



ALL ABOUT FOOD



TEACHER'S GUIDE

4th Edition
Revised 2008



ALL ABOUT FOOD



TEACHER'S GUIDE

If you ate today, thank a farmer and many other people ... mechanics, scientists, truck drivers, food processors, retailers and advertisers ... to mention just a few.

The production of food involves much more than farming. It is a complex system which is connected with many other sectors of the economy.

All About Food: Agri-Food Facts captures many of the interesting, surprising and useful facts about this important system. The agri-food system touches everyone's life on a daily basis. Let us introduce you to part of your world through the food you eat.

Ontario Agri-Food Education Inc. and the provincial/territorial Agriculture in the Classroom (AIRC) organizations across Canada would like to thank **FARM CREDIT CANADA** for funding the fourth edition of **All About Food Teacher's Guide**.



Ontario Agri-Food Education Inc.
L'Éducation agro-alimentaire de l'Ontario



Agriculture
in the Classroom



Territorial Farmers
Association

New Brunswick
4-H Council Limited



Agriculture Education
Prince Edward Island



If you ate today,
thank a farmer
Yukon Agricultural Association



Agriculture and
Agri-Food Canada Agriculture et
Agroalimentaire Canada

Statistical information contained in this document was extracted from the 2006 Canadian Census of Agriculture; Canadian Agriculture at a Glance; and previous editions of ALL ABOUT FOOD: Agri-Food Facts.

Additional copies of **All About Food Teacher's Guide** can be obtained from the Agriculture in the Classroom organizations as noted above, or visit the national AIRC website www.aifc.ca.

Egalement disponible en français.

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All About Food Teacher's Guide

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This Teacher’s Guide is designed to provide the teacher with a comprehensive resource that will assist students in learning about agriculture and the agri-food system. It uses the information provided in **All About Food: Agri-Food Facts** and provides a context for both teaching and learning. The student activities give the teacher direction for using the interesting, sometimes surprising, but always useful facts about this important system in the Canadian economy.

Table of Contents

The Agri-Food System	2
What Canadians Eat	3
Food Expenditures	4
Food Freedom Day	5
Food Safety	6
Today’s Farms	7
Distinctly Canadian.....	8
Food Production	9
The Land and Environment.....	10
Agricultural Production	11
Provincial Overview.....	12
Agricultural Trade	13
Blackline Masters – Junior.....	14
Blackline Masters – Intermediate	23
Blackline Masters – Senior.....	28

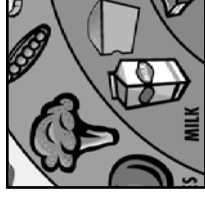
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Agri-Food System

(Please refer to *Agri-Food Facts* booklet pages 1 and 2)

KEY CONCEPTS

- Significance of the agri-food system in the Canadian economy
- Regional diversity of employment in agriculture
- Careers related to the agri-food system
- Interpretation of data



JUNIOR

J

TEACHING STRATEGIES

1. Review different types of data on page 1 with the class.
2. Have students identify a pie chart and a bar graph.
3. Have students look at page 2. How does this way to interpret information differ?
4. Students will collect data from their families in order to create both a pie chart and a bar graph.
5. Students will use Blackline Master J-1 to interpret their data.

INTERMEDIATE

I

TEACHING STRATEGIES

1. Discuss with the class the fact that agriculture plays a large part in the Canadian economy.
2. Look at graphs on page 1, discuss with students the term Gross Domestic Product. Ask them to identify the products that are made in their own community and province.
3. Have students complete a similar pie chart to the one on page 1 for their own province.
4. Look at the chart on page 2. Have students consider how farmers have adapted to population increases.
5. Have students write a letter to the editor of the local paper explaining the importance of agriculture in their community/province.

SENIOR

S

TEACHING STRATEGIES

1. Take a grain of wheat and place it on one side of the classroom; place a loaf of bread on the other side of the classroom. Have students come up with jobs that people have performed to turn the grain of wheat into bread. Make a flow chart of the jobs.
2. Have students add spin-off jobs to the first list.
3. Students will choose one job that they are interested in and research the educational and career path they would need to follow in order to be qualified for that job. A flow chart of the path will be completed using Blackline Master S-1.
4. After reviewing the information on pages 1 and 2, students will create a poster to show the importance of agriculture to our economy.

ASSESSMENT/EVALUATION STRATEGIES

- Pie charts and bar graphs are evaluated for accuracy.
- Data collection is assessed for completeness.

ASSESSMENT/EVALUATION STRATEGIES

- Letters to the editors are evaluated for content, audience, spelling and grammar.

ASSESSMENT/EVALUATION STRATEGIES

- Flow charts will be assessed for completeness.
- Career research will be evaluated.

EXTENSION ACTIVITIES

1. Brainstorm a list of businesses, processes and careers related to getting food from a farm to processing to the consumer.
2. Choose a food then draw a flow chart to show the journey of the food from the farm to the table.
3. Visit a farm and a plant which processes the farm product; tomatoes and tomato sauce for example.
4. Invite people who work in agri-food into the class to discuss their jobs and how they became qualified for them.
5. Visit an agricultural college or university to explore post-secondary education in agriculture.
6. Find a world and Canadian population estimate. Have students estimate how much more food farmers will need to produce in order to feed the world in 2025.

What Canadians Eat

(Please refer to *Agri-Food Facts* booklet pages 3, 7, 8 and 9)

KEY CONCEPTS

- Healthy eating
- Food consumption
- Serving sizes
- Interpretation of data



JUNIOR

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TEACHING STRATEGIES

1. Examine page 3 of the document, have students compare the amount of food to something of the same mass.
2. Students will choose 5 of the foods listed, then record their food intake of these items for a week. Using Blackline Master J-2, have students compare their food intake to the national average.
3. Review *Eating Well With Canada's Food Guide* found on page 7 of the document. Have students determine how many servings they need of each food group.
4. Using plasticine, have students create models of a serving. Students can create a food guide plate using the plasticine and paper plates.
5. Consider the *First Nations, Inuit and Métis Food Guide* on page 8. As a class compare the two guides. Introduce the students to some choices that are listed on this food guide that they may not have tasted before.
6. Review the information on page 9 and have students complete Blackline Master J-2 to identify the sources of fat in their diet.

INTERMEDIATE

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TEACHING STRATEGIES

1. Review *Eating Well With Canada's Food Guide* found on page 7 of the document. Have students determine how many servings they need of each food group.
2. Students will keep a record of the foods that they have eaten on two weekdays and one weekend day, using Blackline Master I-1, top.
3. Students will compare the *First Nations, Inuit and Métis Food Guide with Eating Well with Canada's Food Guide* (pages 7 & 8).
4. Students will consider the information on page 3 of the booklet. Based on their food record, students will estimate whether or not, during the course of a year, if they would eat more or less than the average Canadian. They will explain how and why their food consumption is different.
5. Students will look at the food in their homes for sources of fat
 - Found naturally in food
 - Added in processing
 - Added in home preparation
 - Added at the table
 They will share the information in groups and write a report.

SENIOR

S

TEACHING STRATEGIES

1. Students will review the information on page 3. They will consult the cafeteria in their school to get purchasing data. They will compare the data with the information on page 3.
2. Review *Eating Well With Canada's Food Guide* found on page 7 of the document. Have students determine how many servings they need of each food group.
3. Students will review the *First Nations, Inuit and Métis Food Guide*. They will plan a one day menu that will meet the daily food intake needs of the guide. Students will find a recipe for one of the dishes. In small groups, students will prepare the dish.
4. Each student will complete a food record to evaluate his or her eating habits. Students will write a one page report providing recommendations to improve.
5. Students will create a series of announcements to be made in the school to promote healthy eating.
6. In small groups, students will set up displays in the school cafeteria, mall or other public facility to provide others with information on healthy eating.

ASSESSMENT/EVALUATION STRATEGIES

- Evaluate the calculations of food consumption.
- Evaluate the models made by students to represent serving sizes.
- Assess for completion the sources of fat in the diet.

ASSESSMENT/EVALUATION STRATEGIES

- Evaluate food record and question completion.
- Assess for completion the comparison to the average food intake and sources of fat.
- Evaluate new bar graph.

ASSESSMENT/EVALUATION STRATEGIES

- Evaluate each student's contribution to the group project.
- Evaluate individual food records and reports on healthy eating.

EXTENSION ACTIVITIES

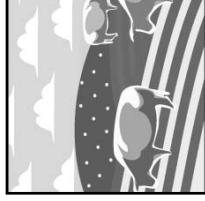
1. Students will calculate how many servings are in the total numbers of foods consumed every year, for example how many glasses of milk are in 83.21 litres. Students can illustrate this with a drawing or graph.
2. Students can make posters to educate others on *Eating Well with Canada's Food Guide*.
3. Students can create a game — Healthy Eating. To help people make better food choices, they can design the game for younger children or other groups such as seniors.
4. Students can create a commercial to raise awareness of sources of fat in our diet.
5. Students can read food labels to discover hidden fats.
6. Students can do a survey in the school to see how the food consumption compares to either the national averages on page 3 or the American versus Canadian consumption on page 9.

Food Expenditures

(Please refer to *Agri-Food Facts* booklet page 4)

KEY CONCEPTS

- Interpretation of data
- Food expenditures
- Income levels
- Comparing averages to personal/family spending



JUNIOR

INTERMEDIATE

SENIOR

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TEACHING STRATEGIES

- Using 2006 as your baseline, have students estimate how much money the average Canadian family
 - Made
 - Spent on food
 - Spent on housing
 - Spent on transportation
 - Spent on clothing
 - Spent on health care
 - Spent on recreation
- Review the information on page 4 of the booklet. Have students figure out the percentage of average family income for the above spending items.
- Have students complete Blackline Master J-3 to consider the expenditures of their province.

ASSESSMENT/EVALUATION STRATEGIES

- Assess food spending comparisons for completion.

TEACHING STRATEGIES

- Students will review page 4 of the booklet. Students will calculate percentages of income spent on
 - Food
 - Clothing
 - Housing
 - Household operation
 - Health care
 - Recreation
 - Personal care
 - Personal income taxes
- In small groups, students will be given a “family” case study representing different income levels. Based on the percentages above, students will create a budget for their family. They will create a weekly meal plan and a grocery spending plan that fits their budget.

ASSESSMENT/EVALUATION STRATEGIES

- Evaluate spending plans.

TEACHING STRATEGIES

- Using the Statistics Canada website, students will figure out a low, average and high income for Canadian families.
- Using the information provided on page 4 of the booklet, students will create a percentage of income spent on
 - Food
 - Clothing
 - Housing
 - Household operation
 - Health care
 - Recreation
 - Personal care
 - Personal income taxes
- Students will use this information to develop a profile of realistic food expenditures for low, average and high income families based on the amount of money they have available per month. Their profile will include meals out and grocery spending.

ASSESSMENT/EVALUATION STRATEGIES

- Evaluate profiles of food expenditures.

EXTENSION ACTIVITIES

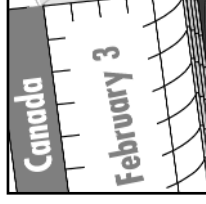
- Students can do a comparison of prices between local farmers’ markets and grocery stores.
- Students can do a cost comparison of making a simple recipe from scratch and buying a packaged version of the product, e.g., spaghetti and tomato sauce.
- Students can brainstorm the types of people/families who would be more likely to eat out or order take out. Why are they more likely to eat this way?
- How do restaurants attract customers? Is there a difference in approach between fast food, family restaurants and fine dining establishments?

Food Freedom Day

(Please refer to *Agri-Food Facts* booklet pages 5 and 6)

KEY CONCEPTS

- Significance of the agri-food system in the Canadian economy
- Interpretation of data
- Relative cost of food
- Comparison of cost of food in Canada to other countries



JUNIOR

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TEACHING STRATEGIES

1. In small groups, students will make a list of things that families spend money on.
2. Students will estimate what percentage of the family income is spent on each item.
3. Students will read pages 5 and 6 of the booklet.
4. Students will create a bar graph to show the percentage of income spent on food.
5. Students will discuss reasons why Canada has lower costs of food than other nations.

ASSESSMENT/EVALUATION STRATEGIES

- Assess students' abilities to work in groups.

INTERMEDIATE

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TEACHING STRATEGIES

1. Students will create a list of basic expenditures: clothing, shelter, food, transportation, etc. that families have.
2. Students read pages 5 and 6 of the booklet.
3. Students will go to www.stratcan.gc.ca to find out how much of their income families spend on other basics.
4. Students will create a bar graph to show other freedom days — shelter freedom day, for example.
5. Students will discuss the role agriculture has in keeping the cost of food in Canada low.

ASSESSMENT/EVALUATION STRATEGIES

- Evaluate bar graphs.

SENIOR

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TEACHING STRATEGIES

1. Students read and discuss pages 5 and 6 of the booklet. Students will visit the website of the Canadian Federation of Agriculture www.cfar-fca.ca for more information on Food Freedom Day.
2. Students investigate the factors that lead to lower food costs in Canada.
3. Students write a two page report on their findings.
4. Students will create a poster, bulletin board or announcement to raise awareness of Food Freedom Day and the role agriculture plays in keeping the cost of food in Canada low.

ASSESSMENT/EVALUATION STRATEGIES

- Evaluate written reports.
- Evaluate awareness project.

EXTENSION ACTIVITIES

1. Students will show, on a map, the countries listed on pages 5 and 6. For each, they will indicate that country's Food Freedom Day. Students will consider factors that may influence the cost of food in other countries.
2. Students will discuss traveling to other countries to work based on the Food Freedom Days of the country.
3. If you had to work in a country with higher food costs than Canada, for a year, and your income remained the same, how would your spending habits have to change to accommodate the higher cost of food?
4. Students will suggest other ways to compare countries, for example education levels, infant mortality, length of life, income levels, poverty levels, costs of shelter. Students will create a comparison chart for Canada and two other countries based on one or more of the factors considered.

Food Safety

(Please refer to *Agri-Food Facts* booklet pages 11 and 12)

KEY CONCEPTS

- Interpretation of data
- Basic food safety practices
- Government role in food safety



JUNIOR

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TEACHING STRATEGIES

1. Students will create a flow chart to show the food safety practices from farm to table using the information on pages 11 and 12.
2. Students make posters to display in the school to remind others of food safety practices.

INTERMEDIATE

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TEACHING STRATEGIES

1. Students will read pages 11 – 12 and discuss food safety practices as a class.
2. Students will list the various steps in the journey of food from farm to table. (Blackline Master I-2)
3. In small groups, students will be assigned a part of the farm to table journey to further investigate food safety practices.
4. Students will make a 5 – 10 minute presentation to the class about the food safety practices they researched.

SENIOR

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TEACHING STRATEGIES

1. Students read pages 11 – 12 and discuss food safety practices.
2. Students will develop a questionnaire to give to consumers regarding their food safety practices. Students will summarize their findings in a report with charts and graphs.
3. Students will visit a restaurant or the school cafeteria to see food safety practices in commercial food preparation.
4. Invite a speaker to the class who is responsible for food safety at one level of government: local, provincial or federal.

ASSESSMENT/EVALUATION STRATEGIES

- Evaluate flow charts.
- Evaluate posters.

ASSESSMENT/EVALUATION STRATEGIES

- Evaluate presentations of food safety practices.

ASSESSMENT/EVALUATION STRATEGIES

- Evaluate questionnaires and the tabulation of results.

EXTENSION ACTIVITIES

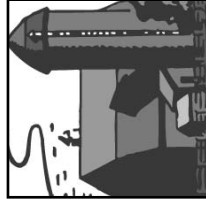
1. Prepare a pamphlet for employees of a restaurant or grocery store that outlines the importance of food safety practices.
2. Create an awareness campaign for the school or community on the importance of food safety.
3. Visit a farm or food processing plant to see first-hand the food safety practices.
4. Explain how packaging plays a role in food safety.
5. Choose a product and follow it from farm to table noting the food safety practices that take place.
6. For each level of government - local, provincial and federal - make a list of their responsibilities for food safety.

Today's Farms

(Please refer to *Agri-Food Facts* booklet pages 10 and 17)

KEY CONCEPTS

- Farm ownership
- Farm population
- Farm size
- Interpretation of data



JUNIOR

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TEACHING STRATEGIES

1. Discuss with the class the different definitions of farms on page 10.
2. Compare these farms with other businesses in the community.
3. Using E-Start from www.statcan.gc.ca, identify the different types of farms in your county or province.
4. Look at the graphs on pages 10 and 17.
5. Using Blackline Master J-4, students will research a time period.
6. Each group will prepare a one page handout that outlines their period and present it to the class.
7. As a class, come up with reasons based on history for the decreasing size of farms.

INTERMEDIATE

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TEACHING STRATEGIES

1. In small groups, students will read the information on pages 10 and 17 and develop a profile for each different type of farm and farmer.
2. Each group will create a poster based on the information gathered above.
3. Examine the data on pages 10 and 17; as a class brainstorm the factors that would contribute to the decreasing farm population and increasing farm size in Canada.

SENIOR

S

TEACHING STRATEGIES

1. Have students examine the data on pages 10 and 17. Using census data, have them determine the proportion of each farm type listed for each of the decades from 1950 on.
2. Have students compare their findings with the data presented on pages 10 and 17.
3. Students will write a newspaper column describing their findings.

ASSESSMENT/EVALUATION STRATEGIES

- Evaluate individual students' contributions to the group project.

ASSESSMENT/EVALUATION STRATEGIES

- Evaluate individual students' contributions to the group project.

ASSESSMENT/EVALUATION STRATEGIES

- Newspaper columns will be evaluated.

EXTENSION ACTIVITIES

1. Create pictographs to represent the different types of farms described on pages 10 and 17.
2. If possible, plan a visit to two or three of the different types of farms listed.
3. Research non-family farms: how are they organized in terms of labour and income distribution?
4. Using the data on pages 10 and 17, students will determine the statistics for their province and compare it to the national data.
5. Explain how a decreasing number of farmers can produce enough food to feed an increasing overall population.

Distinctly Canadian

(Please refer to *Agri-Food Facts* booklet pages 13 and 14)

JUNIOR KEY CONCEPTS

- Unique facts about Canadian agriculture
- Uniquely Canadian agricultural products



JUNIOR

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TEACHING STRATEGIES

1. In small groups, students will further investigate one of the topics listed on pages 13 and 14.
2. Each group will prepare a poster which can be displayed in the school hallway or another public place to increase awareness of agriculture in Canada.

INTERMEDIATE

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TEACHING STRATEGIES

1. Review the information on pages 13 and 14.
2. In small groups, students will research things that make Canadian agriculture different from that of other countries.
3. Students will prepare 30-second radio ads to inform the public of the differences. These ads can be played as part of the announcements in the school.

SENIOR

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TEACHING STRATEGIES

1. Students will read the information on pages 13 and 14.
2. The class will be divided into two groups; one group will investigate Canadian statistics related to agriculture, comparing them with another country, while the other group will investigate regulations using the Health Canada and Canadian Food Inspection Agency websites. (www.healthcanada.ca and www.inspection.gc.ca)
3. Individually, each student will write an article for a newsletter which the class will publish showing Canadian Agriculture.

ASSESSMENT/EVALUATION STRATEGIES

- Posters will be evaluated.

ASSESSMENT/EVALUATION STRATEGIES

- Announcements will be evaluated.

ASSESSMENT/EVALUATION STRATEGIES

- Individual articles will be evaluated.

EXTENSION ACTIVITIES

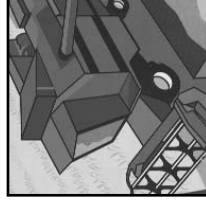
1. Collect a series of articles from the newspaper about issues related to Canadian agriculture. Have students investigate how these issues are distinct to Canada.
2. Compare Canadian production of commodities to the production in another country.
3. Using data from pages 13 and 14, compare Canada to another country.

Food Production

(Please refer to *Agri-Food Facts* booklet pages 16, 17 and 18)

KEY CONCEPTS

- Changing crops in Canada
- Processes — planting, harvesting, milling, baking, distributing
- Careers related to food production
- Non-food products of agriculture



JUNIOR

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TEACHING STRATEGIES

1. Refer to page 18 and review the different specialty crops that are available across Canada.
2. Find examples of the specialty crops that are specific to your province for students to see.
3. Which of these crops are specific to the new cultural diversity of Canada? Predict new crops that may increase in the future.
4. Complete Blackline Master J-5, From Seed to Consumer.
5. Review 'Farming is More Than Food' page found at the back of the Teacher's Guide. Have students choose a commodity and make a display, "Agriculture is more than just food." This display can be set up at a school or community event.

ASSESSMENT/EVALUATION STRATEGIES

- Blackline Master J-5 will be evaluated.
- Students' individual contributions to "Agriculture is more than just food" will be evaluated.

INTERMEDIATE

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TEACHING STRATEGIES

1. Students study page 18. In small groups, students will study one of the specialized commodities listed and examine how it is grown, special soil types, domestic and foreign markets for the product, how it is consumed (as a processed product or in its original form).
2. Each group will create a one page hand out on their commodity to share with the rest of the class.
3. Review 'Farming is More Than Food' page found at the back of the Teacher's Guide. Have students find other products that are made from each of the different sources listed on the page. As well, students can find different products from other agricultural commodities.
4. Individually, students will write a newspaper article to inform the public on other products that agriculture provides.
5. Ask students to tell you what they think it takes to grow a hectare of wheat, then review page 16.
6. Have students create a similar graphic for the commodity they researched in steps 1 and 2.

ASSESSMENT/EVALUATION STRATEGIES

- Commodity handouts will be evaluated.
- Newspaper articles will be evaluated.

SENIOR

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TEACHING STRATEGIES

1. Ask students to tell you what they think it takes to grow a hectare of wheat, then review page 16.
2. Review page 18. Look at specialty crops then create a cost analysis for one and compare to the costs of wheat on page 16.
3. In small groups, students will explore some of the current research in agriculture regarding specialty crops. They can visit a university website (see websites listed in the resource section). Each group will explain the purpose for the development of the crop, the proposed market, the growing conditions, and the projected release of the crop.
4. Complete Blackline Master S-2, Careers Related to Food Production.
5. Individually, each student will choose one of the careers listed in step 4. They will do career research to determine educational requirements, job description, starting salary, advanced levels of the career and demand for the job skills. Each student will make a "careers in food production" pamphlet to be displayed in the guidance/counseling office of the school.

ASSESSMENT/EVALUATION STRATEGIES

- Commodity research will be evaluated.
- Career pamphlets will be evaluated.

EXTENSION ACTIVITIES

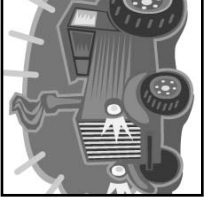
1. If possible, arrange a field trip to visit the different places listed on page 15 to see the route a grain of wheat takes to become bread.
2. Visit an agricultural research station in order to see the type of research that is done on crops in Canada.
3. Visit a university that specializes in agricultural research to see the new and emerging research in agriculture.
4. Students will visit either Agriculture Canada's website or a provincial or territorial agriculture website to determine the emerging research on agriculture in Canada.

Land and Environment

(Please refer to *Agri-Food Facts* booklet pages 19, 20 and 21)

KEY CONCEPTS

- Integrated Pest Management (IPM) strategies
- Conservation methods
- Environmental farm practices
- Agricultural ecumene of Canada
- Role of farmers as stewards of the land
- Competition for land



JUNIOR

INTERMEDIATE

SENIOR

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TEACHING STRATEGIES

1. Review information on pages 20 and 21.
2. Students will complete the Blackline Master J-6.
3. Distribute the map on page 19 and have students place major Canadian cities on the map.
4. Students compare the location of major cities with agricultural land.
5. Students discuss issues arising from competition for land between urban and agricultural needs/demands.
6. Students write a letter to the editor outlining the issue.

TEACHING STRATEGIES

1. Read pages 20 and 21.
2. In small groups, students will investigate one of the practices used in Integrated Pest Management.
3. Each group will produce a poster explaining the practice and how it can make a positive contribution to the environment.
4. Examine the map on page 19. Identify major urban areas in each province.
5. Complete Blackline Master I-3.
6. Investigate ways in which your community/province/territory is dealing with the competition for land between urban and agricultural uses.

TEACHING STRATEGIES

1. Examine the map on page 19. Identify major urban areas in each province.
2. Students will go to the Statistics Canada website (www.statcan.gc.ca) to find a similar map for population density. They will create a colour overlay to show the competition for land.
3. Students will research and debate the issue of land use around urban centres.
4. Students will complete Blackline Master S-3.

ASSESSMENT/EVALUATION STRATEGIES

- Blackline Master J-6 will be assessed for completion.
- Letters to the editor will be evaluated.

ASSESSMENT/EVALUATION STRATEGIES

- Posters will be evaluated.

ASSESSMENT/EVALUATION STRATEGIES

- Research and debates will be evaluated.
- Blackline Master S-3 will be assessed for completion.

EXTENSION ACTIVITIES

1. Use a current newspaper or magazine article as the basis for a debate on an environmental issue related to agriculture.
2. Soil erosion experiment:
 - a. Place a container of soil in the bottom of a bucket or plastic tub, slowly pour a glass of water over it and observe how the water affects the soil.
 - b. Place an equal amount of soil in a second bucket or plastic tub, cover the soil with sod, a heavy carpet or heavy fabric, slowly pour a glass of water over it and observe how the water affects the soil.
 - c. Record the differences and form a conclusion as to how vegetation protects soil from erosion.
3. Identify places in your school/home yard where soil has eroded. Determine if the erosion is caused by water or wind. Develop a plan to reduce the amount of erosion that occurs.
4. Investigate the role of wood lots on farms to protect the environment.
5. Investigate the nutrient management regulations of your community/province/territory.
6. Investigate "no till" technology available to farmers.
7. Investigate new technologies being researched by a university to help protect the environment.
8. Investigate the reduction in the use of pesticides and the factors that allow for it.

Agricultural Production

(Please refer to *Agri-Food Facts* booklet page 22)

KEY CONCEPTS

- Major agricultural production
- Ecosystems
- Changes in produce
- Understanding graphs



JUNIOR

J

TEACHING STRATEGIES

1. Read page 22. Brainstorm a list of products that come from each of the categories of agricultural products.
2. Students will complete Blackline Master J-7.
3. Do a taste test between greenhouse grown vegetables and imported vegetables. Have students create a rating scale for the comparison. Use factors such as cost, appearance, colour, taste, texture, etc.
4. Students write a summary of their comparison.

INTERMEDIATE

I

TEACHING STRATEGIES

1. Examine page 22. Investigate the different types of vegetables grown in greenhouses.
2. Greenhouses are mini ecosystems. Modern greenhouses use technology and science in order to create an environment for plants that allows for optimum development. Visit the website of the Ontario Greenhouse Growers to learn more about greenhouses. www.ontariogreenhouse.com
3. Students will create a poster to explain how greenhouses are mini ecosystems.
4. Students can build a mini greenhouse and grow a plant from seed.

SENIOR

S

TEACHING STRATEGIES

1. Students will read page 22.
2. Students complete Blackline Master S-4.
3. Students will create posters from the information they gathered for Blackline Master S-4.
4. Students will choose a recipe from their culture and make it for a class cultural feast.

ASSESSMENT/EVALUATION STRATEGIES

- Blackline Master J-7 will be assessed for completion.
- Summary paragraphs will be evaluated.

ASSESSMENT/EVALUATION STRATEGIES

- Posters will be evaluated.

ASSESSMENT/EVALUATION STRATEGIES

- Blackline Master S-4 will be assessed for completion.

EXTENSION ACTIVITIES

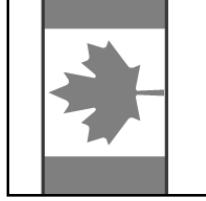
1. Go to www.statcan.gc.ca, find the "Agriculture at a Glance, 2001" under teachers kits. The lesson "What's In Your Grocery Cart" highlights the change in the types of vegetables grown in Canada. Have students study this change.
2. Go to www.statcan.gc.ca, find the "Agriculture at a Glance, 2001" under teachers kits. The lesson "Fresh Produce North of 60" highlights the use of greenhouses in Northern Canada as a way to secure fresh vegetables year round in the North. Have students complete this lesson.
3. Plan a visit to a greenhouse to see the technology in action.
4. Visit a cultural marketplace to examine the variety of vegetables available that were grown in Canada.
5. Compare the agricultural production in Canada to the production in your province/territory. How is it similar? How is it different? Account for the differences.

Provincial Overview

(Please refer to *Agri-Food Facts* booklet pages 23 - 25)

KEY CONCEPTS

- Agriculture varies across the country
- Geographic influences on production
- Understanding graphs



JUNIOR

J

TEACHING STRATEGIES

1. Examine the information on pages 23 – 25.
2. Discuss with students the various ways in which information can be graphically organized.
3. In small groups, have students represent the information from pages 23 – 25 in two different forms.
4. Students present their information to the class.

INTERMEDIATE

I

TEACHING STRATEGIES

1. Look at Blackline Master I-5, define each of the geographic terms listed and explain how they can impact on agricultural production: climate, topography, soil, transportation, population.
2. Students complete Blackline Master I-5.
3. Students will share the information they learned by completing Blackline Master I-5 with the class.

SENIOR

S

TEACHING STRATEGIES

1. Examine the data on pages 23 – 25.
2. In small groups, students will choose a province and create a PowerPoint presentation “Profiling Agriculture in _____.”
3. Presentations will be made to the class.
4. Students will research regional foods of Canada.
5. They will compare the traditional recipes from each province/region with the agricultural production listed on page 23.
6. Students will compare the ingredients with the production and summarize how agriculture is shown in regional foods.
7. In small groups, students will pick a province and prepare a regional meal.

ASSESSMENT/EVALUATION STRATEGIES

- Graphical representations will be evaluated.

ASSESSMENT/EVALUATION STRATEGIES

- Blackline Master I-5 will be evaluated.

ASSESSMENT/EVALUATION STRATEGIES

- PowerPoint presentations will be evaluated.
- Summaries and regional meals will be evaluated.

EXTENSION ACTIVITIES

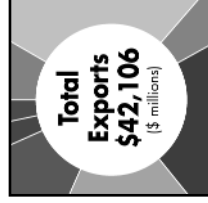
1. A field trip to several different types of farms can be planned.
2. Investigate the different specialty crops in your province using the Statistics Canada website (www.statcan.gc.ca).
3. Investigate the statistics for your local community using the Statistics Canada website (www.statcan.gc.ca).
4. Students can do a PowerPoint presentation on “Agriculture Across Canada.”

Agricultural Trade

(Please refer to *Agri-Food Facts* booklet pages 26 - 27)

KEY CONCEPTS

- Imports and exports of agricultural products compared to other products
- Types of agricultural products exported



JUNIOR

INTERMEDIATE

SENIOR

J

TEACHING STRATEGIES

1. Examine the graphs on pages 26 and 27.
2. Students complete Blackline Master J-8.
3. Visit a local grocery store/supermarket, have students complete Blackline Master J-9 at the store (note: you should contact the store prior to the visit).

I

TEACHING STRATEGIES

1. Examine the graphs on pages 26 and 27.
2. Students complete Blackline Master I-4.
3. Provide an enlarged map of the world, have all students identify the places of origin of their food on the map.
4. Students write a summary about imported foods.
5. Assign, individually or in groups, a country for students to investigate both the agricultural products we export to them and the imports we receive. Have students create a visual display of the information.

S

TEACHING STRATEGIES

1. Examine the graphs on pages 26 and 27.
2. As a class, brainstorm products which we export and import.
3. Individually, students will investigate and write a report on an agricultural trade issue (BSE, Marketing Boards, NAFTA, etc.).

ASSESSMENT/EVALUATION STRATEGIES

- Assess Blackline Master J-8 for completion.
- Evaluate Blackline Master J-9.

ASSESSMENT/EVALUATION STRATEGIES

- Evaluate Blackline Master I-4.
- Evaluate visual displays.

ASSESSMENT/EVALUATION STRATEGIES

- Students' written reports will be evaluated.

EXTENSION ACTIVITIES

1. Identify Canada's biggest consumers of agricultural exports. How much do we trade to each country?
2. Canada's exports are changing: we used to be a large producer of apples for export, we are now facing competition from places like Washington state and China. Investigate other changes in our exports.
3. How can Canada protect itself from trade wars?
4. On a world map, have students follow the exportation of an agricultural product. Have them note the different methods of transportation and storage used along the route, as well as the different occupations needed in order to export food.
5. Visit the statistics Canada website and go to the teachers kit, "Agriculture at a Glance". Read the article "What's in Your Grocery Cart?" and complete the activities suggested there.
6. On a world map, use arrows to illustrate imports into Canada, use a broader arrow for imports of higher value.
7. Explain how events like natural disasters in other countries can affect the cost of imports, and our ability to export to other countries.

Interpreting Data Using Pie Charts and Bar Graphs

Collecting Data.

For Homework:

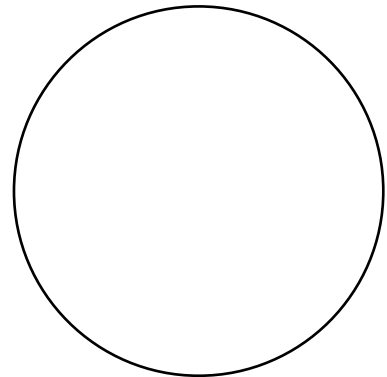
Ask four adults what type of industry they work in.

1. _____
2. _____
3. _____
4. _____

In class:

Share your results with the rest of the class.

Using the results, complete a pie graph to show what industries are represented by the adults surveyed by your class.



On the map below, colour in your province. Beside that, create a bar graph to show the industries you tallied above.



Comparing Food Intake

1. Choose 5 foods from page 3 of the booklet and record the amount you eat during one week.

Food	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
1.							
2.							
3.							
4.							
5.							

2. Complete the following calculations to see how your food consumption compares to the national average.

- a) My total food intake (_____) X 52 weeks = _____
- b) Average Canadian food intake _____
- c) Compared to the average Canadian I eat _____.

Sources of Fat in My Food

There are many different sources of fat in our diets. Complete the following chart to determine the sources of fat in your diet.

Sources of fat	Grain products	Vegetables and fruit	Milk and alternatives	Meat and alternatives
Fats found naturally in foods				
Fats added in processing				
Fats added in home preparation				
Fats added at the table				

Comparing Expenditures

Using the information below, search the Statistics Canada website (www.statcan.ca) to find average household spending for your province, then complete the chart to show the difference between spending in your province and Canada.

	Yearly	Monthly	Province
Total expenditures	67,736	5644.67	
Food	7,046	587.16	
Shelter	12,986	1082.17	
Household operation	3,251	270.92	
Household furnishings and equipment	2,131	177.58	
Clothing	2,870	239.17	
Transportation	9,240	770.00	
Health care	1,867	155.58	
Personal care	1,158	96.50	
Recreation	3,975	331.25	
Reading materials and other printed matter	264	22.00	
Education	1,157	96.42	
Tobacco products and alcoholic beverages	1,475	122.92	
Games of chance (net amount)	258	21.50	
Miscellaneous	1,087	90.50	
Personal income taxes	13,634	1136.17	
Personal insurance payments and pension contributions	3,832	319.33	
Gifts of money and contributions	1,505	125.42	

- How do the expenditures in your province compare with the national average?
 - Are they higher or lower?
 - How can you account for the differences?
- Do you think your family's expenditures would be higher or lower than the average for your province?

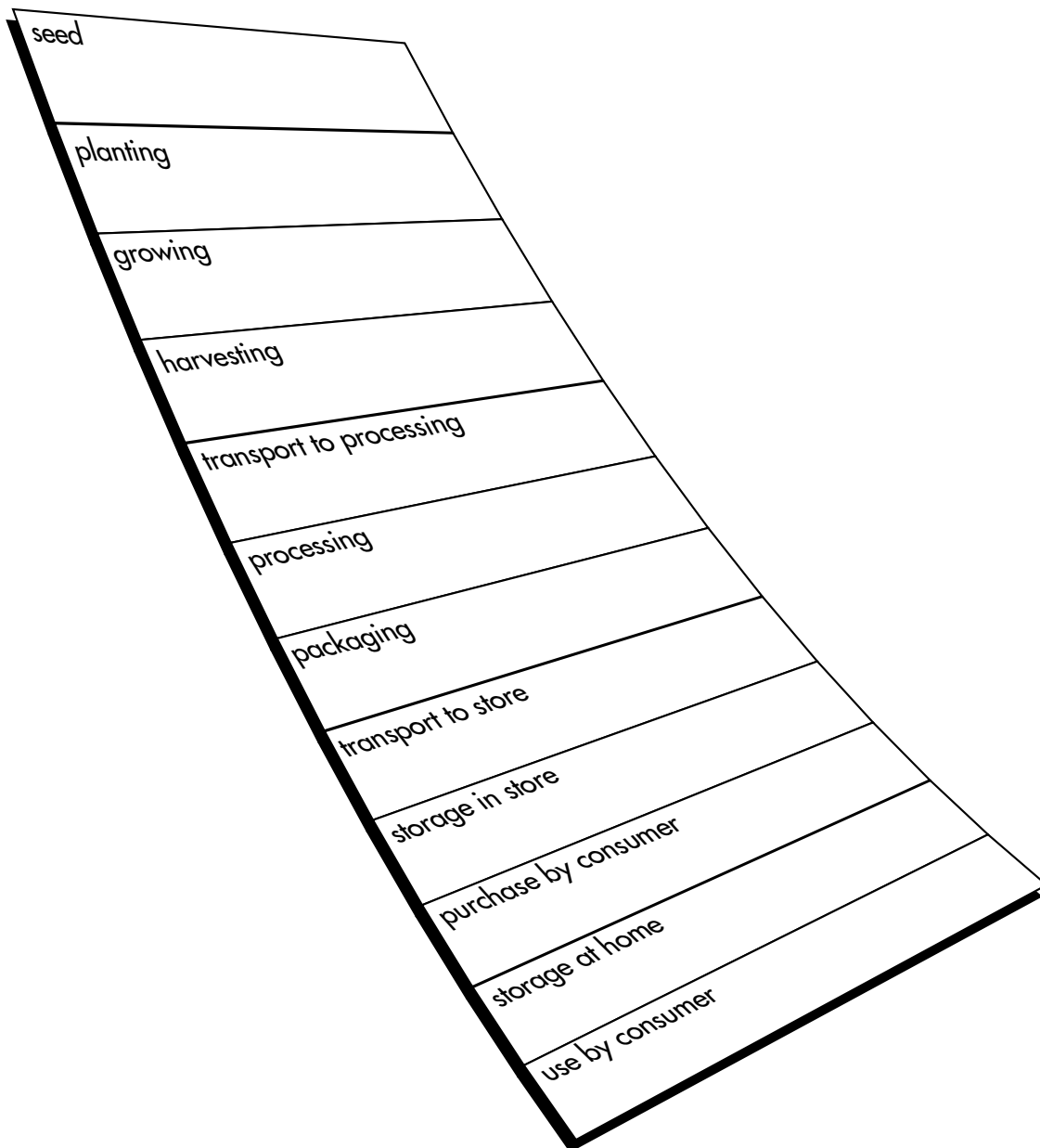
Canada: A Profile of _____

Complete the following table to determine what Canada was like in the time period you are studying.

Factor	Description
Transportation	
Major industries	
Population	
Where most people lived	
Economy	
Technology	

From Seed to Consumer

Please allow for the following steps along the way



Instructions

Choose a seed that you know is processed in order to create a food product that you eat. Investigate the different steps along the way in order to get the seed to processing and then to your table. Draw a pictorial representation for each step (see page 15 for an example).

Canada's Agricultural Products in Our House

Canada produces a wide variety of different products. Look at the graphic on the top of page 22. Identify for each list things in your home from each of the categories.

grains and oilseeds	red meats	dairy
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
eggs and poultry	horticulture	other
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Agricultural Imports and Exports

Canada imports and exports a large quantity of agricultural goods. What is imported and exported is somewhat dependent on the season.

Complete the chart below.

Season	Imports	Exports
Summer		
Fall		
Winter		
Spring		
All year		

Identifying the Source

Visit the produce section of a local grocery store or supermarket.

1. Check the labels on 10 fruits and 10 vegetables, noting where the produce came from.

Fruit	Product of	Vegetable	Product of

2. What season is it? What impact do you think the season has on the amount of produce from Canada? Imported? _____

3. What produce do you think will always be imported? _____

4. What produce do you think would be Canadian in season? _____

What Canadians Eat

BLACKLINE MASTER 1 – 1

Food Record

	Weekday	Weekday	Weekend day
Morning meal			
Mid-day meal			
Evening meal			
Snacks			

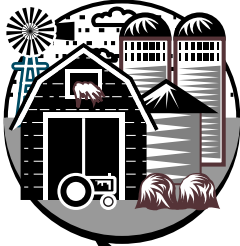
Totals by Food Group

	Grain products	Vegetables and Fruit	Milk and alternatives	Meat and alternatives	Other foods (high in fat or sugar)
Weekday total servings					
Weekend total servings					

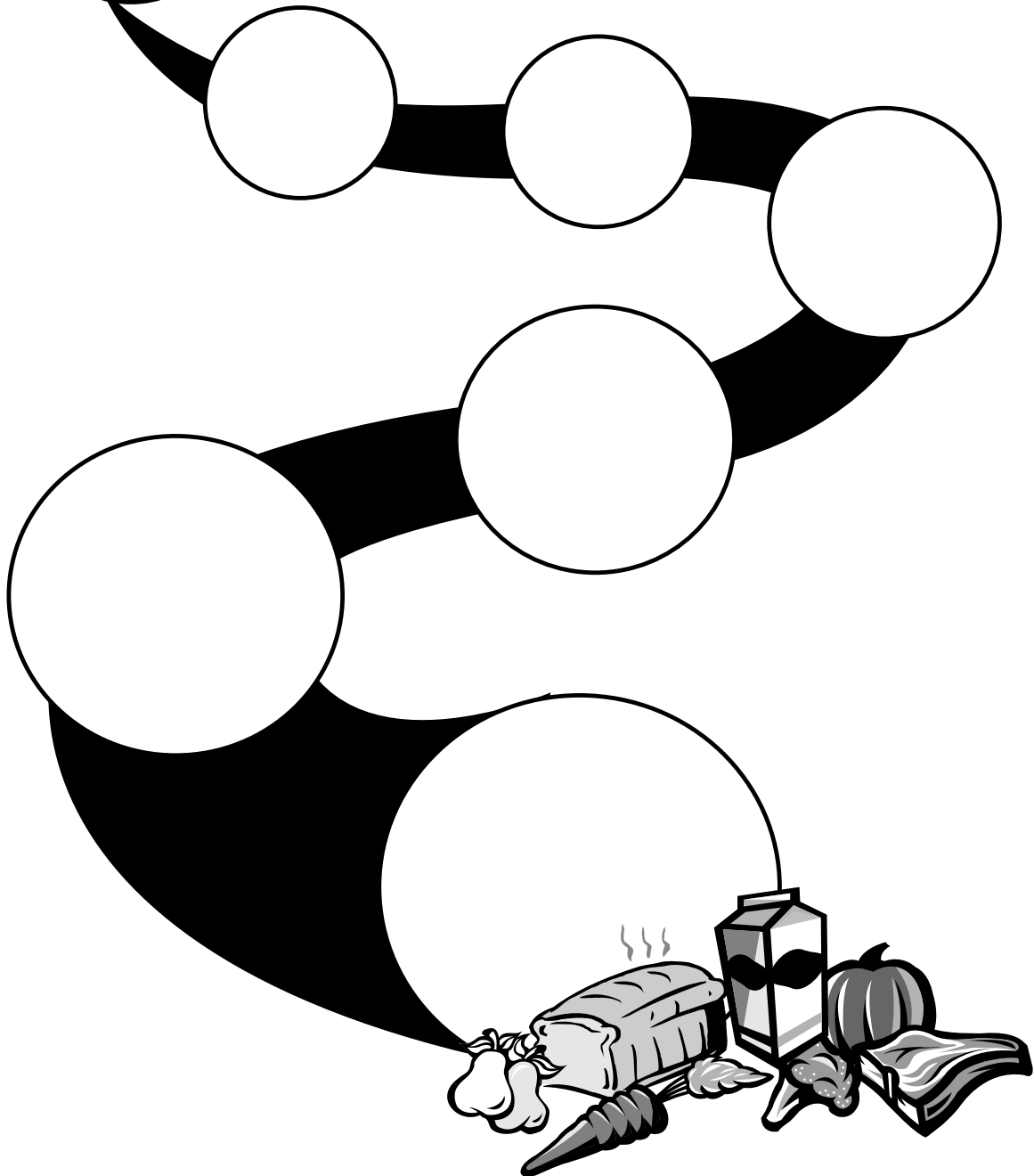
Analysing My Food Intake

Complete the following list with more, fewer or the same.

1. I eat _____ servings of grain products as recommended by Eating Well with Canada's Food Guide.
2. I eat _____ servings of vegetables and fruit as recommended by Eating Well with Canada's Food Guide.
3. I eat _____ servings of milk and alternatives as recommended by Eating Well with Canada's Food Guide.
4. I eat _____ servings of meat and alternatives as recommended by Eating Well with Canada's Food Guide.
5. I eat _____ servings of other foods per day, on the weekend I eat _____ of this group than on weekdays.
6. Two examples of how I am eating healthy are:
 - a. _____
 - b. _____
7. Two ways I could improve are:
 - a. _____
 - b. _____



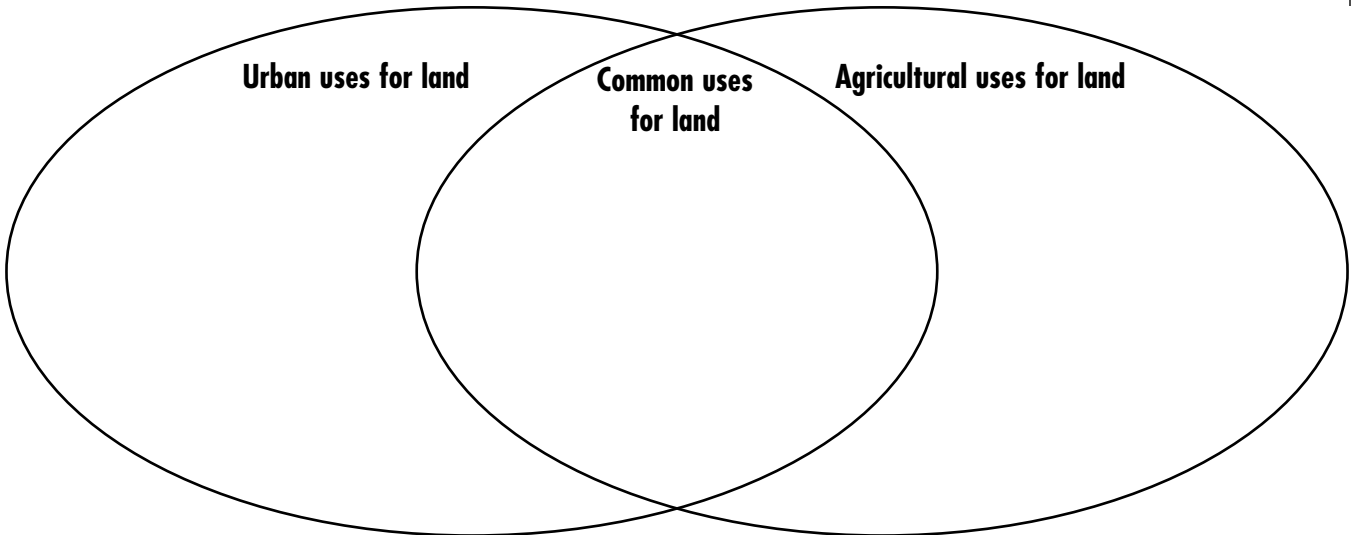
From Farm To Table The Journey of Food



INTERMEDIATE

Competition for Land

Examine the map on page 19 and identify Canada’s major cities on the map. You will note that they are located close to the agricultural land. Historically, urban areas built up close to good agricultural land in order to secure a food supply. Now with better methods of transportation, we can eat food from all over the world and do not have to rely on the proximity of farms for our food. In today’s society, competition for land between rural and urban uses is increasingly making headlines. Complete the following Venn diagram regarding competition for land between agricultural and urban uses.



What can governments do to ensure that we meet the needs for urban uses, while protecting land for agricultural use?

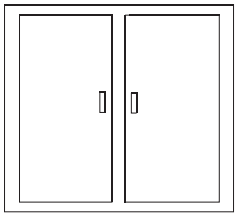
What conflicts can you see between urban and agricultural land use?

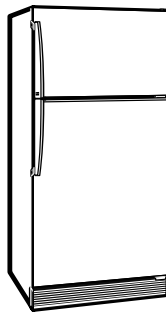
Imported Food

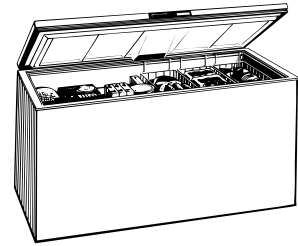
In the past, most people ate food that was grown locally, as the transportation systems and technology did not support large scale importation of food. Now, every day Canadians eat food that has been imported from around the world.

Part 1

Look in your cupboards, freezers and fridge at home and find food which has been imported into Canada.







Part 2

Identify on this world map where your food came from.



Geographic Characteristics and Agricultural Production

Geographically, Canada is a very diverse country. There are many factors that influence where an agricultural commodity will be produced. Examine the information on pages 23 – 25. Notice the differences in agricultural production across the country.

Choose a province and investigate how the following factors impact the agricultural production.

Province: _____

	Geographic Characteristic	Influence on Agricultural Production	Climate
Topography			
Soil			
Transportation			
Population			

Job Title: _____

Career

Entry level job

Post secondary education

Secondary school course

Volunteer experience

S

SENIOR

Careers Related to Food Production

seed _____ _____ _____	planting _____ _____ _____	growing _____ _____ _____	harvesting _____ _____ _____
transport to processing _____ _____ _____	processing _____ _____ _____	packaging _____ _____ _____	transport to store _____ _____ _____
storage in store _____ _____ _____	purchase by consumer _____ _____ _____	storage at home _____ _____ _____	use by consumer _____ _____ _____

S

SENIOR

Instructions

Choose a seed that you know is made into a processed food (see page 15 for an example). Follow the route of the seed from planting through to the consumer's table. For each step along the route, determine 3 different careers that relate to it.

Protecting Soil and Water

Canadian farmers have always been concerned about protecting the soil and water on their farms. There are many farm practices that do just that. Read pages 20 and 21. You will find many different practices that are designed to protect our environment. Complete the following table.

Practice	Description	Protects soil or water

Visit the website of an agricultural university or ministry/department of agriculture to investigate some emerging research on environmental farm practices.

Emerging research	Description	Benefit to soil or water

Canada's Changing Culture and Canada's Changing Agricultural Production

Do you ever notice that there are different foods in the grocery store every time you go? You can buy foods that represent many different cultures in Canadian grocery stores. Use the form below to investigate food from different cultures and how it affects Canadian production.

Cultural foods _____

Name of culture _____

Staple foods _____

Staple food grown in Canada?
Meats
Fruits
Vegetables
Grains
Milk products

Distinctive dishes:

A recipe that represents the culture and uses Canadian agricultural products:

Eating Well with Canada's Food Guide

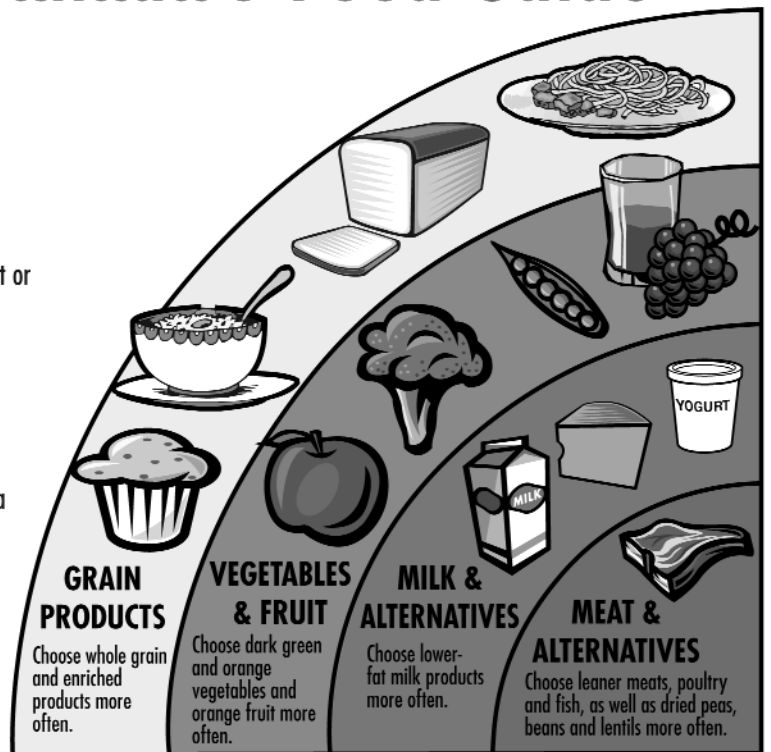
Eating Well with Canada's Food Guide is designed to help all Canadians look, feel and perform at their best. It does this by recommending a way of selecting foods to meet the body's needs for energy and nutrients.

The amount of food each person needs depends on his or her age, body size, gender, activity level and, for women, whether pregnant or breast feeding.

That's why the Food Guide gives a lower and higher number of servings for each food group.

Eating Well with Canada's Food Guide was released by Health Canada in 2007 and contains some new features. It now provides recommendations for servings based on age and gender. There is a wider variety of foods suggested which is more representative of our diverse Canadian population. The guide has been translated into several different languages. A First Nations, Inuit and Métis Food Guide is also available for download.

(Note – the updated Food Guide can be found on the Health Canada website at www.healthcanada.gc.ca/foodguide)



Vegetables and Fruit (servings per day)

Children			Teens		Adults			
2-3	4-8	9-13	14-18		19-50		51+	
Girls and Boys		Females	Males	Females	Males	Females	Males	
4	5	6	7	8	7-8	8-10	7	7



125 mL fresh, frozen or canned vegetables or fruit



125 mL juice

Grain Products (servings per day)

Children			Teens		Adults			
2-3	4-8	9-13	14-18		19-50		51+	
Girls and Boys		Females	Males	Females	Males	Females	Males	
3	4	6	6	7	6-7	8	6	7



1 slice (35g)



30 g cold cereal

Milk and Alternatives (servings per day)

Children			Teens		Adults			
2-3	4-8	9-13	14-18		19-50		51+	
Girls and Boys		Females	Males	Females	Males	Females	Males	
2	2	3-4	3-4	3-4	2	2	3	3



1 glass - 250 mL



50 g cheese

Meat and Alternatives (servings per day)

Children			Teens		Adults			
2-3	4-8	9-13	14-18		19-50		51+	
Girls and Boys		Females	Males	Females	Males	Females	Males	
1	1	1-2	2	3	2	3	2	3



75 g meat, poultry or fish



2 eggs

Farming is more than food

Some of the many non-food products that come from Canadian farms...

CORN

- bicycle tires
- toothpaste
- degradable plastic
- disposable diapers
- road de-icer
- wallpaper
- ethanol fuel



SOYBEANS

- solvents
- paint
- wood glue
- cattle feed
- printer's ink
- diesel fuel



SHEEP

- wool clothing
- soap
- baseballs
- shaving cream
- sutures (stitches)



CATTLE

- makeup
- film
- crayons
- candles
- car polish
- medicines
- leather
- sports equipment



HOGS

- fabric dyes
- footballs
- makeup brushes



CANOLA

- suntan oil
- oiled fabrics
- makeup



For More Information.....

Agricultural Universities/Colleges in each province are reliable and plentiful sources of information.

There are many websites where you can find more information about agriculture in Canada. Below is a list of national websites. Each of the national websites has links to provincial and territorial websites.

Agriculture and Agri Food Canada - www.agr.gc.ca

Agriculture in the Classroom - www.aitc.ca

Canadian Federation of Agriculture - www.cfa-fca.ca

Canadian Food Inspection Agency - www.inspection.gc.ca

Statistics Canada - www.statcan.gc.ca



See how much fun agriculture can be?

Thanks for taking time to learn about Canada's agriculture industry. FCC is proud to support Agriculture in the Classroom.

Check out what else we're doing to support communities across Canada. Visit www.fcc.ca and click on About Us.

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Community
matters

