, attaching buttons

CONSUMER STUDIES	
Component	Learning Outcomes
2. CONSUMER RIGHTS AND RESPONSIBILITIES	
<ul style="list-style-type: none"> ➤ Consumer Awareness <ul style="list-style-type: none"> • Who is a consumer? • Providers of goods and services • Consumer rights and responsibilities 	<p>Students will be able to:</p> <ul style="list-style-type: none"> • define a consumer • identify some providers of goods and services in society • discuss the rights and responsibilities of a consumer • identify a consumer problem • discuss a course of action for the consumer when seeking redress
3. MAKING PRODUCT CHOICES	
<ul style="list-style-type: none"> ➤ Shopping Smart <ul style="list-style-type: none"> • Getting and using information <ul style="list-style-type: none"> - Advertising and promotion of products - Labelling and packaging (types) - Comparative shopping ➤ Choosing the best buy <ul style="list-style-type: none"> • Factors affecting choice of consumer goods 	<p>Students will be able to:</p> <ul style="list-style-type: none"> • state different ways of getting information about products • identify the different forms of advertising using print / electronic media, packaging, labelling, stickers, clothing tags • identify aspects of an advertisement that can influence the consumer to make a purchase • discuss the advantages and disadvantages of advertising • discuss promotional strategies used to influence choices • assess the reliability of advertisement claims • identify various types of labels including data, award, clothing / care and food labels • interpret labels of products <ul style="list-style-type: none"> - food and nutrition labels - clothing / care labels - data labels e.g. nutrition information, specifications, etc - award labels e.g. Healthy Choice, Productivity Standards Board (PSB) certified, etc • compare products in terms of quality, quantity, price, packaging or features • apply the decision-making process • discuss the advantages and disadvantages of catalogue and on-line shopping • Discuss factors affecting choice of: <ul style="list-style-type: none"> - food - clothes and accessories - other consumer products (e.g. pagers, mobile phones, CDs, books etc)

5 ORGANISATION OF THE SYLLABUS

This syllabus is organised into the study of two areas; namely, Food Studies and Consumer Studies. These topics are the foundational topics that will provide students with the basic nutritional and consumerism knowledge to empower them to make informed choices.

Food Studies

This area focuses on the basic principles of nutrition, planning meals, food management and diseases related to diet. The understanding of these topics will enable students to make healthy food choices when selecting and/or preparing foods for themselves and their families.

Consumer Studies

This area focuses on the management of resources, consumer rights and responsibilities and making smart product choices. These continue to be important for students to understand their roles as a responsible consumer and to be equipped with the knowledge and skills to manage environmental influence on their choices as consumers.

White Space

White Space is space freed up in the curriculum for teachers to implement modules they have designed. The main focus of *White Space* is to promote engaged learning and teaching in the classroom. The rationale for the provision of *White Space* is to give teachers space to experiment using different pedagogical approaches and assessment modes during their lesson. Teachers will be able to design and develop instructional content and materials that meet the needs of students. The freed-up time can be used in these areas:

- a. Experimenting with different pedagogical approaches in the core area to meet the different learning styles and needs of the students; and
- b. Creating modules of interest to extend students' learning. Examples of these modules can found in [Appendix I](#).

Suggestions for customising modules for *White Space*

- a. Select an area of interest
 - Teachers can scan through reference books, educational journals and other countries' Home Economics syllabuses.
 - Identify suitable content for that particular topic.
 - Organise content by starting with basic concepts before progressing to the higher level concepts.

b. Define Learning Outcomes

- State content and application-based learning outcomes. For example, a content-based learning outcome for the topic, Food Additives, would be students being able to classify food additives. An application-based learning outcome would be students being able to interpret and apply information found on food labels.

c. Design Learning Activities and Teaching Approaches

- Design different learning activities to engage students. Some activities include bus-stops activities, role-play and oral presentations. Examples of some teaching approaches are Problem-Based Learning, Inquiry-Based Learning and Differentiated Instruction.

d. Design Assessment Modes

- Design suitable and different assessment modes that will enhance students' learning in the classroom. Some assessment modes to evaluate students' performance include checklists, rubrics and self or peer assessment.

6 CURRICULUM TIME

The recommended curriculum time is in Table 1:

Table 1: Allocation of Curriculum Time for the Different Courses

COURSES	TIME ALLOCATED
Express, Normal (Academic)	1.5 periods x 40 min per week
Normal (Technical)	2 periods x 40 min per week

7 TEACHING APPROACHES

Teaching approaches that lend themselves well in Home Economics are experiential in nature. A hands-on approach is advocated to allow students to relate and apply the knowledge gained in real-life situations. To develop inquiry, problem-solving and research skills, the teaching approaches of problem-based and inquiry-based learning have been recommended to meet the different needs and abilities of students. Differentiated instruction will also be encouraged. Employing a variety of approaches would also help to enhance engaged learning in the classroom.

Suitable Teaching Approaches

Problem-Based Learning

Problem-based learning (PBL) is the use of authentic and meaningful problems to bring about independent and self-directed learning in students. The PBL approach uses real-world situations and challenges to stimulate independent learning among students. A problem utilising PBL would be that of school-going children not having regular breakfast. Teachers can get their students to suggest ways to encourage children to have breakfast daily. Students will have to identify reasons for children not having regular breakfast and select suitable solutions. In this way, students learn to solve problems and become aware of the importance of having regular breakfast.

Inquiry-Based Learning

Inquiry-based learning engages students to study the world around them through activities and processes. Students are actively engaged in the collation and use of evidence which enables them to formulate and communicate explanations based on existing knowledge. An activity that utilises inquiry-based learning is to task students to study and evaluate the health benefits and/or risks claimed by manufacturers as well as researchers for certain food products. Students have to consider whether the consumption of such foods could lead to an observable health benefit or risk. They may to obtain first-hand accounts through interviews/surveys and balance those against published accounts. This will enable students to enhance and develop their thinking, problem-solving, and research as well as communication skills.

Differentiated Instruction

Differentiated instruction is a teaching approach that reaches out to a range of diverse abilities, interests and needs in the classroom. Differentiation will be done by teachers in the following areas:

- i. *Content*: The concepts and skills differentiation for the different groups of students in the class through the use of suitable teaching approaches, such as field trips and research-based projects
- ii. *Process*: The modification of activities to meet students' needs. Some students can be able to handle independent work while others require more guidance
- iii. *Products*: The completed product can depend on the readiness level, interest and learning preferences

8 ASSESSMENT OBJECTIVES

The aim of assessment is to provide feedback to students on their learning of knowledge and skills, and their ability to apply them. Students will be assessed on their ability to:

- apply their knowledge and skills in planning nutritious meals; and
- shop smart and make informed decisions when buying goods and services.

For coursework, students will be required to:

- a. identify and define a problem from a specified context;
- b. gather, analyse and evaluate information using a range of sources;
- c. generate and prioritise ideas;
- d. plan a timeline;
- e. take a course of action; and
- f. evaluate the application of the process and outcomes

9 ASSESSMENT FORMAT AND WEIGHTING

The assessment format consists of written paper and coursework. The assessment weightings are highlighted in Table 2. The ranges provided in the assessment weighting allow schools the flexibility to mix and match the percentages to obtain a total of 100%.

Table 2: Assessment Weightings

	Written Paper	30-50%
	Coursework	50-70%
Total	-	100%

Table 3 is an example of the assessment weightings for the three courses.

Table 3: An example of Assessment Weightings for Express, Normal (A) and Normal (T)

	COMPONENT	EXPRESS	NORMAL (A)	NORMAL (T)
	Written Paper	50%	40%	30%
	Coursework	50%	60%	70%
Total	-	100%	100%	100%

Suggestions of Assessment Modes

Schools have the flexibility to decide if activities carried out for *White Space* should be assessed. Teachers can use the following suggestions to assess for learning in the classroom.

- Oral Presentation
- Portfolios
- Flyer/Brochures
- Practical work
- Journal/Report writing
- Investigative/Experiment work
- Problem solving task
- Group/Individual projects

10 ASSESSMENT STRUCTURE

The examination structures for the courses (EXP/NA/NT) are similar in format, content and process. However, the type of questions or tasks set should be tailored to suit the ability of the pupils. The type of questions or tasks set should require students to apply and integrate their knowledge on both the Food Studies and Consumer Studies areas. Table 4 illustrates the type of questions or tasks appropriate for each course.

Table 4: Suggested Item-Type Questions for Assessment

SECTION	WEIGHTING	ITEM-TYPE	REMARKS
A	20%	- Objective type* - Short answer questions	<ul style="list-style-type: none"> * For N (T) students only e.g. Matching and Fill in the blanks type questions Application type questions could be included in this section
B	30%	- Structured questions - Data response questions	<ul style="list-style-type: none"> These sections should be different for the three courses Questions of varying difficulty should be set for the different courses
C	50%	- Structured questions - Data response questions - Open-ended questions	

Differentiation

Differentiation could be achieved by the following means:

Written paper

Sections A, B and C would be differentiated for the each course.

Format of Written Paper

The written paper should be a 1-hour paper consisting of 3 sections. The time allocated to the papers should include reading time.

Coursework

Differentiation in the coursework could be achieved by setting different tasks and outcomes. Teachers should ensure that students from the different courses undertake suitable tasks to cater to their ability.

Guidelines for Coursework

The tasks

- can include one (either Food or Consumer Studies) or both core areas of study;
- should vary in difficulty for the three courses; and
- should involve the production of an item for the completed coursework.

The presentations

- are to be presented in a folio;
- should be submitted in hand-written or printed form in a flat, securely bound A4 folder; and
- could include illustrations, flow charts, data or any other appropriate means as a form of documentation.

11 ASSESSMENT CRITERIA FOR COURSEWORK - EXPRESS / NORMAL (ACADEMIC & TECHNICAL)

The suggested assessment weighting for coursework is between 50 to 70 marks. Suggested weightings for assessing the coursework are shown in Table 5 for the different courses.

Table 5: Suggested Assessment Weightings for Coursework

PROCESS SKILLS	REQUIREMENTS	EXP	NA	NT
Background Study	Gathering information for ideas	14	15	16
Decision making	Making a decision on one of the ideas	6	7	8
Planning	Planning a time-line	6	7	8
Execution	Carrying out of the practical session	12	16	20
	Developing and presenting the product	6	9	12
Reflection	Reflecting on how well the food product is made	6	6	6
Total		50 marks	60 marks	70 marks

SAMPLE MODULE 1 LOWER SECONDARY HOME ECONOMICS

Topic: Food Product Development (Fun with Foods)
Duration: 3 periods
Level: Secondary 2

Lesson Objective:

By the end of the lesson, students will be able to develop an understanding of creating new food products.

Food Product Development consists of the following topics listed below. Lessons can be organised by combining 3 to 4 of these topics depending on the ability and interest of the students.

Some content for consideration are:

- Market Survey
- Sensory Evaluation
- Shelf-life
- Food Additives
- Packaging & Design
- Food Laws and Regulations
- Labelling
- Nutrition Information
- Costing and Profit
- Marketing the Product
- Food Tasting
- *HACCP

* The Hazard Analysis Critical Control Point System (HACCP)

For more information refer to: <http://www.np.edu.sg/~dept-bio/microbiology/haccp.html#1.%20Introduction>

Lesson / Content	Time	Approach and Learning Activity	Resource
Week 1- Market Search (small-scale)			
Learning Outcomes: At the end of the lesson, students will have an understanding and knowledge of the:			
<ol style="list-style-type: none"> 1. definition of a market and concept of marketing strategy; 2. role of the supermarket in marketing; 3. packaging of food; and 4. basic food processing operation. 			
Task		Breakfast is the most important meal of the day and yet many teenagers skip breakfast. Develop a breakfast product for this group of people for sale.	
Food processing	15 mins	Discussion on definition of market, some concepts of marketing strategy, role of the supermarket in marketing and basic principles of food processing.	
Marketing			

Lesson / Content	Time	Approach and Learning Activity	Resource
Investigative activity	15 mins	<u>Activity 1</u> <ul style="list-style-type: none"> In groups, students gather information about different breakfast products, nutritional needs and food preferences of teenagers through an investigative approach listed (survey, interview, market research, further research) 	Provide books and websites
	15 mins	<ul style="list-style-type: none"> Groups to present findings and discuss: <ul style="list-style-type: none"> the nutritional needs of teenagers the food preference of teenagers examples of breakfast foods 	
Packaging	25 mins	<u>Activity 2</u> <ul style="list-style-type: none"> In their groups, students to research on different recipes and packaging Groups to decide on the product to create and discuss ways to develop the product Students evaluate the nutritive value of the product using a suitable software to modify the product to meet the needs of a teenager Groups to share and present their discussion 	
Sensory Evaluation	20 mins	<u>Activity 3</u> <ul style="list-style-type: none"> Students to design a sensory evaluation process for their dishes <p>* Students to bring suitable packaging for their breakfast product for the next lesson</p>	

Lesson / Content	Time	Approach and Learning Activity	Resource
Week 2 –Development of Product in the Kitchen			
Learning Outcomes: At the end of the lesson, students will have an understanding and knowledge of:			
<ol style="list-style-type: none"> the production of a high quality breakfast product; and conducting sensory evaluation tests. 			
Sensory Evaluation	60mins	<u>Activity 1</u> <ul style="list-style-type: none"> Students to prepare, cook and pack their breakfast product 	
	30mins	<u>Activity 2</u> <ul style="list-style-type: none"> Students conduct food tasting and sensory evaluation tests on the finished product and present findings 	

SAMPLE MODULE 2

LOWER SECONDARY HOME ECONOMICS

Topic: Colours of Nature
Duration: 3 periods
Level: Secondary 2

Lesson Objectives:

By the end of the lesson, students will be able to:

1. extend students knowledge on food additives;
2. know the types of food additives;
3. understand regulations regarding the use of food additives;
4. create further awareness of the use of colours in food products;
5. know the functions and types of food colouring; and
6. prepare food items using natural food ingredients for colouring.

Lesson / Content	Time	Approach and Learning Activity	Resource
Week 1 - Discover the use of food additives			
Learning Outcomes: At the end of the lesson, students will be able to:			
<ol style="list-style-type: none"> 1. identify and list food additives used on commercial products; 2. discuss the reasons for using additives in food; 3. discuss what makes food attractive and appealing; and 4. name some natural foods that could be used for enhancing colour of cooked food. 			
Food Additives	20 mins	<u>Activity 1</u> <ul style="list-style-type: none"> • In groups, students examine the labels of commercially packed food products to identify food additives • Groups to present findings and discuss: <ul style="list-style-type: none"> - the difference between the main ingredients and additional ingredients - the reasons for using additives 	Display of commercial food products and if possible prepared 'home-cooked' products Provide books and websites
	30 mins	<u>Activity 2</u> To be conducted in computer lab if PCs are not available in the food laboratory. <ul style="list-style-type: none"> • In groups, students to conduct research and share findings on the use of additives e.g. food colouring 	
	20 mins	<ul style="list-style-type: none"> • Share findings and discuss the: <ul style="list-style-type: none"> - advantages and disadvantages of food additives - regulations regarding the use of additives - possible side effects such as allergies caused by some food additives - food colouring used 	

Lesson / Content	Time	Approach and Learning Activity	Resource
	20 mins	<p><u>Activity 3</u></p> <ul style="list-style-type: none"> • Teacher to display the following ingredients <ul style="list-style-type: none"> - pandan leaves, tumeric, bluepea flower, carrot , water-melon - sugar • Students extract the juice of one of the ingredients listed above • In groups, students discuss how they would use the extracted juice 	<p>Display of food items that can be used to colour food e.g. sugar (caramel), tumeric, bluepea flower, pandan leaves, carrot, beetroot, red & green chilly</p>

Lesson / Content	Time	Approach and Learning Activity	Resource
Week 2 - Field Trip (Provide 2 cameras for each group)			
<p>Learning Outcomes: At the end of the lesson, students will be able to:</p> <ol style="list-style-type: none"> 1. organise a spice garden walk at Fort Canning Park to discover and examine the plants that provide colours to food; 2. take photographs of these plants; and 3. discuss recipes that use these plants for colouring. 			

Lesson / Content	Time	Approach and Learning Activity	Resource
Week 3 - Chefs in the Kitchen			
<p>Learning Outcome: At the end of the lesson, students will be able to prepare food items using natural food ingredients for colouring.</p>			
<p>Food Additives (Colouring)</p>		<ul style="list-style-type: none"> • In their groups, students will prepare a set of dishes from A and B <ul style="list-style-type: none"> - (A) Thai Green Curry and Chicken Curry with green colouring added to it OR Pandan Chiffon Cake and Sponge Cake with green colouring AND - (B) Water Melon Agar-Agar and Plain Agar-Agar with red colouring added to it OR Turmeric Rice and Plain Rice with yellow colouring added • Evaluate both dishes prepared according to taste, texture and flavour • Summarise the advantages and disadvantages of additives and their possible effects if used indiscriminately • Present their findings 	