

6. Snacks on the Rainbow

Acesulfame potassium, hydroxypropyl methylcellulose, monosodium glutamate (MSG), salt, fat and sugar. A chemist's formula or a recipe for your favourite snack? This activity examines the composition of snacks. It also gives young chefs the opportunity to put their creativity to the test by proposing some new recipes that are as nourishing as they are delicious!

Learning Objectives

Have students:

- Think about the nutritional content of certain foods.
- Become aware of the importance of diversity in the food they eat.
- See the importance of favouring fresh food in their diet that has undergone as little processing as possible.

Preparation

- Become familiar with Eating Well with Canada's Food Guide (See References section for ideas on activities related to the Guide).
- Cut out the recipe ideas from Some Health Snack Ideas (Appendix 2).
- A few days in advance, ask the students to bring their favourite snacks to class.

Areas of Learning

English and science.

Materials

- Chalk board and coloured chalk.
- Books (or magazines) with easy, doable snack recipes, or a few copies of Some Healthy Snack Ideas (Appendix 2).
- Six copies of Canada's Food Guide, constituting 1 per team (See References).
- A copy of An Easy Guide to Eating Well (Appendix 1).
- Carbonated water, sugar and a container (optional).

Did you know?

- Child obesity in Quebec more than doubled from 1978 to 2004?
- Less than 45% of 6th grade students in Quebec say that they eat at least one portion of vegetables per day.
- More than one third of these same students consume candy, potato chips and soft drinks daily.

Presentation

Draw a large rainbow on the chalkboard, similar to the one in Canada's Food Guide. Review the principles contained in the Guide. What do the rainbow and its different bands of colour represent? What are the four food groups? Why is it important to eat food from each of these groups? Etc.

Main Activity

- Ask the students to take turns presenting their favourite snack. As you go along, write the snacks on the appropriate colour of the rainbow, being careful to write those from the "Other" group (candy, chocolate, etc.) outside the rainbow.
- When all the snacks have been written on the rainbow, what do you notice? A certain number of the snacks were placed outside the rainbow. Why? Because these snacks contain too much sugar, fat, or salt to be considered nutritional food. They may taste good, but should be eaten in moderation! For each band of the rainbow, try to come up with some good ideas for snacks.
- Divide the class into six teams: the fruit team, vegetable team, bread team, other grain products team, dairy team and meat and alternatives team.
- Using Canada's Food Guide, cook books and Some Healthy Snack Ideas (Appendix 2), each team must find three snacks containing one main ingredient from their food group or sub-group. Each team must also invent a snack corresponding to this group. Remember that every snack can belong to several food groups and, therefore, can be chosen by several teams.

Integration

- The teams take turns presenting their snack and explaining how it belongs to the food group they represent. Discuss the new rainbow with the students, reminding them that variety is what really counts! Foods that are fresh and unprocessed are varied, easy to prepare and much better for your pocket book and your health!
- Launch a "most delicious healthy snack" contest. Ask all the students to vote for their favourite snack in each food group. The big winners will be prepared/cooked (if possible) and tasted* in class.
- Hand out Appendix 1 to the students and use it with the whole group to compare one of the winning snacks to one of your students' popular commercial snacks (e.g. fruit rolls). Point out to the students that a snack containing fruit does not necessarily consist of a full portion of fruit, but only contributes to achieving a full portion.

Enrichment

- Note the recipes chosen and, with the help of your students, create your own illustrated collection of healthy snacks! It could be presented to the cafeteria or even be sold to finance activities like a visit to a farm or vegetable garden, or another related activity.

***Note** : Beware of food allergies.



- Make your students aware of advertising. Have they ever seen an ad for their favourite snack or another snack? What did the ad say? Does it tell the truth? Make them aware of false food advertising. Many ads boast the nutritional value of foods that are not necessarily good for the health. Why not create their own ads boasting the merits of their healthy snacks with real, factual arguments? These could be posted on the wall, etc., or acted out (like a television commercial) in class or in the cafeteria.
- Explore the theme of sugar in popular snacks. Compare the sugar content of various cakes, candies and soft drinks to real fruit. Do a demonstration (optional). Pour 350 mL of carbonated water into a bowl and add 42 g of sugar: that's the amount contained in a typical 350 mL can of pop. Talk about the affects of these drinks on the health (acidity and sugar levels that can destroy tooth enamel and cause cavities; higher risk of obesity and type 2 diabetes, behavioural problems, irritability, and dependency, etc.). Why not invite the diabetes association to come and talk about the consumption of sugar among students?
- Ask the students to do a sketch of their groceries on their next visit to the supermarket and to identify where the fresh foods from the four food groups are located (usually in the outer aisles of the store).

Take Action!

To help the students and their families adopt a healthy diet and reduce the risk of chronic food-related diseases (diabetes, obesity, etc.), encourage them to:

- At least twice a week, replace their commercial snacks (sweet, salty and high in fat), with fresh or dried fruit, yogurt, raw veggies or home-made snacks.
- Eat food with lots of colour, and eat, at least once a day, a fruit or dark green or orange vegetable. Put it in your lunch box or have it for dinner.
- Every week, find (on the Internet or in books, etc.) a new healthy, tasty-looking recipe and make it.
- Every week, use local varieties by trying a new in-season fruit or vegetable grown in Quebec (see the seasonal availability calendar in the kit introduction, or at: <http://www.mapaq.gouv.qc.ca/Fr/coindesjeunes/MesAliments/Actualites/fruitslegumes.htm>).

References

- To obtain a copy of Canada's Food Guide: http://www.hc-sc.gc.ca/fn-an/food-guide-aliment/order-commander/index_e.html

Related activities:

- http://www.hc-sc.gc.ca/fn-an/food-guide-aliment/index_e.html
- http://www.city.toronto.on.ca/health/pdf/dhe_fr_grade2.pdf
- http://www.sportetudiant.qc.ca/programmes/chaque_jour_moi_jcroque/guide_educatif/index.html
- <http://www.missionnutrition.ca/missionnutrition/eng/educators/2to3.html>

Appendix 1 🍌 An Easy Guide to Eating Well!

The following are 4 simple and practical tips that will help you eat food that's better for your health:

1. Eat 5 to 10 portions of fresh fruits and vegetables every day.

2. Eat a diversity of fresh fruits and vegetables grown in Quebec: the more colour there is in your plate, the better it is for your health. Try to have all the colours of the rainbow in your plate.

Example of dark green vegetables grown in Quebec: broccoli, spinach, rapini, kale, Savoy cabbage, Brussels Sprouts, asparagus, Swiss chard, green beans, seaweed, edamame, bok choy, okra (gumbo), fiddlehead, rocket, mustard leaves, watercress, Romanian lettuce, zucchini, chicory, green pepper, etc.

Examples of orange vegetables grown in Quebec: carrots, pumpkins, squash, yellow beans, turnip, sweet potatoes.

3. Eat fresh food: Choose foods that are grown as locally as possible and with as little processing as possible. Replace your apple juice with a fresh apple.

4. Eat natural food: Avoid eating foods with a long list of ingredients and opt for organic foods if possible. Make sure that the following ingredients are not at the beginning of the list of ingredients:

- Fats: shortening, oil, fat, butter, suet (animal fat), esters, glycerides, glycerol, etc.
- Salts: salt, monosodium glutamate, baking powder, sodium bicarbonate (baking soda), brine, etc.
- Sweeteners: sugar, fructose, sucrose, maltose, lactose, honey, syrup, dextrose, maltitol, lactitol, sorbitol, mannitol, etc.
- Food additives: *
 - Antioxidants: BHA, BHT, propyl gallate
 - Whitening agent: sulfite
 - Conservation agents: monosodium glutamate (MSG), nitrite, nitrate
 - Artificial colouring: caramel, sunset yellow, colorant 5, etc.
 - Artificial sweeteners: acesulfame K, saccharine, aspartame

*Food additives are most commonly found in foods that claim to be low in calories, seeds, cookies, pop beverages, cereals, dried fruits, cold cuts, etc.

Appendix 2 🍌 Some Healthy Snack Ideas

Yogurt Fruit Dip (2 portions)

- 120 g of plain yogurt
- milk to taste
- maple syrup to taste



Pour ingredients into small bowl and beat with fork until reaches creamy texture. Serve with pieces of fresh fruit!

Watermelon Popsicles (7 portions)

Adapted from the book *Du plaisir à bien manger* by Nathalie Regimbal

- 4 cups of watermelon with seeds removed, cut into cubes

Use food processor to make watermelon purée. Pour into popsicle moulds. Freeze for minimum 3 hours before serving.



Frozen Fruit Smoothie (2 portions)

Adapted from *Breakfast for Learning* newsletter, Sept. 2001

- 3/4 cup of low-fat plain yogurt (or fruit yogurt)
- 2 frozen bananas
- 1 cup of frozen blueberries
- 1 cup of frozen strawberries
- 3 ice cubes

Put all ingredients into blender or food processor. Mix at high speed until smooth, creamy texture is reached. Serve immediately, and maybe with half a bagel!



Appendix 2 🍅 Some Healthy Snack Ideas

Crudités (raw vegetable) Salad

- 2 carrots
- 1/2 head of Chinese cabbage
- 2 apples
- 4 tbsps. of dried cranberries
- 1/4 cup of orange juice



Wash, peel and grate carrots using grate or food processor.
Wash and cut Chinese cabbage into small pieces.
Wash and cut apples into small squares.
Place vegetables in large bowl and add juice and cranberries.
Mix well and eat! Recipe can be varied by making sauce with container of yogurt and teaspoon of brown sugar.

Banana Chocolate Tofu Pudding (6 portions)

Adapted from Nadine Day, RD, ©Heart and Stroke Foundation

- One 300 g package (10 oz.) of creamy tofu
- 2 tbsps. of honey or maple syrup
- 1 tbsp. of cocoa powder
- 1 ripe, average-sized banana
- 2 tbsps. of chocolate



Put tofu, honey, cocoa powder and banana in food processor.
Melt chocolate in microwave oven for 15 seconds. Pour into food processor.
Mix at high speed until uniform smooth texture is obtained.
Pour into 6 moulds or small desert bowls and refrigerate for at least one hour.

Mini Apple Cheese Sandwich

Make sandwich with two slices of apple and good size piece of cheese of your choice in middle. Bite in and enjoy!



Appendix 2 🍌 Some Healthy Snack Ideas

Banana Walnut Muffins (12 muffins)

Adapted from *Chef in Your Backpack*, Nicole Basset, Arsenal Pulp Press, 2003

- 2 cups of whole wheat flour
- 1 tbsp. of baking powder
- 1/2 tsp. of salt
- 1/2 cup of honey
- 1/4 cup of vegetable oil
- 2 beaten eggs
- 2/3 cup of skim or soy milk
- 1 1/2 cups of crushed bananas
- 1/2 cup of chopped walnuts



Preheat oven to 400° F.

Grease muffin pan or line with paper muffin liners.

Sieve flour, baking powder and salt together. In bowl, mix honey, oil, eggs, milk and bananas, and add mixture to flour mixture, giving it a few strong stirs. Pour mixture into muffin moulds, 3/4 full. Cook 20 to 25 minutes until browned and until inserted toothpick comes out clean.

Crudités and Maple Dip (250 ml)

Adapted from Jimmy O'Brien; taken from *Agence de la santé et des services sociaux de Montréal* website (<http://www.santepub-mtl.qc.ca/Nutrition/boitealunch/semaine6.html>)

- 1/2 cup of sour cream
- 1/2 cup of plain yogurt
- 1/4 cup of grated hard maple sugar
- Finely chopped fresh parsley, to taste
- Good, crunchy crudités



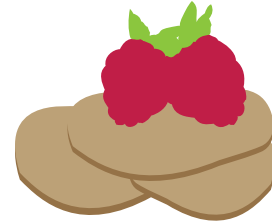
Mix all ingredients in bowl. Serve with crudités (vegetables, apples, etc.) to taste!

Appendix 2 🍓 Some Healthy Snack Ideas

Raspberry and Raisin Galettes (12 units)

Adapted from the l'Agence de la santé et des services sociaux de Montréal website (<http://www.santepub-mtl.qc.ca/Nutrition/boitealunch/semaine6.html>)

- 1/3 cup of brown sugar
- 1/3 cup of butter
- 1 medium-size egg
- 1/2 cup of wheat flour
- 1/2 cup of oat flakes
- 1/2 tsp. of baking soda (sodium bicarbonate)
- 1 pinch of fine salt
- 1/4 cup of raisins
- 1/4 cup of fresh raspberries
- 2 tbsps. of milk
- 1/2 tsp. of vanilla



Grease cookie sheet and coat in flour.

In a bowl, mix all ingredients well until completely uniform.

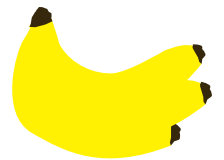
Using ice cream spoon, place mix on 12 galettes on cookie sheet.

Cook in oven at 190° C (375° F) on upper grill for 15 minutes.

Let cool and remove from sheet.

Bananas Roll

Cover banana with lots of natural peanut butter and put in whole-wheat pita bread. If too big, cut into several sections.

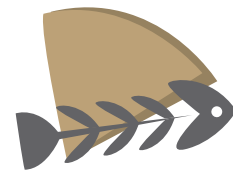


Tuna Mouth

Mix tuna and ricotta cheese together.

Spread on slice of whole-wheat baguette bread loaf.

Put in oven, if possible. Enjoy!



Appendix 2 🍅 Some Healthy Snack Ideas

Maki-Pita

Spread cream cheese onto 1/2 pita or tortilla.
Add strips of cucumber or sweet pepper and slices of tomato. Roll tight. Cut into pieces, 2.5 cm (1 inch) thick.

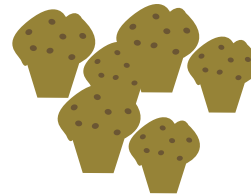


Chocolate Chip Squash Mini-Muffins

(24 mini-muffins or 12 regular muffins)

Adapted from a recipe by Nadine Day, RD, ©Heart and Stroke Foundation

- 1 cup of oat flakes
- 1 cup of wheat flour
- 1 tbsp. of baking powder
- 1/2 tsp. of cinnamon
- 1/3 cup of sugar or maple syrup
- 1 cup of settled grated squash
- 2 tbsps. of canola oil
- 1 egg, slightly beaten
- 3/4 cup of milk (or soy drink)
- 1/2 cup of chocolate chips



Preheat oven to 200° C (400° F). Line mini-muffin pan with muffin cups or spray with coat of canola cooking oil.

In a large bowl, mix flour, baking powder, cinnamon, and sugar. Put aside.

In medium-sized bowl, mix together squash, canola oil, eggs and milk.

Add moist ingredients to dry ingredients and stir until soft uniform texture is obtained.

Add chocolate chips.

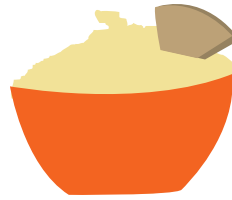
Using spoon, put in muffin mould and cook 15 minutes.

*For regular-sized muffins, increase cooking time to 20 minutes.

Appendix 2 🍅 Some Healthy Snack Ideas

Humus Recipe (Chick Pea Dip)

- 150 g of chick peas
- 750 mL of water
- 60 mL of lemon juice
- 60 mL of olive oil
- 2 cloves of garlic
- 5 mL of salt
- mild paprika powder
- crudités
- pita bread



Soak chick peas in water (750 mL) overnight. Next day, drain and place chick peas in casserole dish (or use canned chick peas, as needed). Add enough water to cover chick peas, bring to boil and cook uncovered for 1 hour at low heat. Drain. Mix cooked chick peas, lemon juice, olive oil, crushed garlic cloves and salt for about 30 seconds until evenly mixed. Sprinkle with paprika and serve with crudités and pita bread.

Tomato Delight

Put slice of tomato, some cheese and little basil on slice of whole wheat bread. Cook au gratin in oven if possible, and enjoy!



Peanut Butter Celery Stick

Coat celery sticks with natural peanut butter and little honey. Yuummmmy!

