



## **Mijipjewey na Pisun – Food is Medicine**

### **Learning Objectives**

1. Watch a demonstration on how to fillet a trout and discuss traditional ways of waste reduction and fishing.
2. Identify foods that have starch and discuss starch as a carbohydrate.
3. Discuss different traditional sources of carbohydrate in Mi'kma'ki.

### **Background Information**

Mijipjewey na Pisun is the Mi'kmaq phrase that means food is medicine. Mijipjewey means food and is pronounced me-jib-joe-whey. Pisun means medicine and is pronounced bwe-sun. This means that what we eat provides what our bodies need to be healthy.

Nutrition and food are a very important part of Mi'kmaw culture. The hunt for and the preparation of food was/is a traditional activity, that in some cases involved the entire community. Knowledge of foods, food sources, preparation and storage was/is required to keep a community nourished. Celebrations like the new moon ceremony and weddings include feasts.

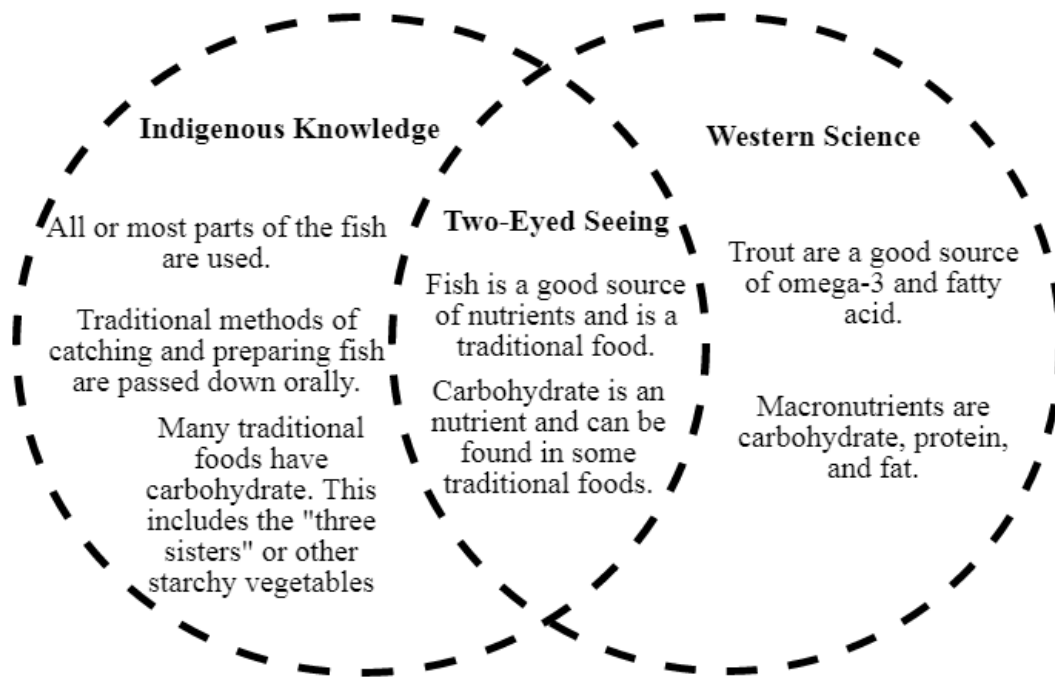


Figure 1: Two-Eyed Seeing Diagram

Table 1: Vocabulary

Dietitian	A regulated professional who has gone to university and has completed an internship. They can work in hospitals, for communities, in the food industry, or as researchers providing nutrition advice and support (1).
Human Nutrition	The science of food, how the human body uses it and how it affects health (2,3)
Carbohydrate	A nutrient from plant sources that is a main source of energy in the human diet (3).
Protein	A nutrient that can give the body energy and is used for building and maintaining muscle (3).
Fat	A nutrient that the body uses for energy and for energy storage. Fat provides insulation for the body and makes up cell walls (3).
Sinew	A tough fibrous tissue in fish that helps connect the muscle to the bone. When it is dried, it can be used as a thread (4).
Bone Marrow	A semi-solid tissue in bodies that helps make new blood cells. It is a soft substance that fills the bones of people and animals. It is made up of protein and fat (3).

## **Laboratory (Lab) Safety Rules**

- Lab coats **MUST** be worn at all times
- No running or horseplay
- Report all accidents to a camp counsellor
- No open toed shoes or high heels
- Tie back long hair and wear a hair net
- Do not chew gum.
- Wash your hands with warm soapy water before and after handling food
- Wear oven mitts when handling hot pots or pans
- When tasting food, put a small amount on a clean plate, use your own utensil
- Avoid contact with chemical cleaners and sanitizers

## **Questions and Answers about Fish and Nutrition**

Why are fish a traditional food in Mi'kma'ki?

Nova Scotia is almost entirely surrounded by water; and therefore, has many miles of seashore. It also has an abundance of lakes and rivers that have been fished by Mi'kmaq people for hundreds of years. The many rivers in Nova Scotia we're used by Mi'kmaq people like highways. They connected us between different communities, between our camps, and between food sources. Because we spent so much time on and around the water, many different types of fish were and still are integral to our way of life. In this activity, we'll be talking specifically about trout, however many other fish such as eel, salmon, lobster, seal, and more have been just as important to our culture.

How is trout/fish used traditionally?

Traditionally, all parts of the fish were used in some way. For instance, some animals were eaten completely, while others had parts that were used to make tools and sinew. Fish heads can be used to make soups, while sinew is often used in traditional Mi'kmaw clothing. Bone marrow can be extracted from fish (by boiling, chewing etc) and is a good source of calcium.

What is the binomial (scientific) and Mi'kmaw name for trout?

The binomial name for rainbow trout is *Oncorhynchus mykiss* (On-CHORUS-min-ik-us my-kiss). In Mi'maw, trout is "Atoqwa'su" (Ahhh-toe-kwa-zoo)

What are macro and micronutrients?

Macronutrients include carbohydrate, protein, and fat. Micronutrients include vitamins and minerals and are needed in small amounts. They are used for different processes in the body including processes that support immune function, blood clotting, and bone building (3). Macronutrients are used to give the body energy and are needed in larger amounts. The body also needs macronutrients for things like building muscle and for building our cell membranes (3).

What is the Canadian Nutrient File?

The Canadian Nutrient File is a free web-based application that can be used to search for nutrition information of many foods; including traditional foods from all over Turtle Island.

What are Carbohydrates?

Carbohydrates are one of the three macronutrients that give the body energy. Though many people see carbs as bad, many are healthy and an important source of food. Carbohydrates come in three forms: starches, sugars, and fibers (3). The activities in this document will focus on starch.

Starch is a complex carbohydrate, meaning that it is made up of chains of sugars. These chains are broken down in the body by an enzyme called amylase which can be found in our saliva. This enzyme helps break down the chains into small sugars so they can be digested and absorbed more easily (3).

Starch is made by plants as a way for them to store energy. In humans, glycogen is used for storing energy, and is also a complex carbohydrate (3). Starch is commonly stored in a plant's roots therefore root vegetables tend to be high in starch. They are also stored in their seeds and sometimes their fruits. This is because having stored energy is important for starting seedlings.

Traditionally, sources of carbohydrate would have come from plants. These would have included berries, seeds, fiddleheads, and different kinds of roots. After settlers came to Mi'kma'ki and introduced flour, luskinikn (also called luski, 4-cents, bannock, or fry bread) would have been another common source of carbohydrate.

# **Part 1: Traditional Food Preparation and Nutrition**

## **Objectives**

1. Review how to cut and fillet a fish
2. Review fish as a traditional food and its nutritional components
3. Sample some cooked fish

## **Materials**

- One filleting knife
- One cutting board
- One whole trout or other fish

## **What to do, step by step:**

Step 1: Review fish as a traditional food

Step 2: Complete a demo showing how to gut (optional) and fillet a fish using the step by step directions on the next pages.

Step 3: Complete a demo of how to pan fry the fish or serve already prepared fish

## How to Fillet a Fish

### Step 1: Gut the trout

Using a fillet knife, slice the belly of the trout from the hole near the tail to the gills. Be careful not to cut too deep, as you do not want to cut the organs. Remove the organs and set aside (these can be added to compost).

Clean blood from the spine of the trout under running water. The trout should now look like the one in figure 2 and figure 3.



Figure 2. Side of gutted trout



Figure 3. Inside of Gutted trout

### Step 2: Cut the head off the trout.

Cut between the gills and the front fins. The head of the trout contains flesh that can be used in broths and soups.



Figure 4. Cutting the head off



Figure 5. The head cut off

**Step 3. Starting next to the back fin on the underside of trout, cut through the tail.**



Figure 6. Cutting through the tail



Figure 7. The tail cut through

#### **Step 4: Remove the ribs**

Insert the fillet knife just below the ribcage like in figure 8 below. The knife should be inserted next to the backbone and be gently worked outward to loosen the bones and detach them from the meat.

Starting near the head of the trout and moving toward the back, gently work the knife along the backbone. About half-way along the backbone there is another small set of ribs; gently run the tip of the knife under these to loosen the meat from them. You can use your fingers to easily feel the set of small ribs. continue to work the knife along the backbone until the entire fillet has been worked from the bone.



Figure 8. Detaching the ribs



Figure 9. Using your fingers to remove the ribs

#### **Step 5: Remove the deboned fillet from the trout.**

Lay the trout flat on your work surface. Cut the skin that attaches the fillet to the other side of the trout by cutting lengthwise from the head to the tail. Be sure to cut around any fins that are on the spine of the trout.



Figure 10. Cutting the fillet



Figure 11. Cutting the spine

### **Step 6: Remove the fin from the fillet.**

Remove the fin from the side of the fillet by cutting around the fin. Use your fingers to feel for any remaining pieces of the fin under the skin (it will feel firm and tough). Cut off any pieces of fin you feel.

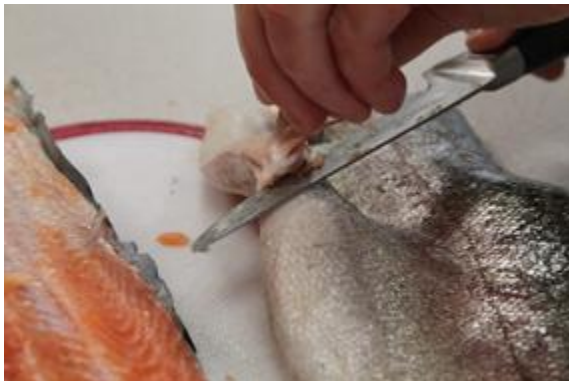


Figure 12. Removing the fins



Figure 13. A fin removed from the fish

### **Step 7: Repeat step 4 to 6 to debone the other fillet.**

### **Step 8: Check the fillets for any bones that may remain.**



Figure 14. Removing any final bones



## **Part 2: Learning about the nutrition of trout**

### **Objectives**

1. Review how to use the Canadian Nutrient File
2. Use the Canadian nutrient file to find and record nutrition information about fish and a favourite food

### **Materials**

- Access to a computer, tablet, or smartphone with internet connection
- A pen or pencil

### **What to do, step by step:**

Step 1: Go to the Canadian Nutrient File Website: <https://food-nutrition.canada.ca/cnf-fce/index-eng.jsp>

Step 2: Use the “food name” box to search for the fish that was cooked and filleted (e.g. salmon).

Step 3: Choose the option that is most similar to the type of fish we have filleted and the way that it was cooked.

Step 4: Choose the serving size “1 food guide serving” or an option that is close to 75 grams.

Step 5: Using the nutritional information, fill out the table on the next page. Make sure to include units (e.g. 10 mg, or 1000 IU)

Step 6: Search for another food that you enjoy. Record your findings in table 3. Choose which vitamins and minerals you want to include in the table.

Table 2: Canadian Nutrient File Results for Filleted Fish

<b>Nutrient Profile</b>	
Name of fish	
Method of cooking	
Serving size	
Energy (kcal)	
<b>Macronutrients</b>	
Carbohydrate	
Total Fat	
Protein	
Fiber	
<b>Vitamins and Minerals</b>	
Calcium, Ca	
Phosphorus, P	
Vitamin D	
Choose one other:	

Table 3: Canadian Nutrient File Results

<b>Nutrient Profile</b>	
Name of food	
Method of cooking	
Serving size	
Energy (kcal)	
<b>Macronutrients</b>	
Carbohydrate	
Total Fat	
Protein	
Fiber	
<b>Vitamins and Minerals</b>	

## **Part 3: Traditional and Modern Sources of Carbohydrate**

### **Objectives**

1. Examine foods with and without carbohydrate using a test
2. Review carbohydrates and starch and which foods have them

### **Materials**

- Iodine solution
- Samples of different foods with and without carbohydrate (see examples in background information provided at the beginning of this document)

### **What to do, step by step:**

Step 1: Examine the different foods that will be tested. Make a hypothesis (educated guess) about which have starch, and which do not. Record your hypothesis in Table 4.

Step 2: Examine the colour of the iodine on its own. What colour do you observe?

Step 3: Add a few drops of starch to each food. Observe the food to see if there is a color change.

Step 4: Record which foods had starch, and which did not in Table 4.

Step 5: Answer the questions below table 4 and discuss starch as a carbohydrate.



Question 1: What do the foods with starch have in common?

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Question 2: What do the foods without starch have in common?

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