

Nutrition 3102

Unit 1

Food, Nutrition and Health
25 hours

Key-Stage Curriculum Outcomes: Food, Nutrition and Health

Knowledge and Understanding

Students will be able to

KSCO3: Demonstrate an understanding of how good choices and eating habits impact health and well-being.

KSCO5: Demonstrate an appreciation of the aesthetic and social aspects of food.

KSCO9: Demonstrate an awareness of consumer rights and responsibilities

Skills and Abilities

Students will be able to

KSCO1: Propose solutions to a range of problems and challenges related to foods and nutrition.

KSCO5: Apply basic principles of consumerism to the purchase of food and nutrition products.

Attitudes and Behaviours

Students will be able to

KSCO1: Evaluate their knowledge, attitudes and capabilities related to foods and nutrition and the effect these have on individual and family development.

KSCO2: Evaluate their skill development related to food production, resource management and the ability to work cooperatively.

KSCO3: Identify and assess goals related to foods and nutrition.

Specific Curriculum Outcomes

Knowledge and Understanding

Students will be able to:

1. demonstrate a knowledge of the nutrients.
2. demonstrate a knowledge of the role of nutrition in health.
3. demonstrate an understanding of the interplay between the psycho-social environment and food choices.
4. identify the relationship between diet and disease prevention and/or management.
5. demonstrate an understanding of specific lifestyles on nutritional requirements.

Skills and Abilities

Students will be able to:

1. use a range of food preparation techniques to prepare foods/ recipes for several of the special dietary conditions
2. propose healthy eating strategies for prevention and management of chronic diseases and for specific lifestyle choices.
3. propose healthy eating strategies for the management of chronic diseases.
4. propose healthy eating strategies for specific lifestyle choices.

Attitudes and Behaviours

Students will be able to:

1. set healthy eating goals and develop plans to achieve these.

Knowledge and Understandings

GCO1: Students will demonstrate an understanding of issues and challenges which impact the family.

Specific Outcomes	Suggestions for Learning and Teaching
<p><i>Students will be expected to:</i></p> <p>1.1 demonstrate a knowledge of the nutrients. (KSCO3)</p>	<ul style="list-style-type: none"> • Pretest of the nutrients provided in Appendix D. Once completed, correct as a class. This pretest could be used to establish the knowledge base for 3102.
<p>1.2 demonstrate a knowledge of the role of nutrition in health. (KSCO3)</p>	<p>The Picture of Health</p> <ul style="list-style-type: none"> • Generate a list of traits associated with healthy people. Relate each trait to the role nutrition played in that trait. • Assign a physical, social or emotional trait to each student or group and connect a nutrient(s) to that trait. <p>or</p> <p>Divide the class in half. Assign a nutrient to each student in one half of the class. The other half of the class should be given a physical, social, or emotional trait that is connected to a specific nutrient. Allow time for students to find their match. In cases where students have matched one nutrient with more than one trait, discuss the rationale.</p> <ul style="list-style-type: none"> • Use information from activities 1 or 2 and create a bulletin board display. • Draw a silhouette of a person on brown paper or on the board. Label various body parts (i.e. eyes, bones, muscles, etc). Have the names of nutrients printed on index cards. Give the cards to the students and ask them to place their card on the body part that is most affected by that nutrient.

KSCO3: Demonstrate an understanding of how food choices and eating habits impact health and well-being.

Notes/Resources/Background Information

This outcome was addressed in 2102 but needs to be refreshed as a basic understanding. Students who have not taken 2102 should refer to Food for Today, Chapter 11 for a review of the nutrients.

Traits should include:

- physical: condition of skin, eyes, hair, bones, muscles, body organs, blood pressure, energy levels, alertness
- social and emotional traits: attention span, mood

General Note: Key concepts should include food as chief source of nutrients, variety, moderation, quantity and CFG.

Example:

Trait	Nutrient	Connection
Energetic	Iron Carbohydrate	<ul style="list-style-type: none"> • Iron carries oxygen to the cells. • Carbohydrate is the main source of energy.
Mood	B vitamins Iron	<ul style="list-style-type: none"> • Low levels of B vitamins affect mood. • Low levels of hemoglobin can make one irritable.

Suggestions for Assessment

- Pretest of the nutrients.

- Bulletin board display
Bulletin board should communicate a key message about the role of a nutrient in health.

Knowledge and Understandings

GCO1: Students will demonstrate an understanding of issues and challenges which impact the family.

Specific Outcomes

Students will be expected to:

1.3 demonstrate an understanding of the interplay between the psycho-social environment and food choices. (KSCO1)

Suggestions for Learning and Teaching

- Use the prepared lesson plan "Marketing to Teens: Marketing Tactics" found on the Virtual Teachers' Center website.
- Collect media ads that send strong messages about food and beverage choices. For each ad state the message (overt and covert) that is being sent, the target audience, and whether or not the message is contradictory to "Eating Well with Canada's Food Guide" and healthy lifestyle practices.
- Choose a print ad dealing with food and analyze according to ad techniques commonly used by marketers.
- As a class discuss the following:
 - a. What is body image?
 - b. What forms our personal body image?
 - c. What body image messages come out of ads?
 - d. What skills do consumers need to decipher body image messages in the media so as to not be impacted by the unhealthy messages?
- Demonstrate the indicators of healthy body weight using learning centres.
 For each or several of the healthy body weight indicators, set up a station and have students rotate in small groups to each station. Set a time limit for each station. At each station, the students will
 - a. read a short synopsis of the indicator
 - b. perform the test accurately (including completing any calculations)
 - c. interpret the results

KSCO1: Demonstrate an understanding of how personal and social needs, values and beliefs influence food choices.

Notes/Resources/Background Information

www.media-awareness.ca (In the teacher section, search "Marketing to Teens: Marketing Tactics" or access via the VTC)

Food for Today, Chapter 15

"Marketing to Teens - Advertising Strategies". Media Awareness Network, Appendix D

Body Image Notes/Resources:

Food for Today, Chapter 17, p. 440

www.statcan.ca/english/kits/food/food.htm, lesson plan on food choices and body image of 15 year olds.

Caution: There is a possibility that the topic of eating disorders may surface here. There is no curriculum outcome requiring the teaching of eating disorders. A previously released memo and article are included in Appendix D.

ww2.heartandstroke.ca Go to Healthy Living, then Healthy Weight. From this page click on Healthy Tools.

The indicators of a healthy body weight are:

1. BMI and percentile chart
2. percent body fat
3. pinch test
4. mirror test
5. apple/pear body shape
6. waist-to-hip ratio

Height/weight tables not recommended. Stations can be set up in the classroom. Each station should have a written explanation of the indicator and whatever equipment is necessary to perform the test (i.e., measuring tape, ruler, mirror, and BMI chart, etc.), and information on how to interpret the results.

Food for Today, Ch.19

Suggestions for Assessment

- Document the number and type of ads aired during a one hour time period of television. A chart could be used to record the ad, type (food, non-food, etc) target audience, audience appeal etc.
- Create a media advertisement for a new food product. Incorporate positive healthy messages in your use of marketing techniques.
- Create a spoof ad. Include the original ad. See sample lesson "Parody Ads" on the VTC.

Knowledge and Understandings

GCO1: Students will demonstrate an understanding of issues and challenges which impact the family.

Specific Outcomes	Suggestions for Learning and Teaching
<p><i>Students will be expected to:</i></p> <p>1.4 identify the relationship between diet and disease prevention and/or management. (KSCO3)</p>	<ul style="list-style-type: none"> • Ask students to brainstorm a list of food related diseases/ conditions. • Post the names of some disease/conditions on the board. Also have the names of the nutrients on small pieces of bristol board. Ask each student to place the nutrient next to the disease/condition to which he or she believes it is connected and explain why. • Shape Game: cut a piece of construction paper into interlocking puzzle pieces. The number of pieces depends on the number of nutrients associated with each disease/ condition. The game can be made more complex by incorporating management strategies, foods recommended or to be avoided, etc. Students will have to find their partner(s) using puzzle piece shapes and information contained on the puzzle pieces (See appendix D for sample). • Discuss heart disease, high blood pressure, diabetes, cancer or other disease/condition. For each, explore what the disease/ condition is, impact on health/lifestyle, food choice implications, management strategies, etc. <p>(This is a knowledge-based outcome. Outcome 2.2 will deal with the skill aspect). At this point, students may be identifying an area of interest for further study with the research paper.</p>

KSCO3: Demonstrate an understanding of how food choices and eating habits impact health and well-being.**Notes/Resources/Background Information**

Note: Approach to this outcome should be mindful that a major research paper will be the end product. Key concepts to be explored in the nutrition research paper could be incorporated into the formal classroom instruction where possible. This gives students a clear understanding of the task at hand and the depth of research required.

The research paper could be done in conjunction with English Language Arts.

The skill of research paper writing should be emphasized here. Students should be cautioned regarding the practice of "cutting and pasting" from the internet. Resources should be checked for reliability (official associations) See Food for Today p. 312.

Diseases/Conditions

heart disease, cancer, diabetes, osteoporosis, hypertension, conditions related to food and diet (allergies, celiac disease, colitis, gout), spina bifida.

Resources

- Folic acid video: *Closing the Gap* previously supplied to schools
- www.cancer.ca
- www.diabetes.ca
- ww2.heartandstroke.ca
- guest speakers

Suggestions for Assessment

Students could develop a research paper and present their findings to the class (PowerPoint, poster, display, etc.). A summary of the condition/disease should be provided to the class.

Knowledge and Understandings

GCO1: Students will demonstrate an understanding of issues and challenges which impact the family.

Specific Outcomes

Students will be expected to:

1.5 demonstrate an understanding of the impact of specific lifestyles on nutritional requirements. (KSCO3)

Suggestions for Learning and Teaching

- Ask students to research the dietary considerations of one of the following: athletes, alcohol use/abuse, vegetarians, fast-paced lifestyles, and weight loss diets.

For each of the lifestyles above, identify the special nutrient needs. A rationale should be given for each of those needs.

Athletes

- *Sport drink analysis:* ask students to generate a list of drinks commonly used by athletes for rehydration. Compare the drinks based on content (nutrients such as sugar, caffeine, pH level, electrolytes) and cost. Compare these results to that of milk, juice and water as choices for rehydration. Students could display their findings in a prominent place in the school.
- *Rehydration:* Given a case study, determine the amount of fluid needed to maintain hydration.
- *Protein Supplements:* Why are athletes susceptible to media influences for performance enhancing products?
- *Caffeine:* What are the effects of caffeine on the body? What are the obvious sources of caffeine? What are the less obvious sources commonly consumed? What is a safe amount of caffeine to consume daily?

From a provided list of foods, rank them in descending order of caffeine content.

Alcohol Use/Abuse

- Class discussion on the effect of alcohol on health.
- Effects of long-term alcohol abuse.

KSCO3: Demonstrate an understanding of how food choices and eating habits impact health and well-being.

Notes/Resources/Background Information

Teachers should emphasize that food is the best source of nutrients for all lifestyles.

Eating Well With Canada's Food Guide

Fact sheet "Fueling the Young Athlete" found at www.dietitians.ca

Nutrition: Concepts and Controversies: (previously supplied)
"Sports Drinks" p. 349 (if available)

Protein supplements: Food for Today, p. 598

Nutrient needs: Food for Today, pp. 595-598

Limit on and Sources of Caffeine: see listing in Appendix D and Food for Today, p. 332

Alcohol Use/Abuse Key Concepts:

Empty calories, malnutrition, absorption and metabolism of alcohol, B vitamins, drug interactions, dehydration, damage to body systems involved in nutrient absorption.

Suggestions for Assessment

A case study may be given for any of the special dietary considerations. In the analysis of the case study, students should discuss the pitfalls of the specific lifestyle, implications on Dietary Reference Intakes for the nutrients and strategies to achieve adequate nutrient intake.

Knowledge and Understandings

GCO1: Students will demonstrate an understanding of issues and challenges which impact the family.

Specific Outcomes	Suggestions for Learning and Teaching
<p><i>Students will be expected to:</i></p> <p>1.5 demonstrate an understanding of specific lifestyles on nutritional requirements. (KSCO3) <i>(continued)</i></p>	<p>Vegetarianism</p> <ul style="list-style-type: none"> • Bring a selection of appropriate foods for viewing (nuts, beans, lentils, soy milk, tofu, meat substitute, etc. as available). • What are the types of vegetarians? What are the health benefits of being vegetarian? What are the nutrients of concern for each type of vegetarian? • In communities where eating establishments exist, discuss the availability of vegetarian choices. • Compare <i>Eating Well With Canada's Food Guide</i> to the Canadian Vegetarian Food Guide. How does each guide foster the health of its users? <p>Fast Paced Lifestyles: (eating out/on the run)</p> <ul style="list-style-type: none"> • If eating out is your only option for supper, how can you apply the guidelines for healthy eating to your menu selection? (small group work) • Using <i>Eating Well With Canada's Food Guide</i>, devise a list of meal and snack suggestions that would be convenient and quick while at the same time providing maximum nutrition. <p>Weight Loss Diets</p> <ul style="list-style-type: none"> • What are the components of a healthy approach to weight loss? • Discuss the current weight loss/ diet programs. Analyze how they compare to the components of a good weight loss diet. <p>Sample weight loss diets:</p> <ul style="list-style-type: none"> • fad diets (e.g., grapefruit diet) • low carbohydrate diet • low calorie diets

KSCO3: Demonstrate an understanding of how food choices and eating habits impact health and well-being.

Notes/Resources/Background Information

Vegetarian Notes/Resources:

Nutrients of concern: complete protein, fat, iron, calcium, B12 & D.

This would be an opportunity for a cooking lab - recipe ideas are available on the VTC

Food for Today, Chapter 14.

Nutrition Concepts & Controversies (previously supplied)

www.vegweb.com, go to "recipes"

www.dietitians.ca - Vegetarian Food Guide or see "A New Food Guide for North American Vegetarians" in Appendix D.

www.dieticians.ca - "A World Food Tour", Fact sheet: Vegetarian Eating

Fast Paced Lifestyle Notes/Resources:

Healthy Food Guidelines:

- lower fat
- serving size
- low salt
- avoidance of foods in the "other" category
- CFG
- fibre
- adequate hydration
- beverage choice
- vary

Food for Today, pp. 400-403

Class may bring in copies of diets found in magazines.

Characteristics of a good reducing diet are found in Appendix D.

Suggestions for Assessment

Modify a day's menu to suit a lacto-ovo or vegan vegetarian.

Nutrition on the Run: As a class, compile recipes into a booklet that cater to the nutrient needs of busy people.

Using the characteristics of a good reduction diet, analyze the pitfalls of a current diet program.

Skills and Abilities

GCO2: Students will demonstrate the capability/ability to use skills, resources and processes; and to create conditions and take actions that support individuals and family.

Specific Outcomes

Students will be expected to:

2.1 use a range of food preparation techniques to prepare foods/ recipes for several of the special dietary conditions. (KSCO1)

2.2 Propose healthy eating strategies for prevention of chronic diseases. (KSCO1)

Suggestions for Learning and Teaching

- Labs may be incorporated into appropriate topics as they arise, e.g., vegetarian eating, heart healthy eating, etc.
- For each research paper topic, conduct a lab profiling a typical meal appropriate for a person with the researched condition/disease.

For the purpose of this outcome, diabetes will be the chronic disease that will be referenced. The same activities can be approached using any of the listed chronic diseases/conditions.

1. As a class, brainstorm factors that contribute to the development of diabetes.
2. Assess personal risk factors for development of diabetes. Emphasis should be placed on activity level and food intake.
3. Interview a person with diabetes. With teacher guidance, devise interview questions that will focus on the factors that led to the condition/disease.
4. Assess the role played by schools and the community at large in the prevention of chronic diseases.

KSCO1: Propose solutions to a range of problems and challenges related to foods and nutrition.

Notes/Resources/Background Information

Dietary conditions as listed on p. 103 are: heart disease, cancer, diabetes, osteoporosis, hypertension, conditions related to food and diet (allergies, celiac disease, colitis, gout), spina bifida.

Guidelines for Labs in Appendix G

Eating Well With Canada's Food Guide should underlie all food lifestyles.

Recipe suggestions for Lab should have a focus on:

1. low salt
2. low fat (saturated, unsaturated, trans)
3. low sugar, sugar substitutes (Splenda, etc.)
4. high fiber
5. portion sizes, etc

Factors that contribute to diabetes:

- inactivity
- overweight (carrying weight in mid-section)
- caloric intake, especially sugar
- heredity

Resources:

www.diabetes.ca

www.livinghealthyschools.com

Food for Today, pp. 305-309

guest speaker (dietitian)

Suggestions for Assessment

- Lab evaluations
- Food Demonstration: Present and discuss food preparation techniques, the food selection process and nutrient accommodations for the disease/condition researched in this unit. Presentation will be evaluated on
 - delivery of the information
 - knowledge of the topic
 - food preparation skills
- Analyze the findings of the personal risk factors in activity 2 (Outcome 2.2). Propose healthy eating and physical activity strategies to reduce the risk of the development of the disease/condition.

Skills and Abilities

GCO2: Students will demonstrate the capability/ability to use skills, resources and processes; and to create conditions and take actions that support individuals and family.

Specific Outcomes	Suggestions for Learning and Teaching
<p><i>It is expected that students will be able to</i></p> <p>2.3 Propose healthy eating strategies for the management of chronic diseases. (KSCO1)</p>	<p>The teacher may choose to continue with the focus on diabetes or switch to another disease/condition for this outcome.</p> <ul style="list-style-type: none"> • Special occasions often involve foods which may not be appropriate for people with specific diseases/conditions. Suggest snack or dessert items that would be more suitable for the diet of that person. • Using restaurant menus, analyze the suitability of the items on the menu for a person with a certain disease/condition. • Using several brands of foods that are similar (e.g., crackers), analyze the nutrition labels and ingredient lists for the appropriateness to the diet of each of the diseases/conditions.

KSCO1: Propose solutions to a range of problems and challenges related to foods and nutrition.

Notes/Resources/Background Information

Food for Today: "Special Eating Plans" pp. 307-310.

Use food models when discussing meal planning, portion control and variety as components of healthy eating strategies.

Suggestions for Assessment

Devise a 2-day menu for a person with a specific disease/condition.

Skills and Abilities

GCO2: Students will demonstrate the capability/ability to use skills, resources and processes; and to create conditions and take actions that support individuals and family.

Specific Outcomes

It is expected that students will be able to

2.4 Propose healthy eating strategies for specific lifestyle choices. (KSCO1)

Suggestions for Learning and Teaching

Read the case studies and analyze each one using the directions that follow.

- a) Bob is a high school teacher, who divides his time between school, practices, games, homework and family. Mealtimes are often rushed.

- b) Sarah is an alcoholic. She often misses her supper meal, replacing food with alcohol. Breakfast is not often eaten, due to hangovers.

- c) Don has just decided to become a vegan vegetarian. He has little nutritional knowledge.

- d) Ruth is a volleyball player who often participates in weekend tournaments. Eating on the road and at irregular times is common.

- e) Emily, a breastfeeding mom, is trying to return to her pre-pregnancy weight. She has decided to go on a low carbohydrate diet.

Prepare dietary and nutritional advice for each of the people in the case studies. Advice should be specific to the circumstances outlined in the case study.

KSCO1: Propose solutions to a range of problems and challenges related to foods and nutrition.

Notes/Resources/Background Information

Refer to the categories of lifestyle choices already covered in this unit for concerns specific to each.

- vegetarians
- athletes
- alcohol use/abuse
- fast-paced lifestyles
- weight loss diets

Suggestions for Assessment

Choose 1 case study and provide a 2-day menu that addresses the dietary concern of that lifestyle.

Attitudes and Behaviors

GCO3: Students will be encouraged to evaluate knowledge, attitudes and capabilities; monitor progress and set new learning goals as an individual and as a family member.

Specific Outcomes

It is expected that students will be able to

- 3.1 Set healthy eating goals and develop plans to achieve these. (KSCO 1, 2, 3)

Suggestions for Learning and Teaching

- Working with family history and lifestyle factors, evaluate current health status and risk level of developing a disease/condition. Using the knowledge and skills acquired in this unit, develop a healthy eating plan to avert development of a disease/condition later in life.

KSCO1: Evaluate their knowledge, attitudes and capabilities related to foods and nutrition and the effect these have on individual and family development. **KSCO2:** Evaluate their skill development related to food production, resource management and the ability to work cooperatively. **KSCO3:** Identify and assess goals related to foods and nutrition.

Notes/Resources/Background Information

<http://www.livinghealthyschools.com>

<http://www.dietitians.ca>

<http://www.healthcanada.ca> (Interactive tool "Create My Food Guide")

Suggestions for Assessment

Family Medical Tree

Complete a family tree, noting medical conditions with which family members are living or from which may have died. Discuss any patterns or trends. How might you use this information to prolong/improve your own health?

