

Adult Basic Education

Healthy Living

Healthy Living 3102

Curriculum Guide

Prerequisite: **Healthy Living 3101**

Credit Value: 1

Healthy Living Courses [Adult Oriented Electives]

Healthy Living 3101
Healthy Living 3102
Healthy Living 3103



Table of Contents

To the Instructor.....	v
Introduction to Healthy Living 3102	v
Curriculum Guide	vi
Study Guides	vi
Resources	vii
Recommended Evaluation	viii
Unit 1 – The Role of Nutrition in Health.....	1
Unit 2 – Choosing Healthy Foods.....	17
Unit 3 – Disease – Causes & Protection	23
Unit 4 – Preventing AIDS & Sexually Transmitted Infections	29
Unit 5 – Recognizing Common Diseases	35

To the Instructor

I. Introduction to Healthy Living 3102

Healthy Living 3102 is the second of three courses designed to help students learn about mental, emotional, social and physical health. They will receive one credit upon completion of this course. Healthy Living 3101 is a prerequisite for Healthy Living 3102.

In Unit 1, *The Role of Nutrition in Health*, students will learn what defines healthy eating. They will discover how *Eating well with Canada's Food Guide* can help them choose healthy foods and beverages. Students will learn about the nutrients their bodies need. They will also learn about special dietary needs and how poor nutrition relates to health problems.

In Unit 2, *Choosing Healthy Foods*, students will learn about healthy eating patterns. They will also learn about how advertising and the fast-food industry affect how they eat. Students will find out what is done to make sure foods are safe. Finally, they will learn about reading food labels and about things that are added to foods.

In Unit 3, *Disease – Causes and Prevention*, students will learn the causes of diseases. They will also learn how the body fights disease.

In Unit 4, *Preventing AIDS and Sexually Transmitted Infections*, students will learn what causes AIDS, how it is acquired, and its symptoms. They will learn about infections that result when the immune system is weakened. Students will learn about symptoms, treatments, and prevention of some common sexually transmitted infections.

In Unit 5, *Recognizing Common Diseases*, students will learn about heart and blood vessel diseases and why people get them. They will learn what causes cancer. Students will discover the warning signs of this disease. They will also find out how cancer is treated. Finally, students will learn about diabetes, arthritis, epilepsy, and asthma, and how they are treated.

Students are required to maintain a portfolio and complete assigned Workbook activities in this course. However, there are many topics included in the text and teacher's guide that students may be interested in exploring further. Students may be given additional assignments or the opportunity to investigate topics as group work.

II. Curriculum Guide

Each new ABE Adult Oriented Elective course has a Curriculum Guide for the instructor and a Study Guide for the student. The Curriculum Guide includes the specific curriculum outcomes for the course. Suggestions for teaching, learning, and assessment are provided to support student achievement of the outcomes. Each course is divided into units. Each unit comprises a **two-page layout of four columns** as illustrated in the figure below. In some cases the four-column spread continues to the next two-page layout.

Curriculum Guide Organization: The Two-Page, Four-Column Spread

Unit Number - Unit Title		Unit Number - Unit Title	
Outcomes	Notes for Teaching and Learning	Suggestions for Assessment	Resources
Specific curriculum outcomes for the unit.	Suggested activities, elaboration of outcomes, and background information.	Suggestions for assessing students' achievement of outcomes.	Authorized and recommended resources that address outcomes.

III. Study Guides

The Study Guide provides the student with the name of the text(s) required for the course and specifies the sections and pages that the student will need to refer to in order to complete the required work for the course. It guides the student through the course by assigning relevant reading and providing questions and/or assigning questions from the text or some other resource. Sometimes it also provides important points for students to note. (See the *To the Student* section of the Study Guide for a more detailed explanation of the use of the Study Guides.) The Study Guides are designed to give students some degree of independence in their work. Instructors should note, however, that there is much material in the Curriculum Guides in the *Notes for Teaching and Learning* and *Suggestions for Assessment* columns that is not included in the Study Guide and instructors will need to review this information and decide how to include it.

To the Instructor

IV. Resources

Essential Resources

Pearson Education, Inc. (2007). *Life Skills Health*. Shoreview: Pearson AGS Globe.

Pearson Education, Inc. (2007). *Life Skills Health Student Workbook*. Shoreview: Pearson AGS Globe.

Recommended Resources

Campbell, J. (2002). *Lifechoices Healthy & Well*. Toronto: Pearson Education Canada.

To the Instructor

V. Recommended Evaluation

Written Notes	10%
Portfolio	15%
Workbook Activities	15%
Test(s)	20%
Final Exam	<u>40%</u>
	100%

Healthy Living 3102

Unit 1 – The Role of Diet in Health

Outcomes

1.1 Explore how healthy eating affects the diet.

1.1.1 Explain the correct meaning of diet.

1.1.2 Discuss how food provides the body with essential nutrients.

1.1.3 Analyze the recommendations in *Eating Well with Canada's Food Guide*.

Notes for Teaching and Learning

As an opener activity, instructors could bring in copies of menus from restaurants that include nutritional information (many fast food restaurants post the nutritional content of their foods online). Copies could be given to students and the following questions could be discussed:

- What are calories, and how are they important to your diet?
- What types of foods have the most calories? What types of foods have the least calories?
- What types of foods have carbohydrates, fats, and/or proteins?
- What makes a healthy diet?

Instructors could ask students to compare their bodies to a high-end car. Students could be asked if a car will work well using any kind of fuel. Instructors should remind students of the different grades of gasoline at a gas station, in addition to other types of fuel such as propane, diesel, and heating oil. Some of these fuels make a car operate poorly, and some won't allow a car to operate at all. The analogy can be made to the human body – it is not possible to put any kind of food into the body and expect it to work the way it should. Instructors could tell students that people take care to give their cars the fuel they need; they should do the same for their bodies.

Instructors could give examples of different types of people (age, height, weight, sex, activity levels, etc). Students could be asked if everyone needs the same amount of food each day. Instructors should explain that adolescents need more food during their growing stage. Older adults need less food. Even within age groups, nutrition requirements vary from person to person. Students could consult the Canada Food Guide and consider why it is important to eat a variety of foods.

Instructors should point out that the Canada Food Guide provides general guidelines to help people choose a healthy diet. Students could be asked why the word "recommendations" is used rather than "rules."

Unit 1 – The Role of Diet in Health

Suggestions for Assessment

Students are required to write down every food they eat for one day, including approximate serving sizes. Using the nutrition labels on the packaging and Eating Well with Canada's Food Guide, students will focus on numbers consumed from each food group vs. total calories. Results will be placed in their **portfolios**.

Resources

Teacher's Edition, page 206.

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Unit 1 – The Role of Diet in Health

Outcomes

1.1.4 Develop a menu plan based on *Eating Well with Canada's Food Guide*.

1.2 Compare and contrast carbohydrates, fats and protein.

1.2.1 Outline sources and functions of carbohydrates, fats and protein.

Notes for Teaching and Learning

The servings listed in the Canada Food Guide might be smaller than the size students expected. Point out that more than one serving of food can be included in a meal. For example, a spaghetti dinner may include a full cup of pasta, or two servings. Instructors could ask students to think about the last meal they ate. Students could be challenged to recall how many servings of each food they ate.

In order to help students better understand serving sizes, instructors could bring in examples of single servings of foods. Students should see and handle the foods so they can better understand the sizes of single servings. A one-half cup of cooked rice in a cup measure could be passed around. It could then be put on a plate so that students could see how it looks in a meal setting. Instructors could point out that 28 grams of cheese is about the size of a thumb and that 85 grams of meat is about the size of a deck of cards.

A registered dietitian could be asked to give a guest presentation on the importance of healthy foods and beverages in the diet. Students should be prepared to ask relevant questions about nutrition.

Approximately 3500 calories of energy are stored in 1 pound of body weight. If a person who needed to lose weight subtracted 250 calories per day from their diets, and participated in 250 calories worth of exercise, his/her resulting weight loss should be about 1 pound per week. Many doctors consider a safe rate of weight loss to be no more than 2 pounds per week obtained through both modifying the diet and exercise.

Instructors could write the headings Carbohydrates, Fats and Protein on the chalkboard. Students could be asked to name different foods they eat and discuss the carbohydrate, fat, and protein content of each item. All suggestions should be accepted. After teaching students about the differences between carbohydrates, fats and protein, instructors should review this table and allow students to

make changes.

Unit 1 – The Role of Diet in Health

Suggestions for Assessment

Students are required to visit the Canada's Food Guide website and click on the link Create My Food Guide. From there they will follow the instructions to create their own personalized Canada Food Guide. Students should place a printed copy of the food guide in their portfolio.

Students are required to complete questions 1 – 5 under *Lesson 1 Review*. Answers are found in the Teacher's Edition.

Students are required to complete *Workbook Activity 31: A Plan for a Healthy Diet*. Answers are found in the Teacher's Edition.

Instructors could have students read the Technology and Society feature on page 210 of the text. As an optional assignment, students could investigate Body Mass Index (BMI) to learn how it is a better tool than a scale for determining a healthy weight. BMI takes into account the height and weight of a person.

Throughout history, starches have been – and continue to be – an important dietary component. As an optional assignment, students could investigate the sources of starches for various cultural groups.

As an optional assignment, students could investigate why people in a poorer community might find it harder to eat healthy foods. Students could discuss ways people might overcome this problem and suggest ways in which a poorer community might get more healthy foods to eat.

Resources

Canada's Food Guide website,
www.healthcanada.gc.ca/foodguide

Teacher's Edition, page 209.

Teacher's Edition, page 564.

Teacher's Edition, page 210.

Teacher's Edition, page 211.

Teacher's Edition, page 213.

Unit 1 – The Role of Diet in Health

Outcomes	Notes for Teaching and Learning
1.2.2 Differentiate among complex carbohydrates, simple carbohydrates and fiber.	Instructors could ask students if they have heard the statement “Bread is the staple of life.” The statement reflects the fact that bread is a main component of many diets. Students could be asked if this is reflected in Canada’s Food Guide. They could also be asked if it is wise to eat only bread as a source of carbohydrates.
1.2.3 Discuss how the body uses carbohydrates for energy.	Students might think that all fats are bad for them.
1.2.4 Differentiate between saturated and unsaturated fats.	Instructors could discuss with them why it is important to have some fats in the body. Students should avoid trans and saturated fats since these raise cholesterol levels, which can lead to cardiovascular disease. Instructors should explain that to maintain a diet low in trans and saturated fats, they should avoid products containing hydrogenated vegetable oil, and limit their intake of foods such as red meats, whole milk and butter.
1.2.5 Discuss the health implications of a diet high in trans fats and saturated fats.	Students should understand that trans fats are artificial, not natural. They are formed when vegetable oils are processed into solid fats such as margarine or shortening. Manufacturers use margarine and shortening to reduce costs, improve flavor and texture, and extend the shelf life of food products.
1.2.6 Explain how the body uses amino acids.	Instructors could have students determine the relative fat content of food using the brown paper test. Students could cut three squares of brown paper from a bag and rub shortening, egg white, and raw potato on each. While the paper is drying, the instructor could explain to students that light will pass through paper that has fats on it. When the paper has dried, students could hold each square up to a bright light and compare the amount of light that passes through each piece. From these observations, students could be asked to draw conclusions about which foods contain fats and which do not.
	Instructors could have students read the Health Myth feature on page 222 of the text. Instructors should point out that this myth probably persists because when most people

stop working out, they not only tend to lose muscle tone but also gain weight due to the decrease in exercise. Students should be told that the best way to stay in shape is to eat nutritious foods in moderate amounts and to get an hour of moderate to vigorous exercise every day.

Unit 1 – The Role of Diet in Health

Suggestions for Assessment

As an optional assignment, students could investigate the “Mediterranean diet” – the basis for the typical diet of people who live in Mediterranean countries. Students could compare it with their own diet or with a typical Canadian diet. Students could explore the typical foods of the Mediterranean diet, and discuss how a Mediterranean diet could lead to lower risk of heart disease.

Students are required to complete questions 1 – 3 under *Decide for Yourself* and place the written answers in their **portfolio**. Answers are found in the Teacher’s Edition.

Students are required to complete questions 1, 2 & 4 under *Lesson 2 Review*. Answers are found in the Teacher’s Edition.

Students are required to complete Workbook Activity 32: *Comparing Foods to Determine Nutritional Value*. Answers are found in the Teacher’s Edition.

Resources

Teacher’s Edition, page 214.

Teacher’s Edition, page 214.

Teacher’s Edition, page 215.

Teacher’s Edition, page 564.

Unit 1 – The Role of Diet in Health

Outcomes

1.3 Discuss the importance of vitamins, minerals and water.

1.3.1 Explain the purpose and sources of essential vitamins.

1.3.2 Outline the purpose and sources of essential minerals.

Notes for Teaching and Learning

As an introduction to the topic of vitamins and minerals, instructors could discuss how many vitamins were first discovered when their role in preventing diseases caused by dietary deficiencies became known. Scurvy is a disease caused by a lack of vitamin C. British sailors often had scurvy because most food carried on long voyages did not contain enough Vitamin C. In 1774, British doctor James Lind proved that supplementing shipboard diets with lemons supplied the needed vitamin. By 1795, all British navy ships carried limes (thought to be better at preventing scurvy because they contained more acid), and from that time on British sailors became known as “limeys.”

Instructors should point out that as people eat fewer fruits and vegetables, they do not get the vitamins they need. In response, an increasing number of companies are adding vitamins and minerals to their foods. It can be important for people to take vitamin supplements when they are suffering from an illness, since vitamins and minerals are important in the body processes that maintain health. It is important to recognize that fresh, frozen, canned and dried fruits and vegetable are all healthy choices if they are prepared with no added sugar.

Instructors could bring in a variety of packaged foods, including breakfast cereals, for students to examine. Students could read the nutritional labels and note the presence of vitamins and minerals. Instructors should tell students that many of the vitamins and minerals listed are added artificially – that is, the vitamins and minerals listed do not exist naturally in the ingredients of the packaged foods. Rather, companies add them during processing.

Instructors could have students read the Health Myth feature on page 218. Students could be shown the warning label on the side of a vitamin bottle. Instructors could tell students that some health myths about vitamins are persistent, but untrue. For example, taking large amounts of Vitamin C will not ward off the common cold. It might cause diarrhea, and could lead to other problems as well.

Unit 1 – The Role of Diet in Health

Suggestions for Assessment

Students are required to complete questions 1 – 3 under *Health in Your Life: Avoiding Germs*. Written answers should be placed in their **portfolio**. Answers are found in the Teacher’s Edition.

Students are required to complete questions 1 – 5 under *Lesson 3 Review*. Answers are found in the Teacher’s Edition.

Students are required to complete *Workbook Activity 33: Vitamins, Minerals, and Water*. Answers are found in the Teacher’s Edition.

Resources

Teacher’s Edition, page 219.

Teacher’s Edition, page 220.

Teacher’s Edition, page 564.

Unit 1 – The Role of Diet in Health

Outcomes	Notes for Teaching and Learning
1.3.3 Explain why water is important for health.	Students have learned that water is one of the six nutrients that humans need to live. Instructors should tell them that in some parts of the world, millions of people do not have access to clean water. Unclean water contributes to many diseases, including malaria, hepatitis, ringworm, and cholera, and other conditions such as lead poisoning and diarrhea, both of which could be fatal.
1.4 Investigate special dietary needs.	Eating Well with Canada's Food Guide recommends drinking water regularly. It's a calorie-free way to quench thirst. Drinking more water in hot weather or when active is also recommended.
1.4.1 Identify the special dietary needs of athletes.	Calcium is an important mineral, especially for teens and older people. Many people think that the only foods that contain calcium are milk and other dairy products. If a person is allergic to dairy products, it is possible to obtain calcium from other foods such as legumes (beans, peas, lentils, and peanuts); green, leafy vegetables (like broccoli and kale); and soybean products.
1.4.2 Explain how nutrition is related to weight control.	Instructors could divide students into small groups and ask them to discuss what they would suggest to a parent or guardian whose child can't drink milk or eat dairy products (because of allergies) and who also refuses to eat foods such as broccoli, beans, and tofu. Each group could explain its suggestions to the class.
1.4.3 Discuss the health problems associated with a poor nutrition.	Instructors could have students read the Health at Work feature on page 223 of the text. Students could be asked why it is important to employ a nutrition professional in places that regularly serve food to large numbers of people. Instructors could ask students if they would want someone to plan their meals for them every day. Students could be asked if their families or others they know have ever used menus provided by a nutritionist, an organization, or a computer software program. Instructors could discuss whether the programs were helpful and effective.

Unit 1 – The Role of Diet in Health

Suggestions for Assessment

Students are required to complete questions 1 – 5 under *Lesson 4 Review*. Answers are found in the Teacher’s Edition.

Students are required to complete *Workbook Activity 34: Dietary Needs*. Answers are found in the Teacher’s Edition.

Resources

Teacher’s Edition, page 224.

Teacher’s Edition, page 564.

Unit 1 – The Role of Diet in Health

Outcomes

1.4.4 Analyze the relationship between nutrition and disease.

Notes for Teaching and Learning

Instructors could encourage students to think of all the ways salt gets into their diet. It should be pointed out that many processed foods already contain salt. People might add more salt when they cook and even more salt at the dinner table. Instructors could ask students how they can reduce salt in their diets.

Unit 1 – The Role of Diet in Health

Suggestions for Assessment

Students are required to complete questions 1 – 20 under *Chapter 9 Review*. Answers are found in the Teacher’s Edition.

Resources

Teacher’s Edition, page 227.

Unit 2 – Choosing Healthy Foods

Outcomes	Notes for Teaching and Learning
2.1 Discuss how eating patterns affect dietary choices.	Instructors could have students brainstorm methods food companies use to try to convince people to buy their food products. Possible ways include running commercials during popular TV programs, offering coupons for free or reduced-price food, and catering to food fads. Students could discuss whether they find these methods effective and whether they are influenced by them.
2.1.1 List and describe four factors that influence food choice.	Each world culture can be distinguished by its foods. For example, many Asian cultures are noted for dishes containing tofu or soy sauce, and in Asian diets, rice is often the main source of complex carbohydrates. Foods that have been important in Canadian culture are beef, chicken, turkey, pork, potatoes, corn, greens, wheat, beans and apples. Instructors could ask students to list foods often identified with Newfoundland and Labrador culture.
2.1.2 Describe three ways stress affects eating patterns.	
2.2 Discuss how the media influences eating patterns.	Instructors could have students read the Health Myth feature on page 234 of the text. Students should be told that some vitamins, such as vitamins B and C, are eliminated in the urine when they are in excess in the body. Others, such as vitamins A, D, and E, are stored in the liver and in adipose tissue (fat that accumulates within muscles, under the skin, and around internal organs). Serious health problems can occur if these vitamins are in excess in the body.
2.2.1 Describe how advertising affects food choices.	
2.2.2 Identify three ways the fast food industry affects healthy eating patterns.	

Unit 2 – Choosing Healthy Foods

Suggestions for Assessment

As an optional assignment, students could read and conduct the *Research and Write* feature in the text. Students could work with partners or in small groups to complete this activity.

Students are required to compile a list of all the snacks they have eaten in the past 24 hours and reflect on how they can modify their list to make their snacks more nutritious. Written answers must be placed in their **portfolios**.

Students are required to write a short paragraph describing their eating patterns. They should include their eating schedule, whether they take their time to eat or eat on the go, and whether they eat at regular times each day. They should reflect on whether or not they feel they have healthy eating habits and if they would like to make any changes to their daily routine. Written answers should be placed in their **portfolio**.

Students are required to complete questions 1 – 5 under *Lesson 1 Review*. Answers are found in the Teacher’s Edition.

Students are required to complete *Workbook Activity 35: Food Choices*. Answers are found in the Teacher’s Edition.

Students are required to answer questions 1 – 3 under *Health in Your Life: A Look at Food Advertising*. Written answers should be placed in their **portfolio**. Sample answers are found in the Teacher’s Edition.

Resources

Teacher’s Edition, page 230.

Teacher’s Edition, page 231.

Teacher’s Edition, page 231.

Teacher’s Edition, page 232.

Teacher’s Edition, page 564.

Teacher’s Edition, page 564.

Unit 2 – Choosing Healthy Foods

Outcomes

2.2.3 Explore the influence of fads on dietary choices.

2.3 Explain how to read food labels in order to make healthy food choices.

2.3.1 Discuss the role of Health Canada and the Canada Food Inspection Agency in ensuring food safety.

Notes for Teaching and Learning

Many food products are advertised as being environmentally friendly. Instructors could ask students what they can do to choose products that help the environment. Suggestions could include buying foods that use the least packaging, using cloth napkins, and using a reusable thermal lunch bag. Other suggestions may include buying fruits and vegetables that are grown locally and/or organically, and buying foods that do not use artificial preservatives or other chemicals.

Students could read the Link to Social Studies feature on page 232. Instructors could discuss whether students like to eat fish and how they like it prepared. If students do not eat fish often, instructors could ask whether they would consider eating it because it could prevent illness. Instructors could discuss other ways people might get the benefits of fish without eating it twice a week.

Instructors could bring in some common packaged foods such as cereals and canned vegetables. Students could look at the labels on the packages and read the nutrients listed. Instructors could discuss the major sources of various nutrients in the foods they eat each day. Students could be asked how reading food labels can help them make good choices.

The textbook refers to the United States Government of Agriculture, the United States Food and Drug Administration, and the Food and Nutrition Board of the National Research Council as governing bodies that oversee food safety in the United States. Students should be aware that in Canada, Health Canada and the Canadian Food Inspection Agency play analogous roles.

Unit 2 – Choosing Healthy Foods

Suggestions for Assessment

As an optional assignment, students could read and conduct the *Research and Write* feature on page 235. Instructors could introduce and explain the term childhood obesity as a term that students can use to start their Internet research. Students could work with a partner to do the research, but they should write individual reports. Students' reports should mention diabetes as a health problem that stems from being overweight. Students can share their reports with the class.

As an optional assignment, students could describe some food fads and explain whether these diets are healthy. Examples might include the grapefruit diet, cabbage soup diet, and liquid protein diets. Diets that restrict intake of certain foods or food groups are generally unhealthy. Diets need to contain a balance of all the essential nutrients.

Students are required to complete questions 1 and 2 under *Decide for Yourself* and place their written answers in their **portfolio**. Sample answers are found in the Teacher's Edition.

Students are required to complete questions 1 – 5 under *Lesson 2 Review*. Answers are found in the Teacher's Edition.

Students are required to complete *Workbook Activity 36: Advertising Food Products*. Answers are found in the Teacher's Edition.

Resources

Teacher's Edition, page 235.

Teacher's Edition, page 236.

Teacher's Edition, page 237.

Teacher's Edition, page 238.

Teacher's Edition, page 564.

Unit 2 – Choosing Healthy Foods

Outcomes

2.3.2 Read and interpret a Nutrition Facts table.

2.3.3 Identify food additives and explain why they are used in foods.

Notes for Teaching and Learning

Instructors could read the Health Myth feature on page 236. Students should be told that fats contain 9 calories per gram; carbohydrates and proteins contain 4 calories per gram. Eating the same quantity of fat as protein or carbohydrates will result in taking in more than twice as many calories from fat as from protein or carbohydrates. Taking in more calories than what is expended is what causes weight gain, not eating foods that contain fat.

Students should understand what the percentage of Daily Value means. It tells how much of the nutrient is found in the food compared with the total amount of the nutrient that people need each day. Percent Daily Values are based on a diet containing 2000 calories per day. However, younger people such as teenagers need anywhere from 2200 to 2800 calories per day, while seniors may need less than 2000 calories per day. Percent Daily Values provide a rough guideline of how much nutrients should be consumed daily.

Instructors could show students two loaves of bread, one packaged from a supermarket and the other fresh from a bakery. Students could be told that the bakery bread has no preservatives. Instructors could ask students which bread should be eaten first and why. Their predictions can be tested by sprinkling a slice of each loaf with water and placing the slices in separate self-seal bags. Each slice should be placed in a dark, warm location for several days.

Students should be encouraged to bring in labels from food products that they eat regularly. Students could share the label information with the class and discuss the various additives that they consume by eating these foods. Instructors could ask students their feelings about the amount of additives found in foods.

Instructors could tell students that artificial food colorings are among the most common additives. Many of the foods students eat have been color-enhanced. For example, fruit juices are often enhanced to make their colors more vibrant.

Unit 2 – Choosing Healthy Foods

Suggestions for Assessment	Resources
<p>Students are required to complete questions 2- 5 under <i>Lesson 3 Review</i>. Answers are found in the Teacher's Edition.</p>	<p><i>Teacher's Edition</i>, page 242.</p>
<p>Students are required to complete <i>Workbook Activity 37: Analyzing a Food Label</i>. Answers are found in the Teacher's Edition.</p>	<p><i>Teacher's Edition</i>, page 564.</p>
<p>Students are required to complete questions 1 – 11 and 13 – 20 under <i>Chapter 10 Review</i>. Answers are found in the Teacher's Edition.</p>	<p><i>Teacher's Edition</i>, pages 244 – 245.</p>
<p>Students are required to complete questions 1 – 15 and 16 – 20 under <i>Unit 3 Review</i>. Answers are found in the Teacher's Edition.</p>	<p><i>Teacher's Edition</i>, pages 248 – 249.</p>

Unit 3 – Disease – Causes & Protection

Outcomes

3.1 Discuss the causes of acquired and inherited diseases.

3.1.1 Differentiate between an inherited and acquired disease.

3.1.2 Explain some causes of acquired diseases.

3.1.3 Identify the stages of infectious disease.

3.1.4 Recognize the main causes of inherited diseases.

Notes for Teaching and Learning

Instructors could have students read the introductory paragraphs on page 251 of the text. Students could be asked what things they do every day to prevent themselves from getting sick. Instructors could ask students to list some diseases that they can help prevent themselves from getting.

Instructors could ask students to name some common diseases. Students could also be asked to name some uncommon diseases. Instructors could encourage students to share any knowledge they have about an uncommon disease with the class.

Controlling disease during the past century has led to a change in life expectancy from 47 in 1900 to 78 in the early 2000s. Understanding how diseases spread is essential to minimizing their transmittance. Diseases such as HIV/AIDS and hepatitis B and C threaten young adults who may be more susceptible to the diseases because they often participate in risky behaviors.

Instructors could have students think about a time when they have been ill. Students could be asked whether they were willing to make changes in their lives to help them from getting ill again. Instructors should explain that by learning about the causes of diseases, they can learn how to avoid becoming ill.

Instructors should inform students that a person can get infected with a disease by eating food that has been contaminated with bacteria or other pathogens. In many places with hot climates, where food can spoil quickly, the people often use a lot of hot spices in their food. Some people believe that these spices can kill bacteria and prevent the food from becoming contaminated. However, the spices most likely just mask the taste of food that has spoiled.

Unit 3 – Disease – Causes & Protection

Suggestions for Assessment

A flu pandemic is a global outbreak that occurs when a new influenza virus causes serious human illness and spreads easily from person to person. As an optional assignment, students could research influenza pandemics at the World Health Organization on their Epidemic and Pandemic Response page of their Web site.

Instructors could have students read the *Link to Environmental Science* feature in the text. Students could then create a cause and effect chain to show how people are affected by disease in an environment with standing water.

Students are required to answer questions 1 – 3 under *Decide for Yourself: Home or School?* Written answers should be place in their **portfolio**. Suggested answers are found in the Teacher’s Edition.

As an optional assignment, instructors could have students research the five most common infectious diseases in Newfoundland and Labrador. They could also find out ways to prevent and treat each disease.

Students are required to complete questions 1 – 5 under *Lesson 1 Review*. Answers are found in the Teacher’s Edition.

Students are required to complete *Workbook Activity 38: Causes of Conditions*. Answers are found in the Teacher’s Edition.

Resources

Teacher’s Edition, page 255.

WHO web site,
[www.who.int/csr/disease/influenza
/en/index.html](http://www.who.int/csr/disease/influenza/en/index.html)

Teacher’s Edition, page 256.

Teacher’s Edition, page 257.

Teacher’s Edition, page 258.

Teacher’s Edition, page 258.

Teacher’s Edition, page 564.

Unit 3 – Disease – Causes & Protection

Outcomes

3.2 Examine some of the body's barriers to infection.

3.2.1 Explain how the body fights infection.

3.2.2 Describe how the immune system works.

3.2.3 Recognize the importance of vaccinations.

Notes for Teaching and Learning

Instructors could have students read and discuss the Health Myth on page 258 of the text. Instructors could point out that scientists are currently studying whether antibacterial cleaning and hygiene products, including use of antibacterial hand soap, are linked to drug resistant bacteria.

Instructors could have students read and discuss the Link to Social Studies feature on page 259 of the text. Students could be asked to identify some of the changes that have occurred in the past hundred years that led to the thirty year increase in life expectancy in Canada.

Instructors could have students imagine that they are building a house in the woods. They want to keep out insects, wild animals, and dirt. Students could be asked what are some things they would design into their house to accomplish this. Instructors could tell students that their body similarly has parts that keep unwanted things from entering it.

Instructors could use the flowchart on page 260 of the Teacher's Edition to explain how the immune system works.

Vaccines have played a crucial role in reducing infectious diseases and are thus a great public health success story. The smallpox vaccination has wiped out smallpox. The polio virus has nearly been eradicated. Vaccines can prevent death and disability and have saved billions of dollars in health care costs every year.

Unit 3 – Disease – Causes & Protection

Suggestions for Assessment

Students are required to complete question 2 under *Health in Your Life: Vaccinations – Not Just for Little Kids* and place their written answer in their **portfolio**. Suggested answers are found in the Teacher’s Edition.

Students are required to complete questions 1 – 5 under *Lesson 2 Review*. Answers are found in the Teacher’s Edition.

Students are required to complete *Workbook Activity 39: Defenses against Disease and Infection*. Answers are found in the Teacher’s Edition.

Students are required to complete questions 1 – 20 under *Chapter 11 Review*. Answers are found in the Teacher’s Edition.

Resources

Teacher’s Edition, page 261.

Teacher’s Edition, page 263.

Teacher’s Edition, page 564.

Teacher’s Edition, pages 266 – 267.

Unit 3 – Disease – Cause & Protection

Outcomes

Notes for Teaching and Learning

Instructors could have students read and discuss the Health Myth on page 260 of the text. It should be pointed out that economics is the biggest factor in countries that have low vaccination rates. Instructors should explain that the health organizations in developing countries do not have enough money to vaccinate many people. As a result, diseases that are at bay in Canada are prevalent in poorer countries. Even in wealthy countries, people who are not vaccinated are vulnerable to infection.

Instructors should point out that tuberculosis, often called consumption, was also a deadly disease that was effectively brought under control in the 1900s with the introduction of antibiotics. Overuse of antibiotics, however, threatens an increase in tuberculosis. The bacteria that cause tuberculosis may become resistant to some antibiotics. Instructors should stress to students that when taking antibiotics, they must follow the doctor's instructions carefully.

Unit 3 – Disease – Cause & Prevention

Suggestions for Assessment	Resources

Unit 4 – Preventing AIDS & Sexually Transmitted Infections

Outcomes	Notes for Teaching and Learning
4.1 Describe the causes of AIDS and how it is acquired.	AIDS was not discovered and recognized until the early 1980s. Although it is likely that some people died of the disease before the early 1980s, it wasn't until 1981 that the Centers for Disease Control began to link increasing numbers of deaths from a rare form of pneumonia and Kaposi sarcoma among gay men. By mid-1982, the disease had been named AIDS and linked to blood transmission.
4.1.1 Distinguish between HIV and AIDS.	
4.1.2 Describe the virus that causes AIDS.	
4.1.3 Discuss how AIDS has affected the world.	Instructors could have students generate a list of ways that communicable diseases are spread. Items may include shaking hands, sharing cups or silverware, sexual contact, sharing needles, sneezing, and so on. Students could then be asked to identify which of the ways they think AIDS can be transmitted. Instructors should stress that AIDS is not spread through casual contact such as hugging, shaking hands, or sharing food.
4.1.4 Outline how HIV is spread.	
4.1.5 Identify ways AIDS is not acquired.	
4.1.6 Discuss the safety of the blood supply.	Instructors could have students read the Health Myth on page 271 of the text. Students should be told that the concept of AIDS as a disease that affects only homosexuals is dangerous, because it can cause people to expose themselves to AIDS through unsafe behavior. Conversely, the ways that AIDS is spread are very specific, and following basic safety practices can help protect people from the disease.
4.1.7 Discuss ways health care workers can protect themselves from HIV infection.	
4.2 Identify the symptoms of AIDS and infections it causes.	Instructors could tell students that AIDS is thought to have occurred in Africa as early as 1962. Had the international community noticed the initial occurrences of this disease, epidemiologists might have gained a head start on learning how AIDS is transmitted and how it can be prevented.
4.2.1 Outline the signs and symptoms of HIV infection.	
4.2.2 List and describe some of the opportunistic infections associated with HIV infection.	Instructors should inform students that in order to control the spread of AIDS and other diseases, medical personnel dispose of hazardous biochemical wastes in safe ways. Students may have noticed special waste containers in doctors' examining rooms and hospital rooms. Biomedical waste includes needles, bandages, urine and stool containers, and other items that come in contact with body fluids.

Unit 4 – Preventing AIDS & Sexually Transmitted Infections

Suggestions for Assessment

Students could read the Link to Social Studies feature on page 273 of the text. Instructors should point out that while AIDS is a huge problem for Canada, it is much more devastating to the people of Africa. The drugs that are used to treat AIDS are very expensive, and many Africans cannot afford treatment. As an optional assignment, students could research the AIDS epidemic in Africa and possibly present their findings to the class.

As an optional assignment, students could read and complete the *Research and Write* feature on page 274 of the text.

Students are required to answer questions 1 – 5 under *Lesson 1 Review*. Answers are found in the Teacher’s Edition.

Students are required to complete *Workbook Activity 40: What is AIDS?* Answers are found in the Teacher’s Edition.

Resources

Teacher’s Edition, page 273.

Teacher’s Edition, page 274.

Teacher’s Edition, page 274.

Teacher’s Edition, page 574.

Unit 4 – Preventing AIDS & Sexually Transmitted Infections

Outcomes

4.3 Describe the symptoms and treatment of commonly sexually transmitted infections.

Notes for Teaching and Learning

Students could read the Health Myth feature on page 273 of the text. Instructors could point out that new drugs and technology have made a huge difference in an AIDS prognosis. When AIDS first surfaced in North America in the early 1980s, patients often lived only a few years after being diagnosed with the HIV virus. Faster diagnosis and new antiviral drugs and drug combinations now allow patients to live much longer after diagnosis – some as long as 10 or even 20 years.

The tests that are used to detect HIV work by looking for antibodies in the bloodstream. When the body is attacked by a virus, including HIV, it produces antibodies to fight off the infection. An antibody test looks for specific proteins that are present only in the antibodies that are produced as a reaction to an HIV infection.

Some STIs are caused by bacteria; they can be treated with antibiotics, such as penicillin. However, some STIs are caused by viruses and cannot be treated with antibiotics, such as human papillomavirus (HPV). Some types of HPV cause genital warts, and other types have been linked to cervical cancer. HPV is a growth that can occur on the cervix, vagina, vulva, mouth, anus, rectum, or penis. The warts may be burned or frozen off or removed with laser surgery. Despite these treatments, the virus stays in a person's body for life, although it may be dormant.

Instructors could invite a community health worker to give a guest presentation on STIs.

Unit 4 – Preventing AIDS & Sexually Transmitted Infections

Suggestions for Assessment	Resources
<p>As an optional assignment, students could research the occurrences of STIs in Amsterdam. Since the start of the 1960s, Amsterdam has been considered a liberal city for sexual behavior. One may expect, therefore, that the Netherlands would have an extraordinarily high number of STIs. On the contrary, the Netherlands is one of the few countries in which the number of STIs has decreased. Authorities credit much of this decrease to massive advertising campaigns, especially those focused on teens.</p>	

Unit 4 – Preventing AIDS & Sexually Transmitted Infections

Outcomes

4.3.1 Describe the symptoms and treatment of the following sexually transmitted infections:

- i. gonorrhea
- ii. chlamydia
- iii. syphilis
- iv. genital herpes
- v. genital warts

4.3.2 Identify help or resources for people with sexually transmitted infections.

4.3.3 Explain how transmission of sexually transmitted infections can be prevented.

Notes for Teaching and Learning

Instructors should ensure that students understand that some STIs – such as HPV, viral hepatitis, trichomoniasis, gonorrhea, and chlamydia – do not always produce symptoms in people who have them. People can be infected with STIs and not know it, which is one reason why they are so dangerous.

Instructors should tell students that genital herpes cannot be treated with an antibiotic because it is not caused by bacteria. Herpes is caused by a virus that stays dormant for periods in which there are no symptoms in the person who is infected. Some antiviral medicines have been effective in suppressing the virus and/or relieving its symptoms for a period of time.

Students can read the Technology and Society feature on page 276 of the text. Instructors should tell students that some drug trials split the patients into two groups. Half the patients receive the test drug and half receive a sugar pill, or placebo. The patients in the study do not know if they are taking the drug or the placebo. This helps researchers determine if the drug being tested is actually working, although some concerns have been raised about whether it is ethical to withhold treatment from patients who receive only the placebo.

To model the spread of STIs or other communicable diseases throughout a population, distribute half-filled test tubes with water to the students. Before distribution, put a few drops of phenolphthalein in one of the half-filled test tubes. Have the students walk around the room and randomly exchange fluids by dumping a small portion of their test tube into another person's tube and vice versa. After a short amount of time, students can return to their seats and the presence of phenolphthalein can be tested using a couple of drops of diluted base such as sodium hydroxide. Instructors could discuss how this activity relates to the spread and prevention of STIs.

Unit 4 – Preventing AIDS & Sexually Transmitted Infections

Suggestions for Assessment	Resources
<p>Students are required to complete questions 1 – 5 under <i>Lesson 2 Review</i>. Answers are found in the Teacher’s Edition.</p>	<p><i>Teacher’s Edition</i>, page 280.</p>
<p>Students are required to answer questions 1 and 3 under <i>Health in Your Life: A Patient’s Basic Rights</i>. Written answers should be placed in their portfolio. Suggested answers are found in the Teacher’s Edition.</p>	<p><i>Teacher’s Edition</i>, page 280.</p>
<p>Students are required to complete <i>Workbook Activity 41: Facts About Sexually Transmitted Diseases</i>. Answers are found in the Teacher’s Edition.</p>	<p><i>Teacher’s Edition</i>, page 574.</p>
<p>Students are required to complete questions 1 – 20 under <i>Chapter 12 Review</i>. Answers are found in the Teacher’s Edition.</p>	<p><i>Teacher’s Edition</i>, pages 282 – 283.</p>

Unit 5 – Recognizing Common Diseases

Outcomes

5.1 Describe cardiovascular diseases and what might cause them.

5.1.1 Explain what causes high blood pressure.

5.1.2 Describe some diseases of the arteries including arteriosclerosis and atherosclerosis.

5.1.3 Discuss how a heart attack happens.

5.1.4 Differentiate between LDL and HDL cholesterol.

5.1.5 Describe angina pectoris.

5.1.6 Identify the causes and symptoms of a stroke.

5.1.7 Recognize risk factors for cardiovascular diseases.

Notes for Teaching and Learning

Coronary arteries are the blood vessels that supply blood, which contains oxygen, to the heart muscle. When these arteries are narrowed by the accumulation of fatty deposits called plaque, coronary heart disease results. Blood flow to the heart decreases, and the heart does not get enough oxygen to beat properly.

Instructors could use a short piece of hose, a small lump of clay, water and a dishpan to model the development of atherosclerosis.

Instructors should ask students what they already know about heart attacks, strokes and hypertension. Students should be encouraged to relate experiences family members, such as parents or grandparents, may have had with these conditions.

Students could read the Health Myth feature on page 289 of the text. Instructors should tell students that there are many programs – such as mall walking programs – designed to rehabilitate heart attack patients. A heart attack survivor could be invited to the class to discuss how he or she has made life style changes.

Students could read the Link to Social Studies feature on page 289 of the text. Instructors could bring in a sphygmomanometer to demonstrate how it works.

Instructors could have students compare controllable and uncontrollable cardiovascular risk factors. Students could be asked to list both kinds of factors and identify those that apply to them.

Unit 5 – Recognizing Common Diseases

Suggestions for Assessment

Instructors should inform students that heart attack is the number one cause of death in Canada. As an optional assignment students could research how this compares with deaths caused by heart attack in other countries. Students could hypothesize reasons for higher or lower heart attack death rates in different countries.

Students are required to answer the following questions and place their written answers in their **portfolio**:

1. Do you think you are at risk for getting cardiovascular disease later in life?
2. What specific things can you do now that will help prevent you from getting a cardiovascular disease?

Resources

Teacher's Edition, page 288.

Teacher's Edition, page 290.

Unit 5 – Recognizing Common Diseases

Outcomes	Notes for Teaching and Learning
5.1.8 Discuss how cardiovascular problems can be prevented.	Instructors could have students read the Link to Math feature on page 291. Students should be told that their pulse can be taken in many places besides the wrist. It may be easier for students to take their carotid pulse by placing the same two fingers along the outer edge of their trachea (windpipe). This pulse may be easier to find than the radial pulse in the wrist.
5.2 Discuss the causes, symptoms, warning signs, and treatments for cancer.	Instructors could have students read the Health Myth feature on page 294 of the text. Students should be told that mammograms are X-rays of the breast tissue that detect any abnormalities. Mammograms can be done on both men and women. Doctors suggest that women have mammograms as a preventive test to check for irregular tissue growth or the production of calcium deposits that can clump and form a cancerous mass. Sometimes ultrasound is used as well to diagnose fibrous cysts or fluid-filled pockets in the breast tissue.
5.2.1 Describe the causes of cancer.	
5.2.2 Differentiate between malignant and benign tumors.	
5.2.3 Recognize the symptoms and warning signs of cancer.	
5.2.4 Describe self-exams for warning signs of cancer.	
5.2.5 Describe the following treatments for cancer: i. chemotherapy ii. radiation iii. surgery	Chemotherapy works by attacking dividing cells. Some drugs attack a cell while it is dividing into two cells. Other drugs attack a cell prior to dividing. Because cancer cells divide much more rapidly than normal cells do, they are affected by these drugs to a greater degree. Radiation damages all cells that are actively growing and dividing. Because cancer cells are less well-organized than healthy cells, they are less able to repair the damage and recover.
5.2.6 List and describe the risk factors for cancer.	
5.2.7 Explain how risk factors for cancer can be avoided.	If possible, instructors could acquire demonstration models of a breast and scrotum from a science supply company. These models contain “tumors” so students can feel what a lump would be like if they found one while doing a self-exam.

Unit 5 – Recognizing Common Diseases

Suggestions for Assessment

Students are required to complete questions 1 – 5 under *Lesson 1 Review*. Answers are found in the Teacher’s Guide.

Students are required to complete *Workbook Activity 42: Changing Risk Factors?* Answers are found in the Teacher’s Guide.

Students could visit the Canadian Cancer Society website and answer the following questions:

1. What is the most common type of cancer among men?
2. What is the most common type of cancer among women?
3. What is the second most common type of cancer in both men and women?
4. Who gets cancer of the urinary bladder more often, men or women?

Newspapers often have articles about people whose cancers are thought to be caused by environmental pollution such as secondhand smoke and toxic chemical wastes from nearby factories, old waste dumps, or garbage incinerators. As an optional assignment, students could investigate information about their local environment for possible carcinogens. The report should include the potential danger, how it affects the community, how it can be prevented, who the key players are, and what the key issues are.

Students are required to complete questions 4 & 5 under *Lesson 2 Review*. Answers are found in the Teacher’s Edition.

Students are required to read the *Health in Your Life: Environmental Carcinogens* feature in the text and answer questions 1 – 3. Written answers should be placed in their **portfolio**. Sample answers are found in the Teacher’s Edition.

Resources

Teacher’s Guide, page 564.

Teacher’s Guide, page 291.

Canadian Cancer Society website:
www.cancer.ca

The Telegram website:
www.thetelegram.com

Teacher’s Edition, page 297.

Teacher’s Edition, page 297.

Unit 5 – Recognizing Common Diseases

Outcomes

5.3 Discuss the types, causes, symptoms and treatment for diabetes.

5.3.1 Compare and contrast Type I and Type II diabetes.

5.3.2 Recognize the signs and symptoms of diabetes.

5.3.3 Identify the available treatments for diabetes.

5.3.4 List and describe the risk factors for diabetes.

5.4 Describe arthritis, epilepsy and asthma, and identify treatments for these diseases.

5.4.1 Discuss arthritis and its treatment.

5.4.2 Describe epilepsy and its treatment.

5.4.3 Explain the first aid for an epileptic seizure.

5.4.4 Discuss symptoms of asthma and its treatment.

Notes for Teaching and Learning

When people hear of diabetes, they may associate it with taking daily injections of insulin. Today, there are alternative, more modern ways of getting insulin. One way uses a pump that infuses a continuous flow of insulin into the body. The pump is worn much like a beeper. The insulin enters the body through a tiny needle inserted into the abdomen. Another treatment involves transplanting a pancreas or cells from a pancreas into the patient.

Instructors should review with students the role that hormones play in helping the body function. This was covered in Healthy Living 3101.

People with diabetes often wear ID tags or bracelets indicating this condition. Instructors could ask students why it is a good idea for a person with diabetes to wear this ID.

Instructors should ask students why they think it would be especially important for a person with diabetes to avoid cuts, sores, and blisters on the feet.

Rheumatic diseases affect joints, tendons, ligaments, bones, or muscles. Arthritis is characterized by inflammation of joints. About one in three adults is affected by arthritis. Arthritis is not just an “old person’s disease.” Nearly two-thirds of people with arthritis are younger than 65 years of age.

Instructors could demonstrate a petit mal seizure by stopping, staring straight ahead, and dropping a pencil or book from the hand for about 10 seconds.

Unit 5 – Recognizing Common Diseases

Suggestions for Assessment

Students are required to complete *Workbook Activity 43: What is Cancer?* Answers are found in the Teacher's Edition.

Students are required to complete questions 1 – 5 under *Lesson 3 Review*. Answers are found in the Teacher's Edition.

Students are required to complete *Workbook Activity 44: Diabetes*. Answers are found in the Teacher's Edition.

Students are required to complete questions 1 – 5 under *Lesson 4 Review*. Answers are found in the Teacher's Edition.

Students are required to complete *Workbook Activity 45: Arthritis, Epilepsy, and Asthma*. Answers are found in the Teacher's Edition.

Students are required to complete questions 1 – 20 under *Chapter 13 Review*. Answers are found in the Teacher's Edition.

Resources

Teacher's Edition, page 564.

Teacher's Edition, page 301.

Teacher's Edition, page 565.

Teacher's Edition, page 306.

Teacher's Edition, page 565.

Teacher's Edition, pages 308 – 309.