

# Grocery Store Botany

Food plays an important part of our lives. Not only does it help us survive, and contribute to our health and well-being, but it is also an important expression of cultural identity. Many important holidays, festivals and celebrations focus on our traditions of food and the sharing of a meal. Indeed, our food traditions are often linked to our local geography and history, just as emerging food trends are linked to our interactions with other cultures. Equally important is the need for accessible, reliable, safe and sufficient food supplies for our population, otherwise known as food security.

Most of us are not aware of how closely our food supply is linked to plants. Almost everything that we eat comes from plants in one way or another; even when we eat meat, we eat animals which have fed on plants to grow and survive. So, when we learn about the food we eat, we can become scientists, dabbling in botany, ecology, agriculture, zoology, etc.

Some foods may be obviously plant-based (e.g., broccoli spears or carrot sticks) but it may not be obvious what part of the plant we are eating. Broccoli is a familiar vegetable, but many people are surprised to learn that the part we eat is the immature flower head!

When investigating the parts of the plant, it may be helpful to refer to common foods.

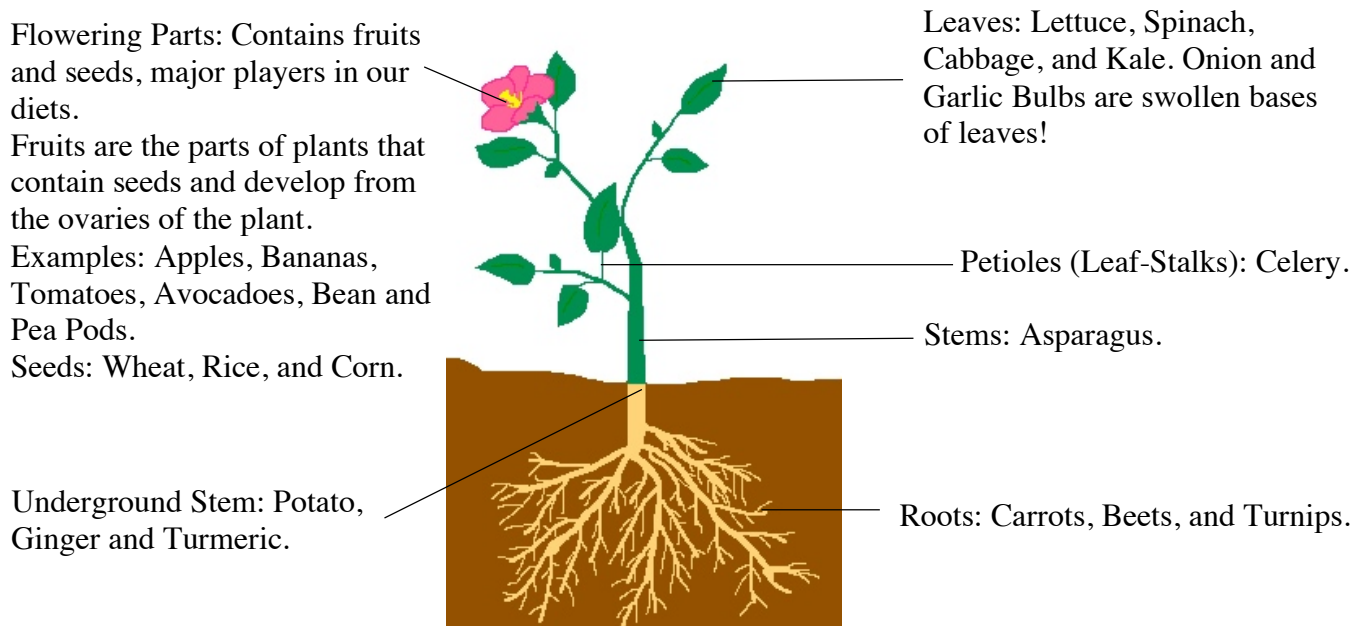


Fig. 1: Common examples of food we eat and the part of the plant from which they come.

## Parent-Guided Activity: What Am I Eating?

Using the information provided above and the extra information attached below, next time you are preparing a snack or meal with your child, talk about what part of the plant different ingredients come from. If it is a meat product, discuss what part of a plant that animal may have eaten.

For example, let's start with everyone's favourite – cookies. Think about what plants and plant parts we eat when we enjoy a chocolate chip cookie.

Flour comes from wheat (usually), which is the seed of the wheat plant.

Sugar usually comes from either sugar cane (the sap of a grass plant, which is very high in sucrose) or sugar beet (this is a variety of *Beta vulgaris*; other varieties include the familiar root vegetable beet or beetroot and the leafy chard).

Chocolate comes from the seed of the cacao tree (*Theobroma cacao*), and may also include sugar and milk.

If the cookie contains eggs and milk, remember that while these are animal-based foods, animals need to eat plants to survive!

## Child-Led Activity: Grocery Store Flyer Botany

This is a great activity where you can re-use your weekly newspaper grocery store flyers. Children can cut out photos of fruit and vegetables when learning about the parts of a plant using the “Grocery Store Botany” information. There are many modifications to this grouping activity! Children could group foods by food group in Canada's food guide, or by country of origin of fruits and vegetables to show how connected we are to different countries.



## Root

– The underground part of a plant that absorbs water and nutrients from the soil and holds the plant in place.

- *Beet*
- *Carrot*
- *Cassava root (tapioca)*
- *Chicory root*
- *Jerusalem artichoke (sunchoke)*
- *Licorice root*
- *Parsnip*
- *Radish*
- *Rutabaga*
- *Sweet potato*
- *Turnip*
- *Yam*



## Stem

– The (usually) above ground part of a plant that supports plant and transports water and nutrients. It might be woody, like a tree trunk, or fleshy, like a stalk of a clover

- *Asparagus*
- *Bamboo shoots*
- *Broccoli stem*
- *Kohlrabi*

### **Stem Bark:**

- *Cinnamon*

### **Stem Sap:**

- *Sugar (dehydrated sugar cane sap)*
- *Maple Syrup (Maple tree sap)*

### **Underground Stem:**

- *Ginger (rhizome)*
- *Turmeric (rhizome)*
- *Potato (stolon)*



## Leaf

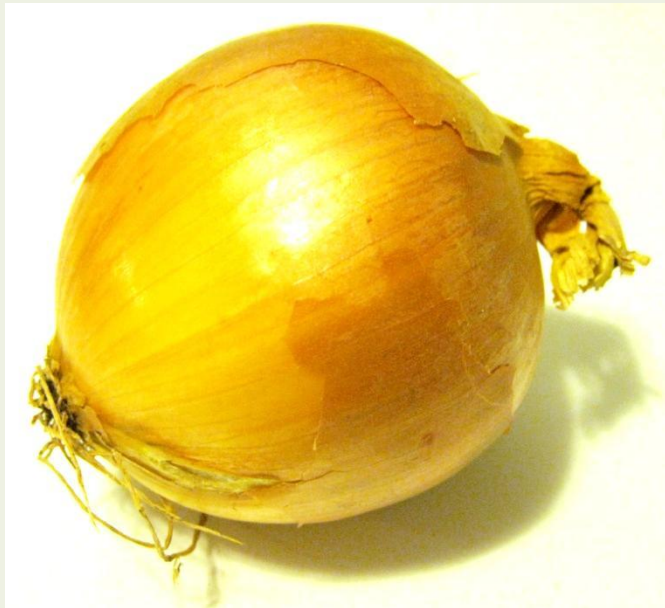
- The (usually) green, thin, flattened structure arranged along the stem or twig. This is also the “kitchen” of the plant – where sunlight is changed into sugar to feed the plant (photosynthesis).

- *Beet greens*
- *Brussels sprouts (auxiliary bud)*
- *Cabbage (bud)*
- *Chinese cabbage*
- *Collards*
- *Dandelion greens*
- *Kale*
- *Lettuce*
- *Onion bulb (bud)*
- *Spinach*
- *Swiss Chard*



### **Herbs:**

- *Basil*
- *Bay leaf*
- *Chicory*
- *Chives*
- *Cilantro*
- *Dill*
- *Oregano*
- *Parsley*
- *Peppermint*
- *Rosemary*
- *Sage*
- *Savoury*
- *Spearmint*
- *Thyme*



### **Beverages:**

- *Tea*

### **Petiole (leaf stalk):**

- *Celery*
- *Rhubarb*

## Flower

– The sexual part of a plant, which is often showy to attract pollinators.

- *Artichoke (bud)*
- *Broccoli (immature)*
- *Capers (bud)*
- *Cauliflower (immature)*
- *Cloves*
- *Jasmine (for tea)*



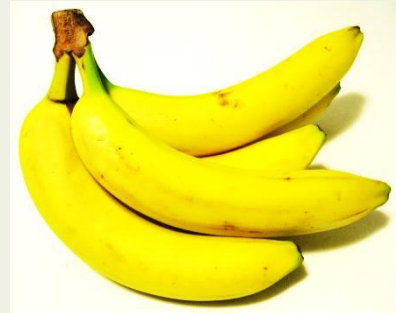
*Figure 43: Nasturtiums are common garden plants, but both the leaves and flowers can be added to a salad and have a delightful peppery taste*



## Fruit

– The fertilized ovary of a plant, meaning the part that contains the seeds.

- Apple
- Apricot
- Avocado
- Banana
- Bean pod
- Blackberry
- Blueberry
- Cantaloupe
- Cherry
- Cucumber (pickle)
- Date
- Ear of corn
- Eggplant
- Fig
- Grape (raisin)
- Grapefruit
- Green bean pod
- Lemon
- Lime
- Olive
- Orange
- Pea pod
- Peach
- Pear
- Peppers (bell and hot)
- Pineapple
- Plum (prune)
- Pomegranate
- Pumpkin
- Raspberry
- Squash
- Tangerine
- Tomato
- Watermelon



### Whole Grains<sup>1</sup>:

- Barley
- Oats
- Rice
- Rye
- Wheat

### Spices (dried fruit):

- Aniseed
- Caraway
- Cardamom
- Peppercorn (Black pepper)
- Vanilla (fruit of orchid)

<sup>1</sup> For a grain to be considered a fruit it needs to contain the bran and germ as well as the seed.  
All grain fruits only contain one seed per fruit.

## Seed

– A baby plant; the part of a plant that if planted will produce a new plant. Often many of our food seeds have been refined (white rice) or roasted (nuts) and will not be able to produce a new plant.

- Almond
- Brazil nut
- Cashew
- Coconut
- Pine nuts
- Pistachio
- Sunflower seeds
- Walnut

### Legumes:

- Green bean seed
- Kidney bean
- Lima bean
- Pea
- Pinto bean
- Peanut



### Spices:

- Coriander
- Dill Seed
- Mustard seed
- Nutmeg
- Mace (aril [seed coat] covering nutmeg seed)
- Poppy seed
- Sesame seed

### True Nuts<sup>2</sup>:

- Beech nut
- Chestnut
- Hazelnut

### Grain kernels:

- Barley
- Corn
- Oats
- Rice
- Rye
- Wheat

### Beverages:

- Cacao seeds (chocolate)
- Coffee beans (coffee)
- Cola nuts (cola drinks)

<sup>2</sup> A nut in botany is a simple dry fruit with one seed (rarely two) in which the ovary wall becomes very hard (stony or woody) at maturity, and where the seed remains attached or fused with the ovary wall.

## Seedling

– A sprouted seed that contains no more than one set of leaves. Food seedlings are often sprouted only in water.<sup>3</sup>

- *Alfalfa sprouts*
- *Bean sprouts*
- *Cress*



<sup>3</sup> Please note that if attempting to grow these that there is a risk of bacteria (salmonella) growing in the high moisture and dense conditions. Please see activity on page 90.

### Extend the Learning

Can you think of other foods that are not on the list? Which category do they fit into? If you have trouble placing a plant please contact the Garden and we will try our best to help you figure it out.

What food comes indirectly from plants?

Anything that eats a plant (or eats a creature that eats plants):

Animal products: Meat, fish, dairy, fats, honey

Bacteria: yeast (eats sugar), fungi: mushrooms (consume decaying animal or vegetable matter)

What does not come either directly or indirectly from plants?

Salt, water (although there is a lot of water in plants)