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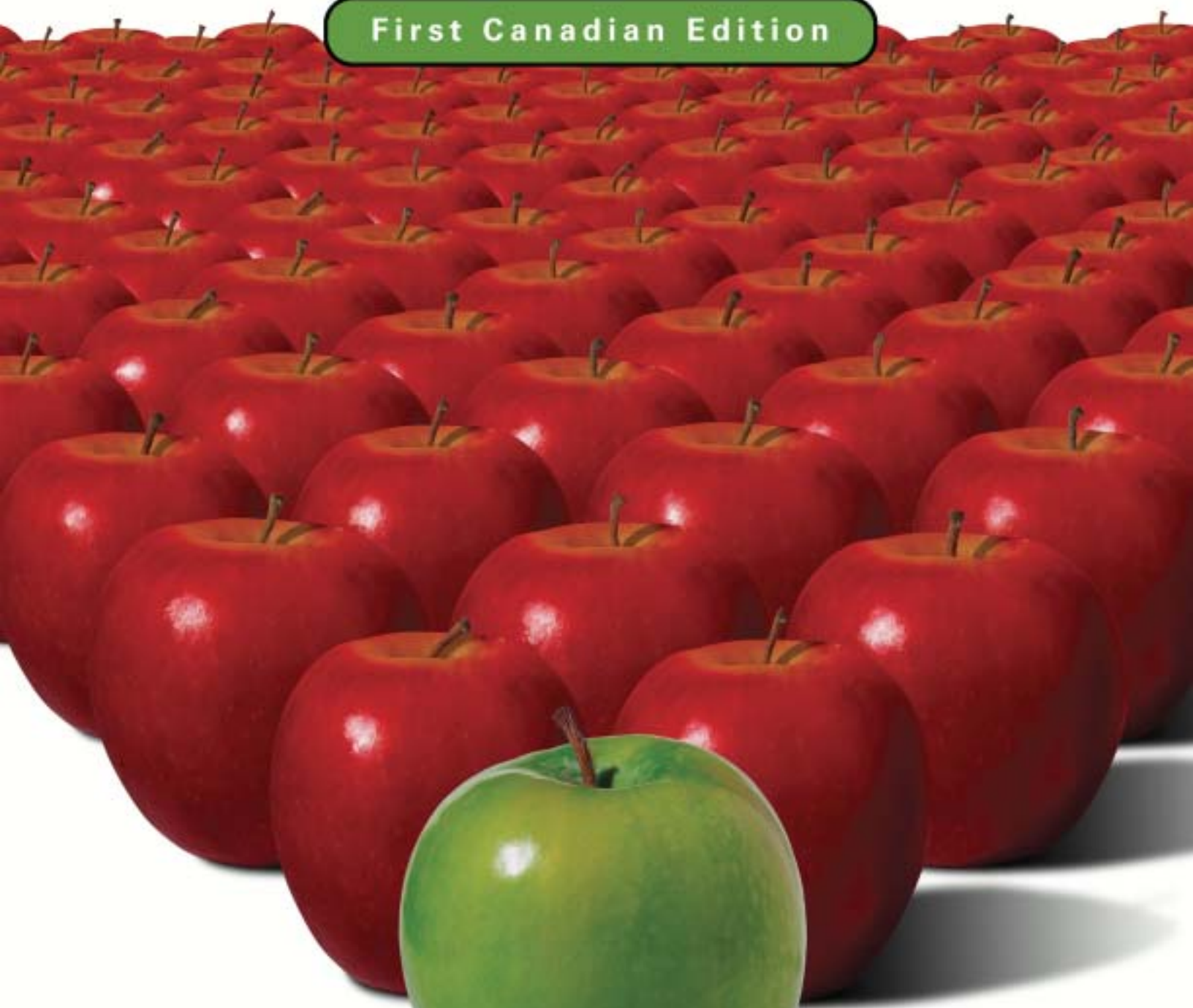
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Food & Nutrition Sciences

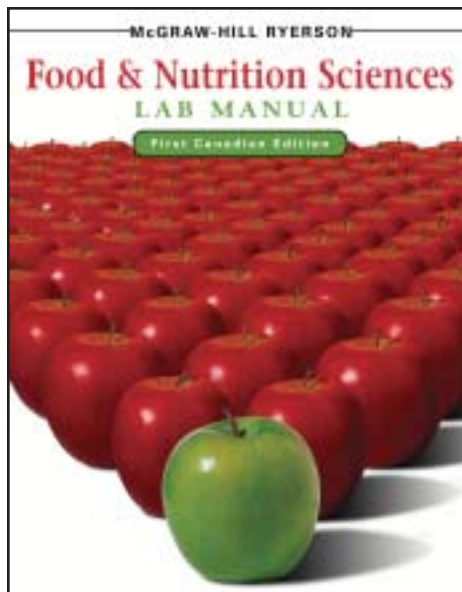
LAB MANUAL

First Canadian Edition



SAMPLER

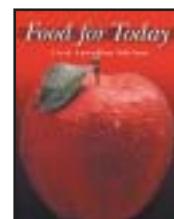
Available September 2004!



This **high interest food and nutrition science lab manual** teaches students social science research methods as they study the nutritional, psychological, social, cultural, and global factors that influence people's food choices. **The lab manual combined with the information covered in unit 6 of *Food for Today, First Canadian Edition* will cover the Ontario Grade 12 Food and Nutrition Science course 100%.**

Features

- Each unit begins with a **Diagnostic Quiz, Unit Planner, Study Guide, Issues** and a **Social Science Research** activity
- Each unit ends with a **Culminating Activity**, a **Unit Test**, and a **4 part course Culminating Activity**
- **Careers in Food and Nutrition** feature focuses on Canadian careers in the food and nutrition science area
- Labs are **suitable for the family studies lab** and do not require expensive science equipment or space
- Will contain **Canadian references, data, laws and regulations, and metric measurements**
- **Enhanced teacher instruction** on set-up and carrying out a food sciences lab
- Assessment and instructions **geared to the Ontario curriculum**
- **Answer key** will contain all answers



Program Components

Food and Nutrition Sciences, Student Lab Manual (Available September 1, 2004)0-07-095238-8\$9.99
Food and Nutrition Sciences, Answer Key (Available September 1, 2004)0-07-095242-6\$14.95

Food for Today, First Canadian Edition, Student Text.....0-07-087761-0\$52.95
Food for Today, First Canadian Edition, Teacher's Guide on CD0-07-087763-7\$99.95
Food for Today, First Canadian Edition, Teacher's Guide in print0-07-087762-9\$109.95

Special Package

Food and Nutrition Sciences, Student Lab Manual, Package of 250-07-095335-X\$225.00

Website: www.mcgrawhill.ca/books/food+lab

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Food and Nutrition Sciences Lab Manual

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Safety Resource

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- Issues
- Social Science Research
- Careers in Food and Nutrition: Guest speakers
- Food Labs/Related Activities:
 - Fat lab
 - Sugar lab
 - Starch lab
 - Protein lab
 - Food science/food lab
 - Muffins and smoothies



- Mini-assignments
- *Unit 1 Culminating Activity*: Describing nutrients, functions, digestion, metabolism, and importance of fibre and water
- Unit 1 Test
- Course Culminating Activity, Part 1
 - Identifying a product to make and market
 - Identifying the product's key nutrients
 - Labelling requirements for the product

EXPERIMENT**1.7**

Testing for Simple Sugars

Simple sugars are part of the _____ group of nutrients. They are the basic unit that ultimately will be turned into _____ (a type of sugar) and then converted into _____ for storage in the body's cells.

Purpose

To investigate the presence of simple sugars in various food products.

Materials

Frying pan with lid

6 glasses

Water

6 food products (choose from grain products, milk products, and fruits or vegetables)

Benedict's Solution

Method

1. Use an electric frying pan as a hot water bath. To do this, fill the electric frying pan with about 1 cm of water. Place the lid on and warm the water. (Watch over the frying pan when it is in use.)
2. Place foods in separate glasses.
 - If the food is a liquid, pour enough to just cover the bottom of the glass.
 - If the food is a solid (e.g., banana, apple, potato chips), crush a small amount and add enough water to cover the bottom of the glass.
3. Add about 10 drops of Benedict's Solution to each glass.
4. Place the glasses in the hot water bath and note your observations.

Alternatively, this may be done using test tubes and a Bunsen burner to slowly heat the contents.

1.7**TESTING FOR SIMPLE SUGARS, *continued*****Observations**

Complete the chart below using the foods your group has compiled. The Benedict's Solution provides a test for the presence of simple sugars. If sugar is present, the Benedict's Solution will turn colour (shades of yellow, orange, brown).

Observations

Food Product	Description of Any Change(s) <i>Before</i> Heating	Description of Any Change(s) <i>After</i> Heating	Conclusion Are simple sugars present?
1.			
2.			
3.			
4.			
5.			
6.			

TESTING FOR SIMPLE SUGARS EXPERIMENT, *continued*

1-7

Questions

1. Why does some food need to be crushed?

2. Why do the colours intensify with the continued application of heat?

3. You probably have different kinds of simple sugars present in the foods you tested. For each of your foods used, determine what sugars are present. You may refer to *Food for Today, First Canadian Edition*, pages 231-32, for information about the different forms of sugars.

- ---
- ---
- ---
- ---
- ---

Detecting the Presence of Starch in Food

Starch is part of the _____ group of nutrients. It is _____ because many sugars are _____ together. In digestion, it is one of the first nutrients to be broken down. The enzyme, _____ breaks the bonds of starch to produce simpler _____.

Purpose

To investigate the presence of starch in various food products.

Materials

Plate

8 different food products (use grain products, fruits, and vegetables)

Iodine solution

Method

1. Place a sample of each food on the plate. Test similar amounts of each food.
2. Place a few drops of iodine solution on each food.
3. Make observations immediately.
4. Wait a few more minutes and note any other changes.

DETECTING THE PRESENCE OF STARCH IN FOOD, *continued***1-8****Observations**

Complete the chart below using the foods your group has compiled. When drops of iodine solution are applied to a food containing starch, the solution will turn dark blue, purple, or blackish.

Food Product	Description <i>Before</i> Testing	Description <i>After</i> Testing	Conclusion Are simple sugars present?
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			

Questions

1. Many experiments have controls. What can be used as a control? Why is it ideal to have a control?

2. Icing sugar tests positive for starch. Why?

3. Starchy foods are often discouraged in many low-carbohydrate and/or high-protein diets. Find information about one of these diets and describe the foods discouraged in it.

4. Why should people be wary of these diets?

Food and Nutrition Sciences Lab Manual

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