

What Does it Cost to Eat Healthy in Your Community?

A Training Guide to Participatory Food Costing



What Does it Cost to Eat Healthy in Your Community? A Training Guide to Participatory Food Costing

is one of a group of documents produced by the Nova Scotia Participatory Food Security Projects. It is a training guide to teach people how to do food costing in their community.

Also in this Collection:

Participatory Food Security Projects Full Food Costing and Story Sharing Report, 2004

Examines the cost and affordability of a basic nutrition diet in 2002 and the experience of food insecurity among women throughout Nova Scotia.

Building Food Security in Nova Scotia Through Participatory Food Costing: 2004/05 Food Costing Update, June 2006

A summary report on the 2004/05 food costing that examines the cost and affordability of a basic diet in the fall of 2004 and spring of 2005.

Working Together for Ongoing Food Costing & Policy Solutions to Build Food Security in Nova Scotia: Participatory Food Costing 2004/05, February 2007

A full report on the 2004/05 food costing update.

Other reports from the Nova Scotia Participatory Food Security Projects:

Thought About Food? Understanding the Relationship Between Public Policy and Food Security in Nova Scotia: A Background Paper & Policy Lens

Thought About Food? A Workbook on Food Security & Influencing Policy

A National Environmental Scan of Strategies for Influencing Policy to Build Food Security

Each document is complete in its entirety, however for a full picture of the work of the Nova Scotia Participatory Food Security Projects, please see: <http://faculty.msvu.ca/foodsecurityprojects>

© 2007, Atlantic Health Promotion Research Centre, Nova Scotia Nutrition Council and Collaborating Family Resource Centres/Projects. Permission for use of this material for educational purposes is freely granted. Please credit The Atlantic Health Promotion Research Centre, Nova Scotia Nutrition Council and Collaborating Family Resource Centres/Projects. Reproduction and distribution of more than 10 copies requires the permission of the Principal Investigator. Contact:

Dr. Patty Williams
Mount Saint Vincent University
166 Bedford Highway
Halifax, Nova Scotia B3M 2J6

Phone: 902-457-6394
Fax: 902-457-6134
Email: foodsecurity@msvu.ca.

The views expressed herein are solely those of the authors and do not necessarily reflect the opinions of the Nova Scotia Department of Health Promotion and Protection or the Nova Scotia government.

February 2007

ISBN: 0-7703-8072-7



Nova Scotia Nutrition Council

AHPRC

What Does it Cost to Eat Healthy in Your Community?

A Training Guide to Participatory Food Costing



Food Security Projects of the Nova Scotia Nutrition Council and the Atlantic Health Promotion Research Centre, Dalhousie University in partnership with Nova Scotia Family Resource Centres/Projects (funded by the Canada Prenatal Nutrition Program & Community Action Program for Children)

About this Training Guide

What Does it Cost to Eat Healthy in Your Community is a training guide to teach people how to do food costing in their communities. It provides all the information needed to do food costing studies from start to finish. It reviews what food costing is, how to do it, and how the information collected could be used.

This training guide could be used by any organization or group interested in the cost of a basic nutritious diet in their community—for example, Family Resource Centres/Projects, anti-poverty groups, etc.

This training guide was developed as part of a series of research projects on food security. It is based on the experiences gained from conducting participatory food costing studies in Nova Scotia in 2002 and 2004/2005 and uses the **National Nutritious Food Basket** (NNFB) food costing tool.

History of the Food Security Projects

In 1988, a study was done by the NSNC to answer the question—“How much does a basic nutritious diet cost in Nova Scotia?” The study showed that people living on a low income could not afford to eat nutritiously. Since 1988, however, not much had been done to follow-up on this work. With the cost of living—and of food—constantly increasing, the partners of the food security projects recognized the need to update this informa-

tion to help inform policies related to income assistance and minimum wage, among others.

But more than just updating the figures, the partners also wanted to find a way to keep the information current by having the question answered on a regular basis. As well, they wanted to build upon the capacity of individuals and organizations to work together to address the root causes of food insecurity. To achieve these goals, they undertook a participatory food costing study in Nova Scotia in the spring and fall of 2002.

The approach was to work together with staff and participants of Family Resource Centres/Projects to do food costing research in each region of the province. Participation was supported by providing training, honoraria, and expenses for travel and childcare. The outcome was not only a current overview of what it costs to eat nutritiously in Nova Scotia, but also a group of trained “food costers.” These food costers have the commitment, interest and skills to continue to work together with other partners to build food security by using the evidence they gather to influence policy.

Building on this work, Nova Scotia Department of Health Promotion and Protection funded the Food Security Projects to develop options for a model for ongoing food costing in Nova Scotia. Part of this project, titled “Working Together for Ongoing

Food Costing & Policy Solutions to Build Food Security”, has included the development of this training guide and doing food costing again in the fall of 2004 and the spring of 2005.

About the Partners in this Project

Core partners in the food costing studies have been collaborating Nova Scotia Family Resources Centres/Projects (funded by the Community Action Program for Children (CAPC) and Canada Prenatal Nutrition Program (CPNP)), the Nova Scotia Nutrition Council (NSNC) and the Atlantic Health Promotion Research Centre (AHPRC).

Family Resource Centres/Projects are built on strong partnerships between parents, community workers, volunteers, private businesses, and all levels of government.

CAPC and CPNP projects are designed for and by the communities that use them. They are committed to strengthening and supporting families, equal access and collaboration, and are built from a community volunteer base.

The Nova Scotia Nutrition Council is a multidisciplinary advocacy group that formed in 1985, triggered into action by the growing concern over the poor nutritional health of Nova Scotians at that time.

The Atlantic Health Promotion Research Centre, Dalhousie University was created to encourage, facilitate, promote and share health promotion research in the Atlantic Provinces and across Canada.

Contents

Acknowledgements	<i>i</i>
Section 1: Introduction	1
What is food costing?.....	1
Why measure the cost of a basic nutritious diet?.....	2
Section 2: How to do food costing	3
Selecting stores for food costing.....	3
Training people to do food costing	5
- How to use the Food Basket Form.....	6
- Basic instructions for food costers.....	8
- Common problem areas.....	10
- Converting prices & weights.....	13
Doing the food costing.....	15
Calculating the cost of the National Nutritious Food Basket	15
Section 3: How to calculate the cost of the National Nutritious Food Basket	17
Using worksheet 1 to calculate the cost of food	17
Using worksheets 2 & 3 to calculate weekly and monthly food costs.....	21
Section 4: Using the information	29
Section 5: Sources of information	33
Section 6: Fact sheets and handouts	35
Fact Sheets	
Food security vs. food insecurity	39
Why buy local?.....	40
What is policy?.....	41
The National Nutritious Food Basket.....	42
Handouts	
Basic instructions for food costing	47
Common problems.....	48
Converting prices and weights.....	50
Locally produced foods	51
Attachments	
Attachment A: Food Basket Form.....	55
Attachment B: Worksheet 1— Calculating the cost of food.....	68
Attachment C: Worksheet 2— Factors for age/gender groups.....	73
Attachment D: Worksheet 3— Weekly food cost for an individual.....	76
Attachment E: Sample letter to grocery store manager	77

Acknowledgements

I would like to express sincere thanks to all of the Partners of the Nova Scotia Participatory Food Security Projects for your many contributions to the work that led to the development of *What Does It Cost to Eat Healthy in Your Community? A Training Guide to Participatory Food Costing*. Many people gave their time, and shared their experience and insight to develop Nova Scotia's participatory food costing process and to develop and pilot test this training guide. It would not have been possible without the significant commitment, support, and guidance provided by members of the Nova Scotia Nutrition Council (NSNC) and Family Resource Centre/Projects (FRC/P) in Nova Scotia, funded by the Community Action Program for Children (CAPC) and Canada Prenatal Nutrition Program (CPNP). The Atlantic Health Promotion Research Center (AHPRC) at Dalhousie University, particularly Lynn Langille and Sandra Crowell, have also provided substantive infrastructure support and guidance in all stages of this work.

Members of the Food Costing Working Group (FCWG) representing partners organizations committed to building food security in Nova Scotia guided all stages of the development of this guide: Thanks to Michelle Amero (Department of Health Promotion and Protection), Dr. Ilya Blum (Department of Mathematics, Mount Saint Vincent University), Dr. Shanthi Johnson (School of Foods and Nutrition, Acadia University), Jen Melanson (Atlantic Canadian Organic Regional Network), Heather Monahan (Department of Health Promotion and Protection), Polly Ring (Parent's Place Family Resource Centre), Sonya Sarty (Kid's First Family Resource Centre), and Eileen Woodford (Nova Scotia Public Health Working Group) for your many contributions including feedback on the many drafts of this report. I would also like to thank members of the Provincial Food Security Projects Steering Committee and National

Advisory Committee for their continued support and expertise in helping to guide this work, particularly in its initial stages.

We are also extremely grateful to funding from Population Health Fund of the Public Health Agency of Canada Atlantic Region (formally Population and Public Health Branch, Health Canada) and the Nova Scotia Department of Health Promotion and Protection for funding the various stages of participatory research that led to the development of this training guide. This training guide has been based on Health Canada's National Nutritious Food Basket (1998) and the protocol for food costing published by the Ontario Ministry of Health.

Finally I would like to express my deepest appreciation to Christine Johnson, our amazing Project Coordinator, for writing the initial draft of this document, facilitating its pilot testing and especially for her passion for and commitment to this work along the way. Sincere thanks also to Rebecca Green, Amy MacDonald and Denise Russell, research assistants, who helped with this project, and to Lynn Langille and Monica Rodriguez for their help in editing the final version of this training guide. Thanks also to Jan Catano for her basic language revisions to the training guide and to Derek Sarty for the design and illustrations.

On behalf of the NS Participatory Food Security Projects,

Patty Williams, PhD, PDt
Associate Professor, Department of Applied Human Nutrition
Mount Saint Vincent University
Principal Investigator

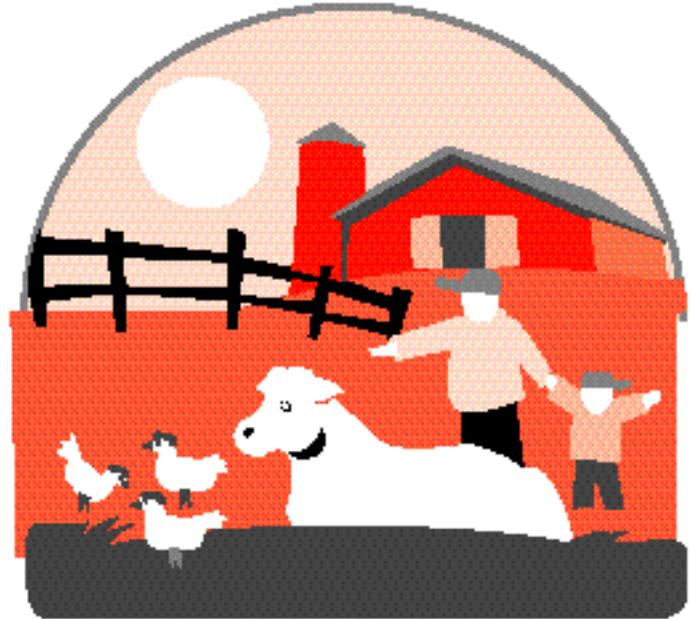
Introduction

What is food costing?

Food costing is a way to measure the cost of basic healthy eating using a survey tool that represents current nutrition recommendations and national eating patterns.

Food costing has a long history in Canada. In 1974, the federal government developed *Agriculture Canada's Nutritious Food Basket* and later *The Thrifty Nutritious Food Basket*. These food baskets were used until 1995 to show the cost of healthy eating in 18 cities across the country.

In 1998, Health Canada developed the *National Nutritious Food Basket (NNFB)* at the request of the many groups that had been using the food baskets for policy, planning, and advocacy work. However, Health Canada did not continue to conduct food costing on a regular basis. Many provinces across the country began doing food costing on their own.



What is the National Nutritious Food Basket?

The National Nutritious Food Basket (NNFB) is a survey tool used to calculate the cost of a basic nutritious diet. It includes 66 foods divided into 11 food groupings. The NNFB uses foods that are nourishing, appetizing and are the kinds of food most Canadians buy. For further detail on the NNFB see **The National Nutritious Food Basket—What You Need to Know** (Section 6, page 42 and 43)

Why measure the cost of a basic nutritious diet?

Food costing studies can be used to examine the *affordability* of nutritious food by comparing the cost of healthy eating to incomes. Food costing can be used to advocate for, influence, and develop policies and programs that support food security.

The affordability of nutritious food is important because poverty and food insecurity are issues being faced by many people in our country. In 2001 14.4%¹ of Canadians were reported to be living in poverty. In 2001 about 17%² of Nova Scotians were food insecure.

The NNFB can be used to assess both the affordability and availability of foods. You'll find more on its uses and limitations in Section 6 (page 42 and 43).

Poverty means not being able to get the resources you need to be healthy.

Food insecurity means not being able to get enough food or enough healthy foods that you like and enjoy. It means worrying about where your next meal is coming from. It means wondering if foods are being grown and produced in ways that mean there will be less food in the future.

Thought About Food? A Workbook on Food Security & Influencing Policy, 2005

¹ National Council of Welfare (2004). *Poverty Profile 2001*. Ottawa, ON: Ministry of Public Works and Government Services Canada

² Statistics Canada (2001). *Initial data from Canadian Community Health Survey Cycle 1.1 point estimates, Nova Scotia Only*. Ottawa, ON: Statistics Canada

How to do food costing

There are 4 main steps to food costing:

1. Selecting stores for food costing
2. Training people to do food costing
3. Doing the food costing
4. Calculating the cost of the National Nutritious Food Basket

1

Selecting Stores for Food Costing

Food costing is most often done in **grocery stores** that offer a full line of grocery products—for example, canned goods, baked goods, and perishable items like meat, fruits, vegetables and dairy products.

There are basically two different ways you can select stores for food costing:

Random sampling

This means using a statistically representative sample of stores. To do formal random sampling, you'll need the help of a statistician, but a simple way to do it would be to place all the names of the stores that could be used for food costing in a hat and pull out at least 3 stores. The advantage of random sampling is that the information collected is more representative. As well, random sampling can also help protect your relationship with the stores because they don't feel as if they've been singled out.



NOTE:

Before doing food costing in a grocery store, you must have **permission** from the store manager. A letter asking for permission can be sent in advance and followed up with a phone call. A sample permission letter can be found in Attachment E (page 77).

Convenience sampling

This means choosing the stores that are easiest for you to get to or access—in other words, the stores that are most convenient. Convenience sampling allows you to do food costing in stores that you are particularly interested in, for example stores in low-income communities.

The disadvantage is that stores may feel that they have been targeted and be less cooperative.

Often sampling is done, whether randomly or by convenience, to reflect stores in rural and urban areas, chain and independent stores, as well as small and large stores.

No matter what method you use to select the stores, food costing needs to be done in at least 3 stores to get a good average for the cost of food.

Food costing studies are NOT usually done in:

1. Stores requiring membership.

Memberships are not always available to everyone. Some people may not have the money to purchase a membership.

2. Warehouse type stores.

The products they carry are often packaged in sizes much larger than those in the *National Nutritious Food Basket*. Often these products are not practical to purchase for those on low incomes.

3. Convenience stores.

The selection at these stores is limited and you may not be able to find all 66 foods listed in the food basket. This would make it hard to find the cost of the entire *National Nutritious Food Basket*.

IMPORTANT!

The purpose of food costing is NOT to see which stores have the lowest prices. It is to find the average cost of a basic nutritious diet. For this reason, it is VERY important to keep the prices for individual stores to yourself.

Comparing food prices among stores would threaten the stores and put the future use of food costing at risk. Store managers may refuse to let you do food costing again if you've violated their privacy.

The NNFB could be used to look at the kinds of foods that are *available* at convenience stores. It can also be used to compare the costs of individual food items that are available in convenience stores to the cost of those same foods in grocery stores. Sometimes people may have no other option but to shop for groceries at convenience stores. They may not have transportation to get to a larger store.

2

Training People to Do Food Costing

Food costing requires the ability to read packages, do calculations to determine costs and weights, and to find the lowest cost items. People who do food costing need to have basic reading and math skills, and have good shopping skills. Generally, the best person to do food costing is the main grocery shopper in the household.



The process of food costing has several steps. Unless the steps are clearly explained and understood, the process can seem very complicated. The training for food costing presented here¹ would include:

- Reviewing the procedures
- Giving examples of common problems encountered
- Practicing food costing at the grocery store
- Doing sample calculations

It is important to ensure that people being trained to do food costing are familiar with the *Food Basket Form* and know how to use it (Appendix A, page 55). They need to be comfortable with the form and the procedure to do food costing, and feel confident that they can do it.

On the next few pages, you'll find information, instructions, and helpful reminders to use in training food costers. You'll find all the information covered in this section formatted as handouts for food costers in Section 6 (page 35). When doing food costing, it can be helpful to take these handouts to the grocery store, along with the *Food Basket Form*.

It is important to ensure that people being trained to do food costing are familiar with the *Food Basket Form* and know how to use it.

(Attachment A, page 55).

¹ Adapted from Ontario Ministry of Health (1998). *Monitoring the Cost of a Nutritious Food Basket protocol*. Ottawa, ON: Ministry of Health.

How to use the Food Basket Form

The basic tool for recording food costs—*The Food Basket Form*—can be found in Attachment A (page 55). Make as many copies as you think you’ll need for training and for the actual costing.

The columns of the *Food Basket Form*¹ look like this:

A	B	C	D	E	F	G	H
Foods	Purchase size	Price	On Sale	Comments & calculations	Was lowest price local ? <i>(Circle one)</i>	Was local available? <i>(Circle one)</i>	Price entered to spreadsheet

- **Food** — lists the kind of food items to look for.
- **Purchase Size** — gives the exact size of the food items to be costed.
- **Price** — record the cost of the food item.
- **On Sale** — indicate if the product is on sale the day of the food costing.
- **Comments & Calculations** — calculate prices or make notes if a food item is not available in the exact size, weight or kind of food specified in the *Food Basket Form*. You’ll find information about calculating prices on the handouts in Section 6, page 45.
- **Was the lowest price local?** — indicate if the lowest priced food item was produced locally. If the lowest priced food item was local, circle the “yes”. You don’t need to fill this in for all the food items, only where indicated. For foods where local production isn’t an issue, this column is shaded so you’ll know it doesn’t need to be filled in.

Buying Local

For the purposes of this project, *local* is defined as being produced (grown) in Atlantic Canada (Nova Scotia, New Brunswick, Prince Edward Island or Newfoundland and Labrador).

Buying local foods is good for the environment, the economy, communities and people. Some of the benefits of buying local include:

- reducing the amount of fuel used to transport food long distances
- supporting local families and farms
- celebrating diversity
- enjoying fresher, better tasting food
- building community food security

¹ Adapted from Ontario Ministry of Health (1998). *Monitoring the Cost of a Nutritious Food Basket protocol*. Ottawa, ON: Ministry of Health.

- **Was local available?**—indicate if the food item was available as a locally produced item but at a higher price. If a food item was available locally but at a higher price, you circle the “yes” in this column. The form also asks for an address for foods that are packaged. You will need to use the label or sticker to determine where the item was produced (grown), but if it is packaged, it should also have an address that indicates where it was packaged.
- **Price entered to spreadsheet**—enter the correct price for each food item (after any necessary calculations). This is the price that will be used to calculate the cost of the *National Nutritious Food Basket* (For more information on the NNFB, see pages 42 and 43).

Be sure that you are very familiar with the *Food Basket Form* before you begin food costing. The form is the basic tool and the accuracy of the NNFB calculations depends on the accuracy of the information recorded.

Locally Produced Foods

You can find out if fruits and vegetables are locally produced by checking their display sign—where their price is displayed—or on a sticker on the produce itself.

For meats you may need to ask someone in the meat department.

Basic Instructions for Food Costers

In Section 6, you'll find a series of fact sheets and handouts containing useful advice and information for food costers. Read these sheets carefully and be sure anyone doing food costing has also read them.

They clarify many questions about the details of determining and recording food costs accurately. They can be used in training food costers and the food costers should take the sheets with them, along with the *Food Basket Form*, when they visit grocery stores to collect prices.

To be sure that everyone collects the same information, all food costers must receive the same instructions and follow the same procedures. Be sure the food costers understand this material and give them lots of opportunities to ask questions.

1 Read labels carefully!

Check that you are pricing what is specified on the *Food Basket Form* and that the price sticker belongs to that product. For example, the *Food Basket Form* specifies 2% milk, **medium** ground beef, **reduced fat** mayonnaise, and **non-hydrogenated** margarine. The foods were picked for their representativeness, which is related to availability, industry information, nutritional value, and price.

2 Price

- Always record the **lowest price** of the specified food item on the *Food Basket Form*.
- If an item is on sale indicate this by placing a ✓ in the *On Sale* column by the item.
- If a sale price requires the use of coupons, mail-in rebates, or the purchase of a minimum grocery order, use the regular price of the item. These specials would not be available to everyone. For example, someone might not have an extra \$2.00 to pay upfront and then wait for a rebate.
- If there is a coupon that will automatically be given at the cashier (for example those that can be peeled off the shelf or the product), then you can use the sale price because it would be accessible to everyone.

3 *Size*

- If the **specified size is available**, record that price. Do not use the price of a different sized food item, even if its price is less.
- If the **specified size is NOT available** record the price of the nearest size. Be sure you make note of the different size and cost. You can convert this to the price of the specified size on the *Food Basket Form* later (see *Converting Prices and Weights, page 13*).

4 *Availability*

- If an item or its suggested substitute is not available write N/A in the *Price* column.
- Make a note in the *Comments/Calculations* column on the Food Basket Form if an item is not available in a specified format or size.

Common Problem Areas

This section addresses common problems that arise when collecting food prices. Explain these points to food costers and ensure that they are discussed and understood during the practice trip to the grocery store.

1 Fruits & Vegetables

- When fruits and vegetables are available both as loose and bagged—for example apples, oranges, and onions—write down the price of both. Later determine which works out to be cheapest and record that price (See *Converting Prices and Weights*, page 13).
- You must always use the available size that is closest to the one specified on the *Food Basket Form*. For example, record the price of a 3lb bag of each product since this is closest to the kg size you need for the form. Do not use a 5lb bag if there is a 3lb bag or loose produce available.
- For loose items, there will be a price per kg displayed.
- Certain items of produce are priced per head or bunch rather than per kg (as asked for on the *Food Basket Form*). In this case you must get an **average weight** to determine a price per kg. This is sometimes the case with oranges, pears, or broccoli. When weighing these items try to weigh 3 medium sized items. For example:

Step 1. Write down the weight in grams (g) of 3 different bunches of broccoli.
700g ; 600g ; 800g

Step 2. Add the 3 weights together
 $700g + 600g + 800g = 2100g$

Step 3. Divide that number by 3.
 $2100 \div 3 = 700g$ This is the average weight.

Step 4. Record that weight and the cost per bunch on the form. You can use this information to figure out the price per kg. (See *Converting Prices and Weights*, page 13)

2 Meats, Poultry, Fish

- If meat, poultry and fish are priced per kg, record the price of regular sized packages—not club or family packs even though the price per kg may be cheaper. Club or family packs should not be used because not everyone would have the money upfront to purchase these or have the storage space available to keep them.
- If beef and pork wieners are not available, use all-beef wieners.
- For frozen fish filets, choose the cheapest of haddock, cod, sole, Boston blue fish and Alaskan pollock.
- For ham, if the store you are costing has a deli counter, check the price per kg of sliced sandwich ham at the deli counter as well as the pre-packaged ham.

3 Grain Products

- For bread, price the brand that is the cheapest but do not use in-store bakery bread. You can use store brand bread, just not the one that is actually baked on-site in the store. This is because bread baked in the store varies too much in nutritional content.
- If 100% whole wheat bread is not available, price 60% whole wheat bread.
- If social tea crackers are not available, use arrowroot cookies.
- Hot dog buns are not usually available in the size specified on the *Food Basket Form*. To find the nearest size you need to look at the nutrition label (usually on the back of the package) and find the serving size, then multiply the serving size by the number of buns in the bag to get the size of the package. For example:

On the nutrition label a serving size (1 bun) is 45g.

There are 10 buns in a package.

Multiply $45\text{g} \times 10 = 450\text{g}$

This is very close to the specified size of 480g. You would then record the price for 450g and later use this information to calculate the price for 480g (*See Converting Prices and Weights, page 13*)

4

Bulk Food Items

- Some items can be found pre-packaged and in the bulk food section of the grocery store. These items may include rice, flour, dry navy beans/white pea beans, macaroni, spaghetti, raisins, sugar and oatmeal. You will need to check the price of these items in bulk to see if they are more or less expensive than the pre-packaged item.

Always record as much information as possible while at the grocery store. This will help when you are doing your calculations.

Converting Prices & Weights

Food costers will have to know how to convert prices and weights to those specified on the Food Basket Form. Be sure food costers are familiar with this information and that they have the opportunity to practice it after they have collected prices during their practice trip to the grocery store.

Converting Prices

Some foods may not be available in the stores in the size specified on the *Food Basket Form*. The following steps will help you to determine the price for the specified size.

- **Divide** the **recorded price** by the **recorded size** and **multiply** by the **required size**.

For example, on the *Food Basket Form* you need the cost of 675g of corn flakes. However, in the store you can only find a 750g box that costs \$2.79. You would record the price and size of the box on the *Food Basket Form* and later calculate the price of 675g.

Step 1: Divide the recorded price by the recorded size

$$\frac{\$2.79}{750 \text{ grams}} = \$0.00372/\text{g (cost per gram)}$$

Step 2: Multiply the cost per gram (\$/g) by the size you want.

$$\$0.00372/\text{g} \times 675\text{g} = \$2.51$$

The cost for 675g is \$2.51. This is entered in Column H ("*Price Entered to Spreadsheet*" of the *Food Basket Form*) page 55.

Converting Weights

- **To convert a price per pound (\$/lb) to price per kilogram (\$/kg)**

Multiply the price per pound by 2.2026.

For example, if hamburger is \$2.99/lb, you would multiply \$2.99 x 2.2026 to get the cost per kilogram.

$$\text{\$2.99/lb} \times 2.2026 = \text{\$6.585774/kg}$$

The price per kilogram is \$6.59

- **To convert grams (g) to kilograms (kg)**

1kg = 1000g therefore divide the number of grams by 1000.

For example, a head of broccoli weighs 750g and you need to know the price per kilogram (\$/kg). You would divide 750 by 1000.

$$\frac{750\text{g}}{1000\text{g}} = 0.75$$

750g equals 0.75kg

- **To convert milliliters (mL) to liters (L)**

1L = 1000mL therefore divide the number of mL by 1000.

For example, if you have a 250mL can of tomato juice and you need to know the price per litre (\$/L), you would divide 250 by 1000.

$$\frac{250\text{mL}}{1000\text{mL}} = 0.25$$

250mL equals 0.25L

3

Doing the Food Costing

If possible, it is a good idea for food costers to go to stores in pairs to do the food costing. This may be more fun and you can help each other out when you need to calculate specific costs. It is also good to have two people looking for the prices to avoid mistakes. If it is not possible to go in pairs, ask for additional support from the project coordinator. Take along the *Food Basket Form* and helpful handouts related to food costing. **REMEMBER:** You need to get permission from the store before going in to do food costing.

If possible, it is a good idea for food costers to go to stores in pairs to do the food costing.

4

Calculating the Cost of the National Nutritious Food Basket (NNFB)

After prices are collected for each food item, you need to review the *Food Basket Form* to ensure that the prices have been entered and calculated correctly for the specified size. Any changes or calculations need to be done at this point so that the correct price is used when calculating the total cost of the food basket. In Attachments B, C, and D, you'll find worksheets that will help you do the necessary calculations.

You'll find step-by-step instructions on how to calculate the cost of the NNFB in Section 3, page 17. **You only have to do the calculations by hand if you do not have access to Microsoft Excel™** (see note).

NOTE:

If you have access to Microsoft Excel you do not have to do all the calculations by hand!

You can calculate the NNFB using a Microsoft Excel spreadsheet that is available from the Provincial Participatory Food Costing Coordinator (foodsecurity@msvu.ca or 902-457-5549)

The Microsoft Excel Spreadsheet will allow you to calculate total weekly food costs for **individuals**. If you want to calculate weekly or monthly costs for **households**, you'll still need to do a few calculations on your own (Steps 5 & 6, pages 25 and 26).

How to calculate the cost of the National Nutritious Food Basket

Using Worksheet 1 to calculate the cost of food

The following steps will allow you to use the prices you have collected in the stores to calculate the cost of the NNFB.

General Directions

- Photocopy *Worksheet 1: Calculating the Cost of Food* (Attachment B, page 68).
- Use a calculator to calculate the price /kg
- Do not round off numbers on your calculator.

For example, do not change a number like 2.365789 to 2 or 2.37 until you have completed your calculations and are ready to enter the number into the final column on the spreadsheet (Column H). When you get to Column H, enter no more than 2 numbers after the decimal point. For example, 3.46785 is entered as 3.47.



If an Item is Missing

If you were unable to get a price for a food item at one store, you can use the average price of that item from the other stores.

Using the yogurt example, let's say there was no yogurt at Store 4. In this case you would enter the average price from stores 1, 2 & 3:

$$\$3.29 + \$3.49 + \$3.89 = \$10.67$$

$$\$10.67 \div 3 = \$3.56$$

So for store 4 you would enter a price of **\$3.56**. You would then add together all four prices and divide by 4 to get the average price to enter into the spreadsheet.

You can substitute the average cost for up to 5 items in the food basket if necessary.

- If you collect prices from several stores, you only need to do this worksheet once, using the average cost of each food.

For example, if you have costed four stores, average the prices of each food item from these stores. See the example below using yogurt.

Yogurt 500g

Store 1 - \$3.29

Store 2 - \$3.49

Store 3 - \$3.89

Store 4 - ~~\$1.79~~

\$12.46

$$\frac{\$12.46}{4} = \$3.12$$

Average price: \$3.12 — enter this price on the spreadsheet.

1 Enter the Purchase Prices

Enter the purchase price of each food from the last column of the *Food Basket Form (Price Entered to Spreadsheet)* into Column C (*Purchase Price*) of the Worksheet.

Remember: If you have costed more than one store, enter the average cost.

A Foods	B Purchase Size	C Purchase Price	D Scalar	E Scaled Price	F Weight	G Weighted Price	H Weekly Cost /Food Grouping
Milk Products							
2% Milk	3 L	\$4.24	0.3333		0.6530		

2 Determine the Scaled Price (Column E)

The Scalar is a factor applied to the purchase price of the item to convert the foods within in a food group to a common unit of measure such as kilograms.

Multiply the *Purchase Price* (Column C) by the *Scalar* (Column D).

$$C \times D = E$$

$$4.24 \times 0.3333 = 1.413192$$

A Foods	B Purchase Size	C Purchase Price	D Scalar	E Scaled Price	F Weight	G Weighted Price	H Weekly Cost /Food Grouping
Milk Products							
2% Milk	3 L	\$4.24	0.3333	\$1.413192	0.6530		

3 Determine the Weighted Price (Column G)

The weight is a way of showing the relative importance of foods within a food group.

Multiply the *Scaled Price* (Column E) by the *Weight* (Column F).

$$E \times F = G$$

$$1.413192 \times 0.6530 = 0.9228143$$

A Foods	B Purchase Size	C Purchase Price	D Scalar	E Scaled Price	F Weight	G Weighted Price	H Weekly Cost /Food Grouping
Milk Products							
2% Milk	3 L	\$4.24	0.3333	\$1.413192	0.6530	\$0.9228143	

Repeat steps 1 through 3 for each food item in a food grouping.

4 Calculate the Weekly Cost per Food Grouping

Within the food grouping, add up all the *Weighted Prices* in Column G. This will give you the *Weekly Cost per Food Grouping*. Round the total to two decimal places and write this total in the shaded square (Column H).

A Foods	B Purchase Size	C Purchase Price	D Scalar	E Scaled Price	F Weight	G Weighted Price	H Weekly Cost /Food Grouping
Milk Products							
2% Milk	3L	4.17	0.3333	1.413192	0.6530	0.9228143	
Yogurt	500g	1.79	1.7567	3.144493	0.0165	0.0518841	
Cheddar Cheese Medium	227g	3.19	0.7627	2.433013	0.0889	0.2162948	
Process Cheese Slices	500g	3.49	0.4078	1.423222	0.0849	0.1208315	
Mozarella Cheese	227g	3.29	0.8157	2.683653	0.1233	0.3308944	
Vanilla Ice Cream	2L	2.89	0.8723	2.520947	0.0334	0.0841996	
							\$1.73

Repeat steps 1 through 4 for each food item in a food grouping.

Using Worksheets 2 & 3 to calculate weekly and monthly food costs for different households

After you have completed Worksheet 1- *Calculating the Cost of Food*, you now can use the weekly food costs, along with the information in Worksheet 2— *Factors for Age/Gender Groups* (Attachment C, page 73), to calculate the weekly food costs for individuals of different ages and genders and for families of any size.

To do this, you use the numbers in Column H—the *Weekly Cost per Food Grouping*—of Worksheet 1 and the factor from Worksheet 2 that corresponds to the age/gender group you wish to calculate.

1 **Decide the age and gender of the individuals whose food costs you want to calculate**

Make a copy of Worksheet 3- *Weekly Food Cost for An Individual* (Attachment D, page 76) for each person whose food costs you plan to calculate.

Worksheet 2 allows you to calculate costs for 23 different age and gender combinations including pregnant and breastfeeding women and a family of four.

To do this, you multiply the factor under each food grouping for the specific age/gender you want by the weekly cost for that food grouping in Column H of Worksheet 1. For example, to determine the weekly cost of milk products for a 1-year-old child you multiply the number in Column H (Worksheet 1) at the end of the milk products by 3.50, the Milk Products factor for a 1-year-old child.

$$\$1.73 \times 3.50 = \$6.06$$

2 Enter the Total Weekly Food Costs on Worksheet 3 _____

Enter the numbers for each food grouping from Column H on Worksheet 1 into Column 2 of Worksheet 3.

Worksheet 3— Weekly Food Costs for an Individual			
1	2	3	4
Food	Weekly Cost (Col. H-Worksheet 1)	Factor (Worksheet 2)	Age/Gender Specific Weekly Cost
<i>Milk</i>	\$1.73		
<i>Eggs</i>	\$0.17		
<i>Meats</i>	\$6.84		
<i>Meat Alternatives</i>	\$2.99		
<i>Grains</i>	\$2.80		
<i>Citrus Fruit</i>	\$1.86		
<i>Other Fruit</i>	\$2.50		
<i>Potatoes</i>	\$0.96		
<i>Other Vegetables</i>	\$2.37		
<i>Fats & Oils</i>	\$4.57		
<i>Sugar</i>	\$1.53		
Weekly Cost of all Food Groupings			
Total Weekly Food Cost			

3 Enter the Appropriate Age/Gender Factor _____

On Worksheet 2, find the factor for the age/gender group whose food costs you are calculating. Enter the factor for each food grouping into Column 3 of Worksheet 3. The example below uses the factors for a woman aged 25-49 years.

Worksheet 3— Weekly Food Costs for an Individual			
1	2	3	4
Food	Weekly Cost (Col. H-Worksheet 1)	Factor (Worksheet 2)	Age/Gender Specific Weekly Cost
<i>Milk</i>	\$1.73	3.50	
<i>Eggs</i>	\$0.17	3.00	
<i>Meats</i>	\$6.84	0.85	
<i>Meat Alternatives</i>	\$2.99	0.20	
<i>Grains</i>	\$2.80	1.40	
<i>Citrus Fruit</i>	\$1.86	0.80	
<i>Other Fruit</i>	\$2.50	1.50	
<i>Potatoes</i>	\$0.96	1.00	
<i>Other Vegetables</i>	\$2.37	1.65	
<i>Fats & Oils</i>	\$4.57	0.15	
<i>Sugar</i>	\$1.53	0.20	
Weekly Cost of all Food Groupings			
Total Weekly Food Cost			

4 Calculate the Age/Gender Specific Weekly Food Cost _____

For each food grouping, multiply Column 2 (*Weekly Cost*) and Column 3 (*Factor*). Enter this number in Column 4.

Add all the numbers in this column to get the *Weekly Cost of all Food Groupings* for a woman aged 25-49 years.

Worksheet 3— Weekly Food Costs for an Individual			
1	2	3	4
Food	Weekly Cost (Col. H-Worksheet 1)	Factor (Worksheet 2)	Age/Gender Specific Weekly Cost
<i>Milk</i>	\$1.73	3.50	\$6.06
<i>Eggs</i>	\$0.17	3.00	\$0.51
<i>Meats</i>	\$6.84	0.85	\$5.81
<i>Meat Alternatives</i>	\$2.99	0.20	\$0.60
<i>Grains</i>	\$2.80	1.40	\$3.93
<i>Citrus Fruit</i>	\$1.86	0.80	\$1.49
<i>Other Fruit</i>	\$2.50	1.50	\$3.75
<i>Potatoes</i>	\$0.96	1.00	\$0.96
<i>Other Vegetables</i>	\$2.37	1.65	\$3.91
<i>Fats & Oils</i>	\$4.57	0.15	\$0.69
<i>Sugar</i>	\$1.53	0.20	\$0.31
Weekly Cost of all Food Groupings			\$28.02
Total Weekly Food Cost			

5 Calculate the Total Weekly Food Cost

This calculation adds an additional 5% to *the Weekly Cost of Food* to cover the cost of miscellaneous food items that would not have to be purchased every week. This miscellaneous food cost includes things like ketchup, coffee, spices, etc.

To calculate it, multiply the *Weekly Cost of All Food Groupings* by 1.05.

Example: \$28.02 x 1.05 = \$29.42

\$29.42 is the *Total Weekly Food Cost* for a woman aged 25-49 years.

Worksheet 3— Weekly Food Costs for an Individual			
1	2	3	4
Food	Weekly Cost (Col. H-Worksheet 1)	Factor (Worksheet 2)	Age/Gender Specific Weekly Cost
<i>Milk</i>	\$1.73	3.50	\$6.06
<i>Eggs</i>	\$0.17	3.00	\$0.51
<i>Meats</i>	\$6.84	0.85	\$5.81
<i>Meat Alternatives</i>	\$2.99	0.20	\$0.60
<i>Grains</i>	\$2.80	1.40	\$3.93
<i>Citrus Fruit</i>	\$1.86	0.80	\$1.49
<i>Other Fruit</i>	\$2.50	1.50	\$3.75
<i>Potatoes</i>	\$0.96	1.00	\$0.96
<i>Other Vegetables</i>	\$2.37	1.65	\$3.91
<i>Fats & Oils</i>	\$4.57	0.15	\$0.69
<i>Sugar</i>	\$1.53	0.20	\$0.31
Weekly Cost of all Food Groupings			\$28.02 x 1.05
Total Weekly Food Cost			\$29.42

Repeat steps 1 through 5 for each individual whose food costs you want to calculate.

6 Calculate the Total Weekly Household Food Costs

To get the **Total Weekly Household Food Cost**, calculate each individual's *Total Weekly Food Cost* separately and add them all together.

For example, if you want to know the total weekly food costs for a household of 5 made up of a 40-year-old woman, boy age 9 years, and three girls ages 11, 14 and 17 years—you would calculate the weekly food costs for the 5 individuals separately and add the totals (Worksheet 3, step 5).

Because it costs a little more per person to feed small groups of people and a little less per person to feed larger groups, you now have to adjust the total weekly cost that you added up from the individual weekly food costs. The adjustment factors are listed in the box on this page.

For example, to get the **Total Weekly Household Food Cost** for the 5-member household above—the lone mother with four children—you would take their combined weekly food costs and multiply by 0.95.

Another example would be to get the **Total Weekly Household Food Cost** for a single woman age 25-49 years, who lives alone. (The weekly food cost for a woman in this age groups was calculated in Step 5.) This would be considered a household of one. You would multiply her *Total Weekly Food Cost* of \$29.42 by an adjustment factor of 1.15.

$$\$29.42 \times 1.15 = \$33.83$$

Her **Total Weekly Household Food Cost** would be \$33.83.

Use the adjustment for household size that applies to your situation.

1 person: increase costs by 15%
(multiply total food costs by 1.15)

2 persons: increase costs by 10%
(multiply total food costs by 1.10)

3 persons: increase by 5%
(multiply total food costs by 1.05)

4 persons: no change

5 persons: decrease food costs by 5%
(multiply total food costs by .95)

6 persons: decrease costs by 10%
(multiply total food costs by .90)

7 Calculate the Monthly Cost of a Nutritious Food Basket

To figure out a monthly cost of the food basket, multiply *Total Weekly Household Food Cost* by 4.33—the average number of weeks in a month.

For example, in the case of the lone woman age 25-49 years you would multiply $\$33.83 \times 4.33 = \146.48 .

Her **Monthly Cost of a Nutritious Food Basket** would be \$146.48.

Using the information



The National Nutritious Food Basket can be used to compare the cost of a basic nutritious diet to the amount of money people living on income assistance and minimum wage have available for food. This can be a powerful way to demonstrate the potential existence of food insecurity in your community.

Following are two tables showing how to calculate affordability for families supported by minimum wage as well as income assistance. These are hypothetical cases using estimated income and expenses for Nova Scotia situations (as found in the Participatory Food Costing Project, 2002).

Table 1

Affordability of a Nutritious Diet for Households Earning Minimum Wage¹

One-parent household of three ² supported by minimum wage (40 hrs/wk at \$6.50/hr as of April, 2004)	
Monthly Net Income	
Wages	\$758.00
Canada Child Tax Benefit	\$512.07
Federal GST Benefit	\$55.00
Total	\$1325.07
Basic Monthly Expenses	
Shelter	- \$493.00
Power/heat/water	- \$100.00
Telephone	- \$28.75
Transportation	- \$276.88
Childcare	- \$304.41
Clothing, footwear, etc.	- \$162.35
Total Expenses (excluding food)	1365.39
Funds remaining for food	- \$40.32
Cost of the NNFB	\$351.68
Monthly funds remaining for other expenses	-\$392.00

¹ Williams P.L., Johnson C.P., Kratzman M.L.V., Johnson C.J., Anderson B.J., and Chenhall C. 2006. Can Households Earning Minimum Wage in Nova Scotia Afford Nutritious Diet? *Canadian Journal of Public Health*. 97 (6) 430-34

² Household composed of a lone mother agd 37, a girl 4 years, and a boy 7 years

Table 2

Affordability of a Nutritious Diet for Households Supported by Income Assistance

One-parent household of three supported by income assistance ¹ (no employment)	
Monthly Net Income	
Personal Allowance	\$180.00
Shelter Allowance	\$593.00
Transportation Allowance	\$0
Childcare Allowance	\$0
Wages	\$0
Canada Child Tax Benefit	\$531.40
Federal GST Credit	\$55.00
Total	\$1359.40
Basic Monthly Expenses	
Shelter	- \$493.00
Power/heat/water	- \$100.00
Telephone	- \$28.75
Transportation	- \$276.88
Childcare	\$0
Clothing	\$162.35
Total expenses (excluding food)	\$1060.98
Funds remaining for food	\$298.42
Cost of the NNFB	\$351.68
Monthly funds remaining for other expenses	-\$53.26

¹ Household composed of a lone mother aged 37, a girl 4 years, and a boy 7 years

From these scenarios it is clear that families supported by minimum wage and income assistance in Nova Scotia are unable to meet their basic needs. Food is often the most flexible part of the budget. You must pay your bills for shelter, heat, etc., or face eviction and other consequences. Food money is often used to cover these other important day-to-day expenses. Families who do not have enough money to meet their basic needs each month are more likely to be forced to compromise their health by spending less than is required to meet basic nutrition needs.

In Section 5, you'll find where to get the information you'll need to do a similar calculation for households of other sizes.

Local Availability of Food

The information that was collected regarding whether or not the lowest cost food items were produced locally or not can be used to look at the availability of local food in the area. This information can tell you the percentage of local foods carried at grocery stores. An increase in locally available foods can contribute to the health of the local environment and economy, as well as social and personal health.

Sources of information

The following section includes some resources you can use to collect information about incomes and basic expenses in order to assess the affordability of a basic nutritious diet for different situations, such as those described on pages 30 and 31.



Income

Canada Child Tax Benefit: The Canada Child Tax Benefit (CCTB) is calculated by Canada Customs and Revenue Agency (CCRA) and is based on the number and age of the children in a household and the household income. An online calculator is available at the CCRA website which will estimate the amount of CCTB a family is eligible for:

www.ccr-aadrc.gc.ca/benefits/calculator/menu-e.html

Government Sales Tax Credit: The Government Sales Tax (GST) credit is based on income and the number of adults and children in households. This figure is generally calculated by Canada Customs and Revenue Agency (CCRA) after a tax return has been submitted. An online calculator is available at the CCRA website which will estimate the amount of GST credit an individual/family is eligible for:

www.ccr-aadrc.gc.ca/benefits/calculator/menu-e.html

We strongly encourage you to contact your local office of CCRA to ensure accurate figures for the CCTB and GST benefits.

Social (Income) Assistance: Social (income) assistance rates and policies vary from province to province and are usually regulated under the provincial department of community services or related department. The National Council of Welfare reports annual social (income) assistance incomes for each province/territory. *Welfare Incomes* reports are available on-line at the following website under “Publications” :

www.ncwcnbes.net

In order to determine specific monthly allowances for basic expenses you must review the policy manual for each provincial/territorial department of community services. Information on the income assistance program in Nova Scotia is available at:

www.gov.ns.ca/coms/manual/index.htm

Minimum Wage: Human Resources and Skills Development Canada maintains a Database on Minimum Wages across Canada. It can be accessed through the following website:

www.hrsdc.gc.ca

Income Deductions: Income deductions that need to be factored in include federal and provincial income tax rates as well as federal Canadian Pension Plan (CPP) and Employment Insurance (EI) contributions.

Federal and provincial income tax rates are listed at the following website:

www.kpmg.ca/en/services/tax/taxrates.html

Federal EI contribution rates can be found online at:

<http://www.fin.gc.ca/news05/05-075e.html>

CPP Contribution Rates can be found online at:

www.hrsdc.gc.ca/asp/gateway.asp?hr=en/isp/cpp/contribrates.shtml&hs=cpp

Nova Scotia Community Counts: Presents socio-economic and other data that illustrate the unique nature of each community. This information is available online at:

www.gov.ns.ca/finance/communitycounts/

Monthly Expenses

Market Basket Measure: The Market Basket Measure is used to estimate monthly expenses for shelter, power/heat/water, telephone, transportation, childcare, and clothing. A report of the Market Basket Measure is available online at:

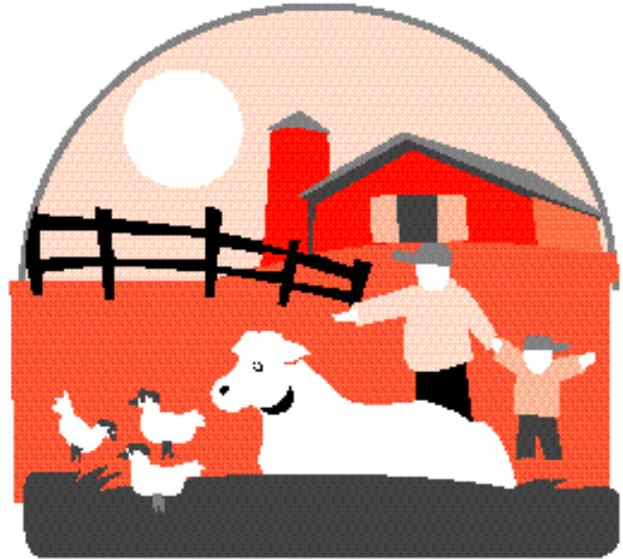
www.hrsdc.gc.ca/en/cs/comm/news/2003/030527.shtml

1996 Survey of Family Expenditures: Statistics Canada Income Statistics Division surveys a variety of family expenditures. Available online at:

www.statcan.ca/english/Dli/Data/Ftp/Famex.htm

Fact sheets and handouts

Over the next few pages you will find the handouts and fact sheets referred to previously in this handbook. As well as being helpful during the food costing training, you may find the fact sheets to be useful when talking to the broader community about the issue of food security.



Fact sheets include:

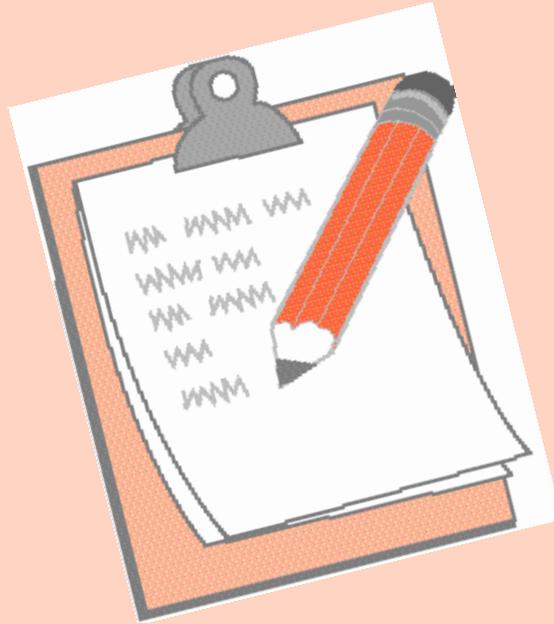
- Food Security vs. Food Insecurity
- Why Buy Local?
- What is Policy?
- The National Nutritious Food Basket

Handouts include:

- Basic Instructions for Food Costing
- Common Problems
- Converting Prices and Weights
- Locally Produced Foods

The first three fact sheets were taken directly from the *Thought About Food?: A Workbook on Food Security and Influencing Policy*. This workbook is available online at www.foodthoughtful.ca

Fact Sheets



- Food security vs. food insecurity
- Why buy local?
- What is policy?
- The National Nutritious Food Basket



Food Security versus Food Insecurity

Food Security —

Occurs when everyone can afford to purchase and are able to access nutritious and safe food that they enjoy eating.

Is when everyone can access food in a way that does not comprise human dignity.

Means food is grown and accessed in ways that are environmentally sound and socially just.

Means you can feel confident about the food you are eating and that you will have enough.

Is about sharing and celebrating your food.

Food Insecurity —

Is when you can't access foods that you enjoy and need for you and your family to be healthy.

Is not having sufficient and safe food for future generations.

Is feeling stressed about whether you have enough food or about where your next meal will come from.

Is worrying about the safety of your food and about what is in it.



Why Buy Local?

Buying local food is good for the health of the environment, the economy, communities and people.

Environmental Health —

Local food reduces the amount of fuel used to transport food long distances.

It also reduces green house gases.

Well-managed family farms help to create and support healthy local environments.

Economic Health —

Local food supports local farm families.

Selling directly to you means that farmers can keep the full price of the food and earn a better living.

Buying local food keeps your money within your community.

Social, Cultural and Spiritual Health —

Local food connects you with farmers and with food production.

Local food resists globalization and celebrates local diversity.

Local food ensures food for future generations.

Human Health —

Local food is fresher and tastes better.

Local food may also be safer — it uses fewer chemicals, additives, and preservatives.

Local food is better for you than food that is shipped long distances.



What is Policy?

Policies can be laws, rules, regulations, guidelines, principles, or directions. They say:

What is to be done

Who is to do it

How it is to be done

Policy occurs at various levels and points of interaction

Personal policy is the set of standards you use to guide your own decisions and actions.

Organizational policy guides how organizations and businesses operate.

Public policy guides how federal, provincial and municipal governments operate and address specific issues or problems.

How can we influence policy?

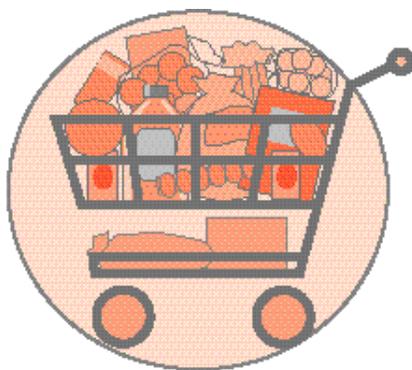
Whether you're acting to influence policy on your own, as part of a group, or as part of a formal food policy organization, the process is the same.

Step 1 Know your issues, your goals and your opposition.

Step 2 Know the policy process and the policy makers.

Step 3 Engage stakeholders and develop networks. Make connections between different people and different groups.

Step 4 Take action!



The National Nutritious Food Basket... What You Need to Know

What is the National Nutritious Food Basket?

The *National Nutritious Food Basket* (NNFB) is a standardized survey tool available through Health Canada. The NNFB includes nourishing foods that reflect the kinds of food that most Canadians buy, and think are tasty and affordable.

The NNFB Is Used To...

Monitor the cost and assess the affordability of a nutritious diet for individuals and families over time



What Foods are included in the NNFB?

The NNFB consists of a list of 66 foods in 11 food groupings:

- Milk Products
- Eggs
- Meats, Poultry, Fish
- Meat Alternatives
- Grain Products
- Citrus Fruit & Tomatoes
- Other Fruit
- Potatoes
- Other Vegetables
- Fats & Oils
- Sugar & Other Sweets



Limitations of the NNFB

There are many limitations to using NNFB. **It is very important that those who use the NNFB clearly understand these limitations, listed below, and ONLY use it for the purposes intended.**

For example, the NNFB **SHOULD NEVER** be used as an individual budgeting tool or to prescribe a diet.

The NNFB **DOES NOT**:

1. Aim to represent an **ideal** nutritious diet for Canadians.
2. Take into account food dollars spent away from home (for example, food dollars spent in cafeterias, restaurants).
3. Include processed, convenience and snack foods.
4. Include any non-food items that are typically bought at the grocery store and considered part of the grocery bill—for example, toilet paper, toothpaste, laundry detergent, etc.

For a thorough explanation of these limitations please refer to the Health Canada document, *National Nutritious Food Basket*¹.

More Limitations...

The NNFB:

1. *Includes* foods bought at grocery stores and *excludes* food items bought at other food retail outlets. For example, the NNFB excludes food purchased in convenience stores, warehouse-type bulk stores, farmers markets etc.
2. Uses specific sizes or quantities of food that may:
 - a. not always be available in every grocery store.
 - a. not always be the cheapest to buy.

Used correctly, the National Nutritious Food Basket can be an excellent tool to assist individuals and organizations to monitor the cost of food in a specific region and to work for policy change within the **government** and the **food system**.

1. Lawn, J. (1998). *National Nutritious Food Basket*. Health Canada: Ottawa, Canada.

Handouts



- **Basic instructions for food costing**
- **Common problems**
- **Converting prices and weights**
- **Locally produced foods**

Basic instructions for food costers

To be sure that everyone collects the same information, all food costers must receive the same instructions and follow the same procedures. Be sure food costers understand this material and give them lots of opportunities to ask questions.

Read labels carefully!

Check that you are pricing what is specified on the *Food Basket Form* and that the price sticker belongs to that product. For example, the *Food Basket Form* specifies 2% milk, **medium** ground beef, **reduced fat** mayonnaise, and **non-hydrogenated** margarine.

Price

- Always record **lowest price** of the food item that is specified on the *Food Basket Form*.
- If an item is on special indicate this by placing a ✓ in the *On Sale* column by the item.
- If a special price requires the use of coupons, mail-in rebates, or the purchase of a minimum grocery order, use the regular price of the item. These specials would not be available to everyone. For example, someone might not have an extra \$2.00 to pay upfront and then wait for rebate.
- If there is coupon that will automatically be given to the cashier (for example those that can be peeled off the shelf or the product), then you can use the reduced price because it would be accessible to everyone.

Size

- If the **specified size is available** record that price. Do not use the price of a different sized food item even if its price is less.
- If the **specified size is not available** record the price of the nearest size. Make sure you make note of the different size and cost. You can convert this to the price of the size specified on the form later. (See *Converting Prices and Weights*, page 13).

Availability

- If an item or its suggested substitute is not available write N/A in the *Price* column.
- Make a note in the *Comments/Calculations* column on the form if an item is not available in specified form/size.

Common Problems

This information addresses common issues that arise when collecting food prices. These points should be discussed with the food costers during the practice trip to the grocery store.

Fruits & Vegetables

- When fruits and vegetables are available both as loose and bagged — for example apples, oranges, and onions—write down the price of both. Later determine which works out to be cheapest and record that price (see *Converting Prices and Weights, page 13*).
- Only record the price of a three-pound (lb) bag of each product since this is close to the 1 kg size you need for the form. For example, do not use a 5lb bag of apples if there is a 3lb bag or loose apples available—you must always use the size closest to the one specified on the *Food Basket Form*.
- For loose items there will be a price per kg displayed.
- Certain items of produce are priced per head or bunch rather than per kg (as asked for on the *Food Basket Form*). In this case you must get an **average weight** to determine a price per kg. This is sometimes the case with oranges, pears, or broccoli. When weighing these items try to weigh 3 medium sized items. For example:

Step 1. Write down the weight in grams (g) of 3 different bunches of broccoli.



Step 2. Add the 3 weights together

$$700\text{g} + 600\text{g} + 800\text{g} = 2100\text{g}$$

Step 3. Divide that number by 3.

$$2100\text{g} \div 3 = 700\text{g} \text{ This is the average weight.}$$

Step 4. Record that weight and the cost per bunch on the form. You can use this information to figure out the price per kg (see *Converting Prices and Weights, page 13*).

Meats, Poultry, Fish

- If meat, poultry and fish are priced per kg, record the price of regular sized packages—not club or family packs even though they may be cheaper. Club or family packs should not be used because not everyone would have the money upfront to purchase these or have the storage space available to them.
- If beef and pork wieners are not available, use all-beef wieners. For frozen fish filets, choose the cheapest of haddock, cod, sole, Boston bluefish and Alaskan Pollock. For ham, if the store you are costing has a deli counter, check the price per kg of sliced ham at the deli counter as well as the pre-packaged ham.

Grain Products

- For bread, price the brand that is the cheapest but do not use in-store bakery bread. You can use a store brand bread, just not the one that is actually baked on-site in the store. This is because bread baked in the store varies too much in nutritional content.
- If 100% whole wheat bread is not available, price 60% whole wheat bread.
- If social tea crackers are not available use arrowroot cookies.
- Hot dog buns are not usually available in the size specified on the Food Basket Form. To find the nearest size you need to look at the nutrition label (usually on the back of the package) and find the serving size. Then multiply the serving size by the number of buns in the bag to get the size of the package. For example:

On the nutrition label a serving size (1 bun) is 45g. There are 10 buns in a package.
Multiply $45\text{g} \times 10 = 450\text{g}$

This is very close to the specified size of 480g. You would then record the price for 450g and later use this information to calculate the price for 480g (*See Converting Prices and Weights, page 13*).

Bulk Food Items

Some items can be found pre-packaged and in the bulk food section of the grocery store. These items may include rice, flour, dry navy beans/white pea beans, macaroni, spaghetti, raisins, sugar and oatmeal. You will need to check the price of these items in bulk to see if they are more or less expensive than the pre-packaged item.

Converting prices & weights

Converting prices and weights to match the amounts specified on the *Food Basket Form* is an issue that may arise for food costers. Be familiar with this information. A good opportunity to practice converting prices and weights is after prices have been collected during the practice trip to the grocery store.

Converting Prices

Some foods may not be available in the stores in the size specified on the *Food Basket Form*. The following steps will help you to determine the price for the specified size.

Divide the **recorded price** by the **recorded size** and **multiply** by the **required size**.

For example, on the *Food Basket Form* you need the cost of 675g of corn flakes. However, in the store you can only find a 750g box that costs \$2.79. You would record the price and size of the box on the *Food Basket Form* and later calculate the price of 675g.

Step 1: Divide the recorded price by the recorded size

$$\frac{\$2.79}{750\text{g}} = \$0.00372/\text{g} \text{ (cost per g)}$$

Step 2: Multiply the cost per gram by the size you want.

$$\$0.00372/\text{g} \times 675\text{g} = \$2.51$$

The cost for 675g is \$2.51. This is entered in Column H of the *Food Basket Form (Price Entered to Spreadsheet)*.

Converting Weights

- To convert a price per pound (\$/lb) to price per kilogram (\$/kg)

Multiply the price per lb by 2.2026

For example, if hamburger is \$2.99/lb, you would multiply \$2.99 x 2.2026 to get

the cost per kg.

$$\$2.99 \times 2.2026 = 6.585774$$

The price per kg is \$6.59/kg

- To convert grams (g) to kilograms (kg)

Divide the number of g by 1000

For example, a head of broccoli weighs 750g and you need to know the price per kg. You would divide 750 by 1000.

$$\frac{750\text{g}}{1000\text{g}} = 0.75$$

750g equals 0.75 kg

- To convert millilitres (mL) to litres (L)

Divide the number of mL by 1000

For example, if you have a 250mL can of tomato juice and you need to know the price per L, you would divide 250mL by 1000.

$$\frac{250\text{mL}}{1000\text{mL}} = 0.25$$

250mL equals 0.25L

Locally produced foods

The Food Costing Form asks you to look at where certain foods come from. This is indicated on the form by “*Was the lowest price local?*” and “*Was local available?*” Local is defined as being produced (grown) in Atlantic Canada—New Brunswick, Nova Scotia, Prince Edward Island, or Newfoundland.

How to tell if a food item was produced locally

Fruits and Vegetables

- Many times the display tag, which shows the price of the produce, will also show where loose fruits and vegetables are from (*product of...*). This tag can be found on the bin the food is found in.
- The stickers that are found on many fruits and vegetables may also indicate where the food is from.
- If a food item has both a display tag and a sticker, record the “product of” information for both.
- For packaged items, such as carrots or potatoes, record the “product of” information the same as above. You also need to record where it was packaged, usually found on the label of the product. This is recorded on the *Food Basket Form* where it says *address*.
- If this information is missing you may need to ask the produce manager where the food item is from.

Meats, Poultry, Fish

- You will likely need to ask the meat manager where the meat is from as there generally isn't a sign to tell you.
- The label on the package of meats indicates where it was packed but not necessarily where it was produced. Write the packaging information in the *address* spot on the *Food Basket Form* so we know where it traveled to in order to be packaged.

An example using the *Food Basket Form*:

How to record where food items are from _____

The lowest cost apples are a 3lb bag. The display tag says it is a product of the USA. You would circle “no” under the “Was lowest price local?” column. Then record “USA” under “product of.” Next, you would look on the package for an address. This one says “Ohio,” so you would record that under “Address”.

You also need to check to see if there are local apples available, even if they aren’t the lowest cost ones you recorded a price for. In this case there is a 3lb bag of apples grown in Canada. You check with the produce department and find out that they are grown in the Annapolis Valley. You then check the address on the package and see that they were packaged in Berwick, NS.

A Foods	B Purchase size	C Price	D On Sale	E Comments & calculations	F Was lowest price local ? <small>(circle one)</small>	G Was local available? <small>(circle one)</small>	H Price entered to spreadsheet
Other fruits							
Apples	1kg	/kg		price/lb x 2.2026 lb/kg= price/kg	YES <input checked="" type="radio"/> NO	<input checked="" type="radio"/> YES NO	
					Product of USA _____ Address Ohio _____	Product of Nova Scotia _____ Address Berwick, NS _____	