Edible Plant Parts

Vegetable & Fruit Learning Activity

Action Schools! BC

We eat different plant parts, including roots, stems, seeds, and leaves. What we commonly call a vegetable may actually be the fruit of a plant!

CURRICULUM CONNECTIONS

BIG IDEAS

- Adopting healthy personal practices and safety strategies protects ourselves and others.
- Our physical, emotional, and mental health are interconnected.

CURRICULAR COMPETENCIES

- Explore strategies for making healthy eating choices.
- Explore and describe components of healthy living.
- Identify and apply strategies that promote mental well-being.

CONTENT

- Practices that promote health and well-being, including those relating to physical activity, nutrition, and illness prevention.

FIRST PEOPLES PRINCIPLES OF LEARNING FOR ALL STUDENTS

- Learning ultimately supports the well-being of the self, the family, the community, the land, the spirits, and the ancestors.
- Learning is holistic, reflexive, reflective, experiential, and relational (focused on connectedness, on reciprocal relationships, and a sense of place).

COMPREHENSIVE SCHOOL HEALTH CONNECTIONS

RELATIONSHIPS AND ENVIRONMENTS

- Students participate collaboratively with all members of their classroom in an activity designed to help them become effective listeners, speakers, readers, and writers.

TEACHING AND LEARNING

- Foster an appreciation for agriculture and where food comes from, while teaching students about healthy eating habits, including a diet rich in fruits and vegetables.

OUR SCHOOL POLICIES

- Find out the school/district guidelines to create a classroom or school garden.

PREPARATION

- Review the *Vegetables and Fruit* section of the *Healthy Eating Overview* (included with this activity), and the *Educator Backgrounder*.
- Display the *Edible Plant Parts Poster* (available at www.actionschoolsbc.ca/resources).
- Grocery store flyers
- Chart paper, scissors, glue, markers

IMPLEMENTATION

- At the beginning of the lesson, guide students through a concentrative meditation. This focuses the attention on the breath, an image, or a sound (mantra), in order to still the mind and minimize thoughts.

- Explain that vegetables and fruit can be grown on plants, bushes, trees, or underground.
- Share that First Peoples traditionally spent a great deal of time harvesting and processing many kinds of roots, berries, and greens. From spring until late fall, there were different kinds of plants to enjoy. First Peoples spent much time drying and storing a variety of plant foods for trade and use in the winter months. A large part of their diet was from a variety of plant foods that today would be classified as fruits and vegetables.
- Identify the different parts of a plant (referring to the *Edible Plant Parts Poster*) and brainstorm examples of different edible plant parts. These may include:
    - **Flowers** - broccoli, cauliflower
    - **Fruits** - tomatoes, peppers, squash
    - **Stems** - asparagus, celery
    - **Seeds** - corn, peas, nuts, berries
    - **Leaves** - cabbage, spinach, lettuce
    - **Roots** - carrots, radishes, beets
- To personalize learning, have each student identify three or four of their favorite fruits and vegetables. Show the *Edible Plant Parts Poster* and encourage them to identify which part of the plant their favourites come from. In small groups, see if they can identify other fruits or vegetables that correspond with the plant parts.
- Lead a discussion around how healthy eating, including a diet rich in fruits and vegetables, is a practice that promotes health and well-being. Discussion may include:
    - Fruits and vegetables give you nutrients that help you stay healthy, happy and energized throughout the day.
    - Healthy eating can help us cope with stress and manage our emotions better.
    - Healthy eating can make us feel better about ourselves, our bodies and our abilities.
    - Healthy eating can help us do better in school and sleep better.
- Give each group a piece of chart paper labeled with one of the six plant parts on it. Give them markers, glue, scissors and magazines or grocery store ads. Tell them to find different plants of their plant part and cut them out and put them on their chart paper. They can also draw the plants.

EXTENSION OF LEARNING

- Provide a tasting party with different plant parts.
- Read *Eating the Alphabet: Fruits & Vegetables from A to Z* by Lois Ehlert (see Healthy Living Booklist at www.actionschoolsbc.ca/resources).
- Have students grow their own edible plant (e.g. tomato, peas, lettuce).

RECOMMENDED RESOURCES

- Action Schools! BC *Edible Plant Parts Poster* (F) (available at www.actionschoolsbc.ca/resources)
- From the Healthy Living Booklist (www.actionschoolsbc.ca/resources)
    - *Fruit Facts Book*
    - *Vegetables and How They Grow*
    - *The Victory Garden Vegetable Alphabet Book*
    - *Tops and Bottoms*
    - *Fruits et Légumes* (available in French only)
- Health Canada)
    - *Eating Well with Canada's Food Guide* (available in 12 languages and for First Nations, Inuit and Métis; free class sets available) (http://www.hc-sc.gc.ca/fn-an/food-guide-aliment/index-eng.php)
    - *Eating Well with Canada's Food Guide: A Resource for Educators and Communicators* (F) (http://www.hc-sc.gc.ca/fn-an/food-guide-aliment/educ-comm/resource-ressource-eng.php)
    - *Eat Well and Be Active Educational Toolkit* (F) (http://www.hc-sc.gc.ca/fn-an/food-guide-aliment/educ-comm/toolkit-trousse/index-eng.php)

EDUCATOR BACKGROUNDER

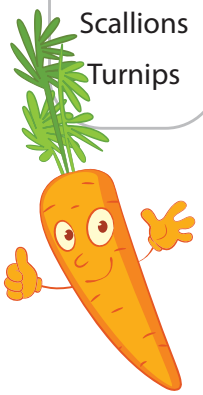
A plant has many different edible parts:

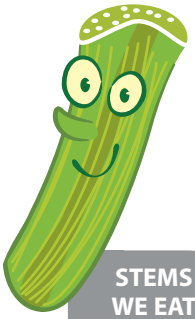
- **ROOTS AND TUBERS** keep the plant in the ground and absorb and store water and minerals from the soil. The tuber is the enlarged tip of an underground stem, which the plant uses to store food.
- **STEMS** hold the plant up and carry water throughout the plant.
- **LEAVES** grow from stems and make most of the plant's food.
- **FRUIT** is the edible part that develops from a flower.
- **SEEDS** found inside the fruit produce new plants.
- **FLOWERS** assist with pollination and seed growth.

Edible Plant Parts

ROOTS WE EAT

- Beets
- Carrots
- Jicama
- Leeks
- Onions
- Parsnips
- Radishes
- Rutabagas
- Scallions
- Turnips



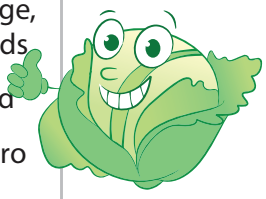


STEMS WE EAT

- Asparagus
- Celery
- Bamboo shoots
- Rhubarb

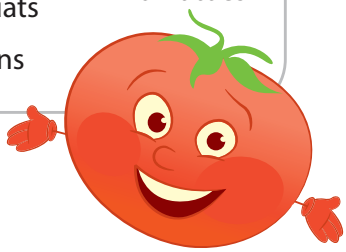
LEAVES WE EAT

- Beet greens
- Bok choy
- Brussels sprouts
- Cabbage, all kinds
- Chard
- Cilantro
- Kale
- Lettuce, all kinds
- Mustard greens
- Parsley
- Spinach
- Turnip greens
- Watercress



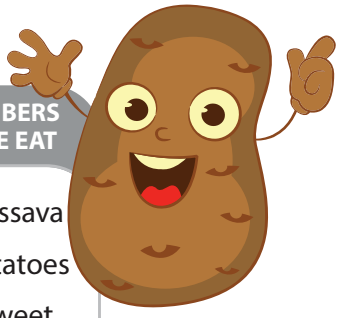
"FRUIT" WE EAT

- Apples
- Apricots
- Artichokes
- Avocados
- Bananas
- Bell peppers
- Berries, all kinds
- Corn
- Cranberries
- Cucumbers
- Dates
- Eggplant
- Figs
- Grapefruit
- Kiwis
- Kumquats
- Lemons
- Mangoes
- Melons, all kinds
- Oranges
- Papayas
- Peaches
- Pears
- Persimmons
- Pineapples
- Plums
- Pomegranates
- Pumpkins
- Squash
- Strawberries
- Tangerines/ tangelos
- Tomatoes



TUBERS WE EAT

- Cassava
- Potatoes
- Sweet potatoes

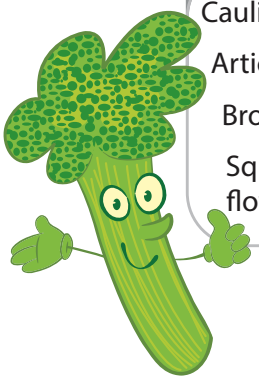


SEEDS WE EAT

- Beans
- Edamame beans
- Peas
- Pumpkin seeds
- Sunflower seeds

FLOWERS WE EAT

- Cauliflower
- Artichoke
- Broccoli
- Squash flowers



OVERVIEW: VEGETABLES AND FRUIT

This section explains why it is important to eat vegetables and fruit.

Information relating to conducting tasting activities with students, food safety considerations, messaging relating to variety and information on produce grown in BC can be found in this section.

Recommended guidelines:

- Make a healthy choice. Fill half your plate with fruits and veggies.
- Children aged 4 to 8 should eat a minimum of 5 food guide servings of vegetables and fruit each day.
- Children and youth aged 9 to 13 should eat a minimum of 6 food guide servings of vegetables and fruit each day.
- Eat one dark green and one orange vegetable each day.
- Choose vegetables and fruit more often than juice.
- Drink water – it`s always a great choice.

Why Are They Important?

The Vegetables and Fruit food group is the largest arc in the rainbow on *Canada's Food Guide*, emphasizing the key role these foods play in a healthy eating pattern.

Vegetables and fruit include important nutrients such as carbohydrates (including fibre), vitamins, minerals, and antioxidants. Choosing a wide variety of colourful vegetables and fruit helps to ensure we get all of the nutrients we need.

A diet that includes a wide variety of vegetables and fruit helps children to grow, learn and play. Additionally, this may help reduce the risk of cardiovascular or heart disease and some types of cancer, as well as help to achieve and maintain a healthy weight.

The recommended number of servings is different for people at different stages of life and is different for males and females after age 14. *Canada's Food Guide* recommends a minimum of 5 servings a day of vegetables and fruit for children aged 4 to 8 years and a minimum of 6 per day for children aged 9 to 13 years.

Canada's Food Guide - Eat Well Plate is another resource that helps build healthy meals and encourages making half your plate vegetables and fruit at each meal (http://www.healthycanadians.gc.ca/alt/pdf/eating-nutrition/healthy-eating-saine-alimentation/tips-conseils/interactive-tools-outils-interactifs/eat-well-bien-manger-eng.pdf).

Canada's Food Guide has been translated into 12 languages. Visit Health Canada's website to download translated copies. In addition to the translated Food Guides, Canada also has a *First Nations, Inuit and Métis Food Guide*. The "My Food Guide" tool on the Health Canada website allows individuals to create a personalized food guide using the foods that are part of their eating pattern. You can choose to print this tool in either English or French.

References:

- *Eating Well with Canada's Food Guide* (http://www.hc-sc.gc.ca/fn-an/food-guide-aliment/index-eng.php)
- *Health Canada's The Eat Well Plate* (http://www.healthycanadians.gc.ca/eating-nutrition/healthy-eating-saine-alimentation/tips-conseils/interactive-tools-outils-interactifs/eat-well-bien-manger-eng.php)
- Canadian Paediatric Society (http://www.cps.ca)
- Dietitians of Canada (http://www.dietitians.ca/)

What Is a Vegetable?

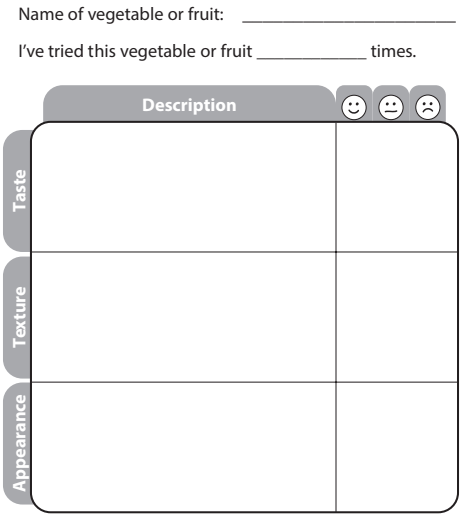
Vegetable is not a botanical term, but rather a culinary term which generally refers to any edible part of a plant that is not regarded as a fruit, nut, herb, spice, or grain. Vegetables can include leaves (lettuce), stems (asparagus), roots (carrots), tubers (potatoes), flowers (broccoli), bulbs (garlic), and seeds (peas and beans). Some botanical fruit such as cucumbers, squash, pumpkins, tomatoes, and sweet peppers are usually referred to as vegetables.

What Is a Fruit?

In botany, a fruit is the ripened seed-bearing part of a flowering plant. In cuisine when discussing fruit as food, the term usually refers to just those plant fruits that are sweet and fleshy (e.g., plums, apples, and oranges). Many foods are botanically fruit but are treated as vegetables in cooking. These include cucurbits (e.g., squash, pumpkins, and cucumbers), tomatoes, peas, beans, corn, eggplants, and peppers.

Vegetable and Fruit Tasting

Repeated exposure to food, including seeing, smelling, and touching new food, and preparation and tasting, is the most effective way to influence a child's eating behaviours. See the *Action Schools! BC Extension Activities*, available at www.actionschoolsbc.ca for great ways to conduct tasting activities with students.



- The objective of a tasting party is to have students sample a vegetable or fruit – not to provide a full serving to each student.
- Children may be more willing to try new types of food with their peers. Providing a relaxed setting without forcing them to try new foods helps to build a healthy relationship with food.
- Fresh vegetables and fruit work best for tasting activities. Choose local vegetables and fruit that are in season when possible. If fresh vegetables and fruit are not available, try dried fruit with no added sugar; frozen vegetables and fruit with no added salt or sugar; or canned vegetables and fruit in water, juice, or light syrup (has added sugar).

- See the *Food Safety Considerations* information for important reminders about food safety when conducting tasting activities with students.
- Visit Healthy Schools BC for programs and supports that may be available to your school to support healthy eating, including providing grants or fruits and vegetables directly (www.healthyschoolsbc.ca).
- Using *Food Tasting Chart* (available at www.actionschoolsbc.ca/resources) allows students to reflect on what they are tasting, use their senses, and develop their vocabulary.

Buying Locally Grown Food Has Many Advantages

Whether it is purchasing the produce for your Tasting Party or teaching students about the food system, it is important to highlight the benefits of growing and/or purchasing local food.

Buying Locally Is Good for the Economy

Dollars spent on locally grown food are reinvested back into the community, which contributes to the growth of small businesses, generates local jobs, raises property values, and leads to strong health care, education, and recreation sectors.

Buying Locally Is Good for the Environment

Food produced and consumed locally has a smaller carbon footprint. It uses less fossil fuel for transportation and requires less material for packaging compared to mainstream food production.

References

- *Fighting Global Warming at the Farmer's Market: A FoodShare Research in Action Report*, Second Edition, April 2005 (http://foodshare.net/custom/uploads/2015/11/Fighting_Global_Warming_at_the_Farmers_Market.pdf)
- BC Agriculture in the Classroom (www.aitc.ca/bc/)

Recommended Resources

- Healthy Families BC (www.healthyfamiliesbc.ca/eating)
- HealthLink BC – Healthy Eating (www.healthlinkbc.ca/healthy-eating)
- Health Canada
    - *Eating Well with Canada's Food Guide* (available in 12 languages and for First Nations, Inuit and Métis; free class sets available) (http://www.hc-sc.gc.ca/fn-an/food-guide-aliment/index-eng.php)
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    - *Eat Well and Be Active Educational Toolkit* (F) (http://www.hc-sc.gc.ca/fn-an/food-guide-aliment/educ-comm/toolkit-trousse/index-eng.php)
    - *Eat Well Plate* (http://healthycanadians.gc.ca/eating-nutrition/healthy-eating-saine-alimentation/tips-conseils/interactive-tools-outils-interactifs/eat-well-bien-manger-eng.php)
- HealthLink BC: Call 811 and speak with a registered dietitian (www.healthlinkbc.ca)
- Canadian Paediatric Society – Caring for Kids (www.caringforkids.cps.ca)

FOOD SAFETY CONSIDERATIONS

There are steps to take to prevent illness and make fresh vegetables and fruit safe to eat.

- When buying and storing vegetables and fruit, always keep them separate from raw foods such as meat, poultry and seafood. Juices from raw foods can be contaminated with germs that cause illness.
- Always wash hands with soap and warm running water before preparing any food, including vegetables and fruit.
- Any person who is sick and has symptoms of diarrhea or vomiting, or who has infected cuts or sores, should not be allowed to handle food in any way.
- Always wash and sanitize* surfaces where foods are prepared and placed.
- Dishcloths must be washed well and sanitized regularly.
- Take extra care to thoroughly clean vegetables and fruit, especially dirty produce. Wash them in a diluted dish soap solution and then rinse in clean running water.
- When washing vegetables and fruit, cut away any damaged or bruised areas since harmful germs can grow there. Compost or throw away any rotten vegetables and fruit.
- Wash and scrub vegetables and fruit that have a firm, rough surface such as potatoes, using a clean scrub brush for produce.
- Always wash vegetables and fruit that have a rind, before peeling or preparing them, such as pineapples, cantaloupe, oranges, melon and squash. Although the skin and outer surfaces protect them, germs can grow if the surface gets broken, pierced or cut, especially in melons and tomatoes.
- Always discard the outer leaves of leafy vegetables grown in or near the ground, such as lettuce and cabbage. The outer leaves are more likely to be contaminated with germs.
- Raw sprouted seed products, such as bean sprouts, radish sprouts, alfalfa sprouts, mung beans and others, may carry germs that cause illness. Always cook these before eating because it is difficult to wash sprouted seeds.
- Contaminated foods may not look or smell bad so if in doubt, throw it out!
- Be cognizant of any food allergies that your students may have prior to activities that involve food.
- You can make a sanitizing solution:
- Mix 15 ml (1 tablespoon) of household bleach into 4 L (1 gallon) of water; or,
- Mix 5 ml (1 teaspoon) of household bleach into 1 litre (4 cups) of water.

Adapted from: *Food Safety for Fresh Fruits and Vegetables* and *Ten Easy Steps to Make Food Safe*, HealthLink BC

Recommended Resources

- *Do Bugs Need Drugs?* (www.dobugsneeddrugs.org)
- HealthLink BC: Call 811 and speak with a registered dietitian (www.healthlinkbc.ca)