

3. How does it grow?

What comes first? The fruit or the seed? How does a pumpkin grow? A treasure hunt on an outing to a farm will allow the students to discover the riches hidden on Quebec farms, and they can observe the life cycle of fruits and vegetables from the seed to the plate.

Learning Objectives

Have students:

- Be able to recognize the various fruits and vegetables that are grown in Quebec.
- Discover how these foods grow in gardens and orchards.
- Discover the origins and culinary uses of some vegetables (cycles 2 and 3).

Subjects

- English Language Arts
- Science and Technology
- Health Education

Materials

- 5 easily visible pennants (mini-flags).
- 5 clues, photocopied twice (See Appendix 1).
- 5 sheets per team with descriptions of plants (See Appendix 2).
- Colouring pencils.
- 5 plastic containers.
- A selection of food plant seeds (at least one seed per group).

Preparation

At School, Prior to the Farm Visit:

- Contact the host farm to find out what was planted that year.
- Choose some foods, e.g., five food plants (fruits or vegetables), and ask the farmer to give you a few seeds for these plants on your visit.
- Prepare as many flags as the number of foods that you have chosen for your students to learn about.
- Cut up the clue sheets (Appendix 1) that you have printed based on the number of teams and number of flags.

Did you know?

- The food humans eat comes from less than 2% of the world's 10,000 edible plants. And four of these alone – corn, potatoes, rice and wheat – today supply 50% of our daily energy consumption world-wide.
- Is the tomato a fruit or a vegetable? In general, and as part of our diet, fruit is considered to be a food that is rich in sugar and vitamins and it is generally eaten as a dessert. In botany, fruit is the part of the plant that protects the seed; it comes after the flower through the transformation of the pistil.

Note: Conduct this activity at the start of the school year (September-October) while crops are still in the fields.

At the farm, a few minutes before the visit:

- Plant a flag in the fruit and vegetable patches that you chose beforehand. Beside each flag, prepare a box containing:
- A few seeds from that variety.
 - A clue sheet directing the students to the next discovery.

Knowledge Activation

The first test (Test 1) may be used to assess the knowledge of the students at that point, and can be used to start the activity.

Presentation

- Ask the students if any of them have ever visited a farm before.
- Then inform the students that there will be an outing to a farm.
- Ask the students about the structure of a plant: What are the parts of a plant or seedling? Where are the roots? What is a stem? A leaf? A flower? On a plant, would you be able to locate the part that is eaten? How do fruits and vegetables usually grow?
- The students take Test 1.

Main Activity

The main activity is a game in the form of an investigation. The students, using the clues provided, will hunt for the fruit or vegetable in question. At the location of each correct plant, they will find a small treasure box representing the farmer's gold: a seed (the one used to grow the fruit or vegetable found). As a team, on the Description

Sheet (Appendix 2), they will describe the plant or seedling and will have to draw it as they see it in the garden. Beside the treasure box, another clue will help direct them to their next discovery.

Procedure

Divide the students into 5 groups.

1st Step:

Give each group:

- The sheet with the starting clue to help them find the first food plant (have each group start with a different clue).
- 5 description sheets per group.
- A box to hold the seeds.
- Colouring pencils.

2nd Step:

When the students arrive at the destination of the first clue, they must:

- Fill in the plant description chart.
- Draw the plant as they see it.
- Take a seed from the box located near the stake.

3rd Step:

- A student will read the clue intended to lead his or her group to the next discovery.
- The students must find all 5 plants and have 5 different seeds in their box, as well as 5 completed description sheets.

Integration

Ask the students questions:

- Were some foods hard to find? If so, why?



- Do fruits and vegetables all grow the same way?
- Are you able to identify the seeds that you collected?
- Compare the following words: seeds, bulbs, tubers, roots, etc.
- What is a fruit, vegetable, or fruit vegetable?

With the farm owner's permission, ask the students to pick a sample of each plant discovered in each of the steps. Doing this will make the activity even more concrete, and the students will be able to taste the vegetables (or fruit).

If the farm owner allows you to keep the seeds, an activity involving planting the seeds and watching them grow could be done in class (some plants such as tomatoes and beans are easy to grow).

Take Action!

To encourage students and their families to eat more local fruits and vegetables, and to know where their food comes from, invite them to:

- Plant their own small vegetable garden at school, at a community garden site, on a balcony or on a window sill: www.jeunespousses.ca or www.jardinons-alecole.org.
- Attend a composting workshop to better understand food cycles and ecosystems: <http://www.compost.org/pdf/Le%20Compostage%20va%20a%20lecole.pdf>.
- Try a new and easy school lunch recipe each week featuring a different local fruit or vegetable: <http://www.mapaq.gouv.qc.ca/Fr/Consommation/Services/boitelunch>.

References

To visit a farm: <http://www.equiterre.org/agriculture/paniersBios/listeFermes.php>

To discover new fruits and vegetables: Despins/Gagné (2007). *L'essentiel de l'épicerie*, Éditions La Semaine: Montreal, 397 pages.

Appendix 1 🍅 Cette page n'est pas traduite!?

Voici la liste des végétaux à découvrir (indices en pages suivantes). Certains végétaux proposent le même indice pour les tous les cycles visés, d'autres, des indices plus simples pour le cycle un et plus complexes pour les cycles deux et trois.

Edible Plants to Discover	Plants that have the Same Clue for all Cycles
Carrot	×
Potato	
Bean	
Pumpkin	
Onion	×
Cabbage	
Brussels Sprouts	
Corn	
Pepper	×
Eggplant	×
Melon and/or Cantaloupe	×
Zucchini	×
Green pea	×
Spinach	×

Appendix 1 🍅 Clues to print and cut out

Carrot

I am the favourite meal of rabbits! Despite my orange colour, you will have trouble seeing me.

All cycles

Potato

I am one of the oldest vegetables. You enjoy eating me fried or mashed. What am I?

Cycle 1

I am from Peru and I have been cultivated for over 8,000 years. I caused a famine in Ireland in 1846. I come in 4,000 different varieties and you love to eat me fried or mashed. What am I?

Cycles 2 and 3

Bean

I am long and thin. I can be green, yellow or red. I grow on the branches of my plant. What am I?

All cycles

Pumpkin

I can be eaten, and on Halloween, I like to disguise myself. What am I?

Cycle 1

I can be eaten, and on Halloween, I like to disguise myself. In recipes, I can be replaced by squash. What am I?

Cycles 2 and 3

Appendix 1 🍅 Clues to print and cut out

Onion

I can be red, yellow, green or white. Despite my attractive colours, I often make people cry. What am I?

All cycles

Cabbage

I look like a large green ball. I am very hard and I am made up of lots of layers of leaves. What am I?

Cycle 1

I can be green or purple-red. I am round like a ball and I am made of many layers of leaves. When I'm all chopped up and made into a salad, people call me "coleslaw". What am I?

Cycles 2 and 3

Brussels Sprouts

I am a cousin of the cabbage, but I am much smaller. My edible buds are like small balls on my stalks. What am I?

Cycle 1

As my name implies, I come from Belgium. I am a cousin of the cabbage, but I am much smaller. My edible buds are the size of ping pong balls and grow along my stalk. What am I?

Cycles 2 and 3

Tomato

I come in many shapes and colours, but you recognize me especially when I am red. I am the one who gives ketchup its red colour. What am I?

Cycle 1



Appendix 1 🍅 Clues to print and cut out

I come in many shapes and colours, but you recognize me especially when I am red. Even though Italians love me, I don't come from Italy, but from Mexico. I am the one who gives ketchup its red colour. What am I?

Cycles 2 and 3

Corn

I am yellow and I am one of the ingredients found in Shepherd's pie. What am I?

Cycle 1

Cultivated for thousands of years in the Americas, I am one of the oldest vegetables. I am yellow and people like to make my seeds pop. What am I?

Cycles 2 and 3

Pepper

I am green, red or yellow. Sometimes I taste hot. What am I?

All cycles

Eggplant

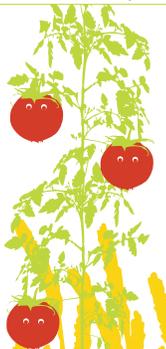
I am shaped like a big dark purple pear, but I am a vegetable. What am I?

Tous les cycles

Melon and/or Cantaloupe

I am round like a bowling ball. People eat me for desert because I am very sweet! I could be a cantaloupe or I could have the words honey and water in my name. What am I?

All cycles



Appendix 1 🍅 Clues to print and cut out

Zucchini

I am tube-shaped and green. I look like a cucumber, but I'm not a cucumber. You have to be careful not to bruise me when you pick me because my peel is very sensitive.
What am I?

All cycles

Green pea

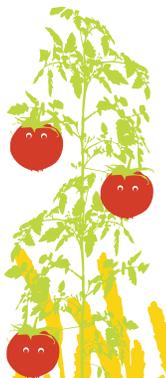
I am shaped like a little green marble. But, if you want to find me, I am hiding in an envelope that looks like a string bean.

All cycles

Spinach

To be strong, you need to eat lots of me. I'm dark green and sometimes people put me in a salad. What am I?

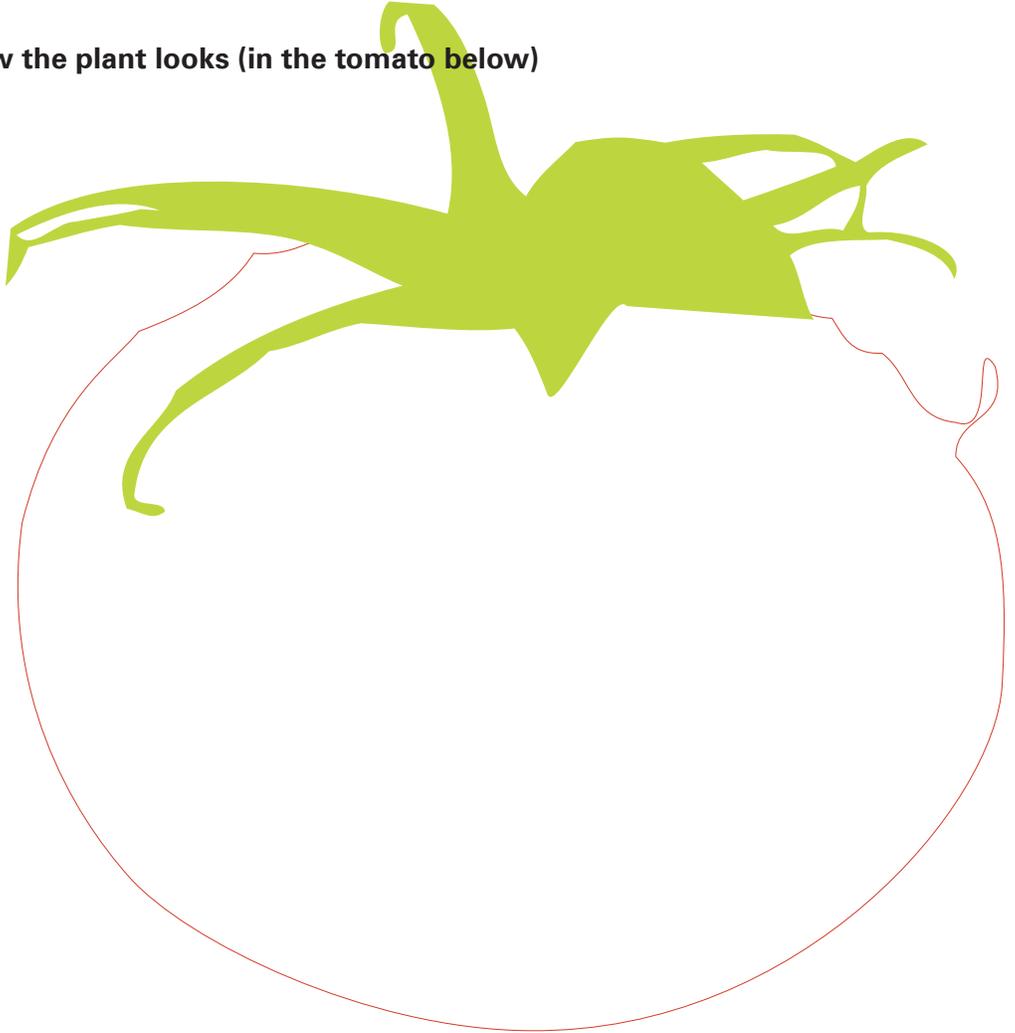
All cycles



Appendix 2 🍅 Drawing

Name of plant found _____

Draw how the plant looks (in the tomato below)



Colour of the Plant _____

The edible part (part that can be eaten) of the plant is:



On the Branches



On the Stem



In the Ground



On the Ground

Are there any flowers on the plant?



No



Yes

What colour are the flowers? _____

