

2. Where Have All the Vitamins Gone?

The transportation of food creates pollution and waste and causes a considerable loss of the food's vitamins. In the form of a skit, or small play, this activity teaches the students what happens to their health and the planet when our vegetables have to travel great distances before finally reaching our plates.

Learning Objectives

Have students:

- Learn where food comes from and the impact this can have on the environment and people's health.
- Understand the advantages of choosing fresh, locally produced food.

Areas of Learning

English, science as well as geography, history and citizenship education.

Materials

- Large format copy of each vegetable picture (Appendix 2).
- Vitamin card cut-outs (Appendix 3).
- Small vegetable pictures cut-outs (Appendix 3).
- Blue tack.
- Map of the world.
- If possible, choose three students to play the role of the carrot, the spinach and the tomato.
- Costume for the farmer (you) and for each vegetable (optional).

Preparation

- Cut out the small vitamin letters, and using the blue tack, stick five A's, five B's, and five C's on each vegetable picture*.
- Post the three vegetable pictures on the wall.
- Read the script in advance and review it several times in order to be able to present it naturally to the students.
- Put on your farmer costume and perform the skit!

Did you know?

- Before arriving on our plates, the food we eat travels an average of 2,400 km to 4,000 km.
- In Quebec, not only does processed food have less nutritional, but, in the last 60 years, fruits and vegetables too have shown an alarming decrease in the levels of vitamins and minerals that they contain.

***Variation:** The three vegetables and their vitamins could also be drawn on the board. In this case, you will need to think about modifying the skit somewhat by asking the students to erase rather than remove the vitamins contained in the vegetables on the board.

Presentation

Ask the students a few general questions about their daily consumption of fruits and vegetables: What fruits and vegetables do you eat on a regular basis? Which ones are your favourites? Which ones don't you like? How do you buy them? Fresh? Frozen? Canned? How do you eat them, uncooked (raw), cooked?

Main Activity

With the assistance of several actors (narrators), or alone, perform the vegetable skit by reading the script.

Integration

With the students, go back over the concepts acquired during the presentation.

- Why do people need to eat vegetables? What happens to the vitamins and taste when food comes from far away? Do you think that vegetables are the only type of food that loses its freshness with time? What happens if we leave a piece of bread, a glass of milk or an open bottle of cola sitting around for too long?
- What happens in the air (atmosphere) when vegetables come from far away? Are these clouds good for our health? For our planet?

Enrichment

- Using the MAPAQ calendar, develop with the students a list, or calendar, of the various fruits and vegetables that grow in Quebec and those that do not (e.g., exotic fruits!):

http://www.mapaq.gouv.qc.ca/NR/rdonlyres/81E90682-D35C-42EF-B9E0-19763B138852/0/FruitsetlegumesauQuebec_depliantCQIASA.pdf.

- Hold a small tasting of less known varieties of local fruits and vegetables.

Take Action!

To help the students and their families adopt a healthier diet, thereby reducing the risk of chronic food-related diseases such as diabetes and obesity, etc., encourage them to:

- Organize a farm tour or a "you-pick" day at a local farm. See: <http://www.equiterre.qc.ca/agriculture/alimentation/agrotourisme.php>;
- Go on a family visit to a farmers market to discover the fruits and vegetables of Quebec, their fresh taste, and their respective seasons.
- Ask at the grocery store or supermarket where different foods come from.

References

- Laure Waridel (2005), *L'envers de l'assiette et quelques idées pour la remettre à l'endroit*, Écosociété, pp. 35-97.

Appendix 1 🍅 Sketch

(You may replace the underlined location name with the name of a town or city in your area.)

Farmer George or Georgia: (Enter the classroom in the company of the three vegetables when these roles are played by the students). Hello everybody! Please let me introduce myself. I am George the farmer (or Georgia the farmer) and I've just arrived from the Little Cabbage farm, out in the country, but not very far from here. Do you know what kind of work a farmer does? (Leave time to reply). That's right, a farmer grows fruits and vegetables. Are you familiar with any fruits and vegetables? You are! Well, which ones? Do you think that I can grow all of those? Pineapples, bananas and kiwis? And tomatoes in the middle of winter? Where do you think all of these fruits and vegetables come from? Not from here, that's for sure! I've brought a few of my friends along. I'd like to introduce Charlotte the carrot, Sid the spinach and Tomacita the tomato. They're here to show you what happens to our food when it comes from far away (if you are performing the skit by yourself, point to the pictures on the board when introducing your three vegetable friends). They are all from different places. Don't be shy, my friends. Say hello to the class!

Vegetables: Hello class!

Farmer: As you can see, there are pictures of my vegetable friends on the board and the pictures are full of the letters A, B and C. What do think those letters stand for? That's exactly right! They stand for the vitamins A, B and C. Why are vitamins good for us?

Farmer: That's right. Vitamins help us stay strong and healthy. And fresh, healthy fruits and vegetables usually have lots of vitamins. Now, depending on where the fruits and vegetables come from, there is a shorter or longer period of time between the time they are picked and the time we eat them. So let's play a game to see if the distance travelled by our fruits and vegetables has any effect on the vitamins that they contain. First let's ask Charlotte the carrot some questions. Where do you come from Charlotte? (Charlotte may give some clues, as needed.)

Charlotte: I come from a farm in MIRABEL, not far from here, and I was picked today! Could somebody put this little picture of me on the map so everyone can see where I come from? (A student locates Mirabel – possibly with a little help from you – and sticks the picture on the map.)*



Appendix 1 🍅 Sketch

Farmer: Yes, you certainly smell fresh Charlotte! Do you think it took a lot of time for Charlotte to travel here from her farm in Mirabel? Well, let's ask Charlotte. Charlotte, how much time did it take you to get here from your farm?

Charlotte: You're right. It didn't take me long at all. In fact, it only took 30 minutes by truck!

Farmer: So, Charlotte comes from a farm close by, and that's what we call a local farm. Now for the game, I'll need a student to be the "vitamin collector". He or she will be responsible for removing the vitamins from the picture of Charlotte when I tell him or her to do so. Who would like to be the "vitamin collector"? (Choose a volunteer). The other students and I will pretend to be clocks. When I say "go", each one of us will quietly go "tic toc, tic toc, tic toc", until I say "stop!" While the hands of the clock are moving and the clock is going "tic toc, tic toc", the vitamin collector will try to remove as many vitamins and possible from the picture of Charlotte on the board. And when I say "stop", all the clocks will stop going "tic toc", and the vitamin collector will stop removing vitamins. Let's practice it one time to make sure everybody's clock is working. Are you ready? Okay, "Ready! Set! Go! "Stop!" Okay, that was very good. You could all be professional clocks! Now let's do it for real. "Ready! Set! Go!" ... "Stop!." (The farmer says "stop" shortly after "go", so that only 2 to 4 vitamins can be removed.)

Farmer: What happened to Charlotte? (Ask the class.) Yes, you guessed it. While Charlotte was being transported here from her farm, she lost a few vitamins. How many vitamins did she lose? Is Charlotte still a fresh carrot? (The farmer smells the carrot.) In my opinion, yes she is. Charlotte still smells good and looks delicious. Yummy!!!

Farmer: Next, we have Sid the spinach. Where are you from Sid?

Sid: I come from a farm located near Disney World.

Farmer: Do you know where Disney World is? (Ask the students.) That's right. It's in Florida. Could someone place this small picture of Sid on the map, in Florida? (A student places the picture on the map). Do you think that Florida is closer or farther than Mirabel? That's right, it's a lot farther. Also, do you know why there's a cloud over Sid's head on the board? (The class tries to guess.)



Appendix 1 🍅 Sketch

Sid: It's because it took me a few days to travel here. I had to be transported by several trucks and even a train to get here. What do all those trucks and that train create? That's right - pollution (They release gases into the air)! That's why I have a grey pollution cloud that follows me everywhere I go. Oh, how I wish it would just go away and leave me alone!

Charlotte: Yukkkk! Pollution! That's disgusting! Do you know why I don't have a cloud hanging over my head? Because shipping vegetables here from Mirabel causes almost no pollution! And I really can't understand why you came from so far away, when you should have been grown here in Mirabel on my farm with the other spinach plants.

Farmer: That's a good point Charlotte! Now, who wants to remove vitamins from the picture of Sid? (A new student goes to the board). Everyone else, pretend to be clocks.

Ready, Set, Go!...Stop! (The farmer lets the clocks tick a bit longer so that around half of the vitamins can be removed.) How many vitamins did Sid lose? More than Charlotte, that's for sure! Is Sid still a fresh vegetable? Not as fresh as Charlotte! How do you feel Sid? Sid (with a slightly sleepy look and tone of voice): Not very well, Mr. Farmer! I feel pretty worn out, that's for sure!

Farmer: I'm sorry to hear that! Well last, we have Tomacita the tomato! Where do you come from Tomacita?

Tomacita: Holà! I come from the south of Mexico. (She looks very tired, she yawns, and she coughs repeatedly).

Farmer: Wow, from as far away as Mexico! Can someone show me where Mexico is on the map and put the small picture of Tomacita on the right country? (A student puts the picture on the map.) So, is a farm in Mexico closer or farther than a farm in Mirabel?

Tomacita: You're right. It's much farther! I travelled in three trucks, one plane and one train to get here! Do you think that my long trip created a lot of pollution? Well, as you can see, the cloud over my head is bigger than Sid's cloud! (She coughs.) That's why I'm coughing so much!



Appendix 1 🍅 Sketch

Farmer: Okay, who wants to be the “vitamin collector” this time? Fine. Everyone else will be the clocks. Okay, Ready, Set, Go! ... Stop! (The farmer leaves enough time for almost all of the vitamins to be removed.) My goodness! (Tomacita falls to the ground, looking sick.) What has happened to Tomacita? (The class tries to guess.) Yes, she has lost almost all of her vitamins! Oh, there, there, Tomacita, are you going to be okay?

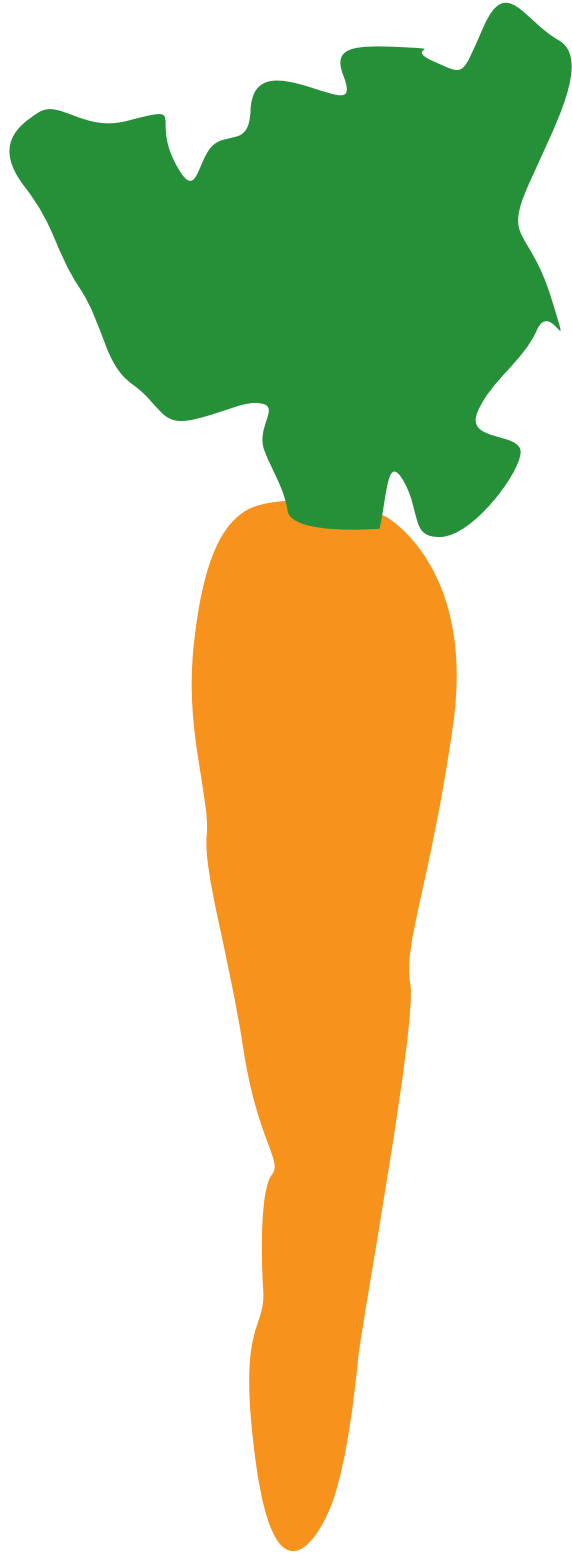
Tomacita: (In a weak and tired voice, slumping forward) Ooooh, they picked me a whole week ago. And if I look nice on the outside, it's because of all the modern makeup: I was sprayed, waxed and polished to make me look good! But I feel run down and exhausted on the inside. And I'm not very tasty either, I don't think...

Farmer: No doubt about it, Tomacita! Do you know how many days it can take vegetables like Tomacita to be transported here from Mexico? (The class tries to guess.) It sometimes takes almost a full two weeks! Then after that, the same vegetables can wait for several days, or even longer, on the supermarket shelves, before finally being bought!

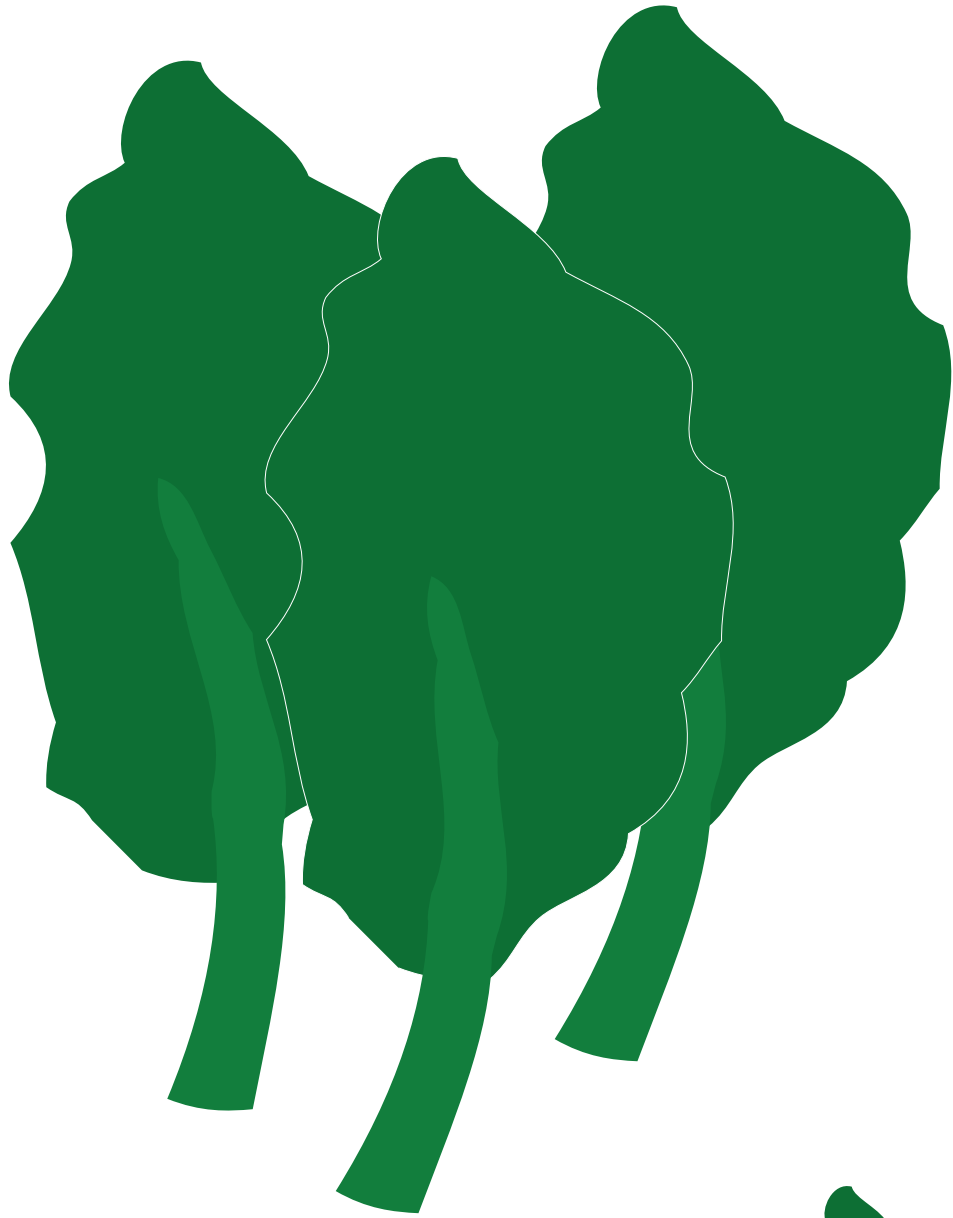
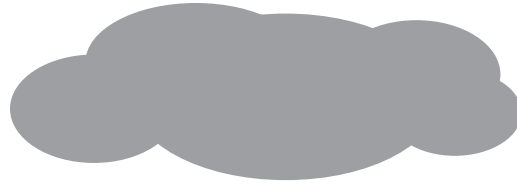
Farmer: So, which of the vegetables still has the most vitamins after being transported? That's right. Charlotte does, because she travelled the shortest distance. Do you think that vegetables with more vitamins taste better? Yes, in fact, they usually do. Which of these vegetables creates the most pollution and requires the most chemicals to make the trip from the field to our plates? Tomacita does, because she was transported over the longest distance. So, where should our food come from, if we want it to be healthy both for us to eat and for our planet? From as nearby as possible! Fresh food grown right here in Quebec! Wow, you are very intelligent! Let's have a round of applause for our vegetables!



Appendix 2 🍅 Charlotte



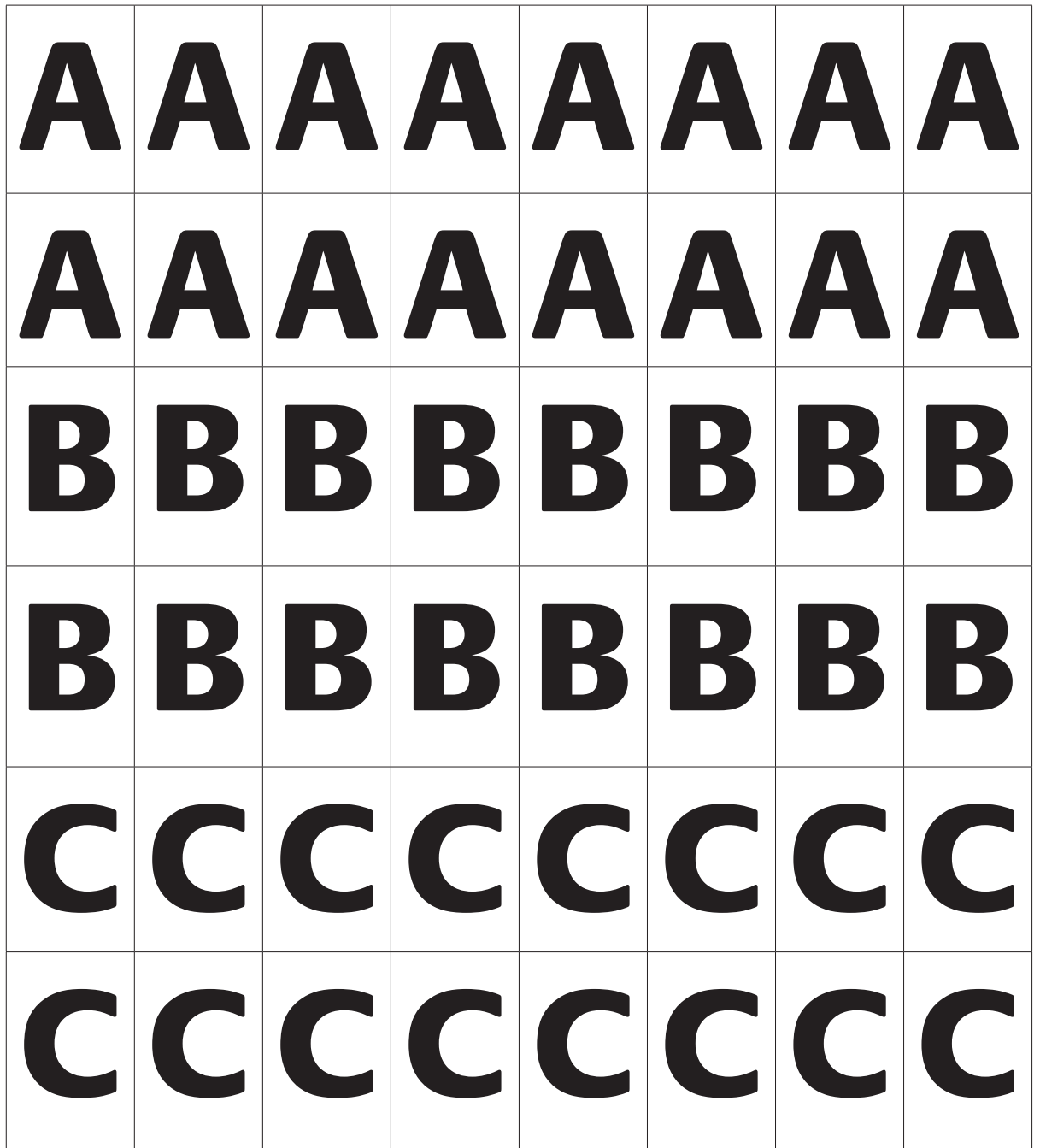
Appendix 2 🍅 Sid



Appendix 2 🍅 Tomacita



Appendix 3 🍅 Vitamin Cut-outs



Appendix 3 🍅 To Be Cut Out and Placed on the Map of the World

