



Elementary, Cycles 2 and 3, Activity 3

One potato, two potato...

Summary

Through consideration of the history of a potato, from production to consumption and by way of the many products derived from it, students are made aware of the various stages of food production. Referring to the poster *From the earth to your plate...and if we closed the circle!*, they analyse the various factors that may influence their food and consumption choices.

Materials

- POSTER: *From the earth to your plate...and if we closed the circle!*
- Potato to establish the context
- A plate of french fries, a packet of dehydrated potato soup, a package of frozen scalloped potatoes, foil-wrapped baking potatoes, a bag of potato chips

Preparation

Duration of activity: 60 minutes plus time for research

Suggestion for prior reading: *The Earth on Your Plate*, Teaching Guide 2: *Environment and Society*

Objectives

Students should:

- become familiar with the principal stages of the chain of food production, from the producer to the consumer;
- become aware of the labour and resources necessary for the production and processing of foods;
- realise the diversity of food products created from a single food item;

- understand the social and environmental issues associated with food.

Teaching tips

The assigned research can be more or less intensive depending on the students' level of interest and the time available.

Procedure

Investigating the context and first impressions

- Show the students a "spud" and ask them what it is. Have them describe what they know about the potato, its cultivation and its history. As required, information is available on the site: <http://sddelorm.free.fr/potager/pdt/pdt.htm>, under the heading *Histoire de la pomme de terre*.
- Mention that more than 300 million tonnes of potatoes are grown annually in over 150 countries and that this vegetable ranks fourth in global cultivation after rice, wheat and corn. Mention, as well, that in Québec we eat, on average, roughly 50 kg of potatoes per person per year. What about them?

- Ask them to name different products made from potatoes, such as fried products (french fries, chips), dried products (soups, mashed potatoes), frozen products (french fries, scalloped potatoes), tinned products (tinned potatoes), and prepared meals. You might also mention that vodka is made from potatoes.

Observation

- Show students the potato again and ask them where they could get it. They should understand that it can be bought at the grocery store, in a restaurant, at the public market, directly from the farmer, or even be dug up from their own garden.
- Show students the following five products: a plate of french fries, a packet of dried potato soup, a package of frozen scalloped potatoes, a foil-wrapped baking potato, and a bag of potato chips. Where could those items be found? Point out that all those products involve processing and that it is extremely unlikely that they came directly from the farm. So where do they come from? Who made them? How do they get to our table? Are they good for us? What impact do their manufacture and consumption have on the environment? Mention that the poster *From the earth to your plate...and if we closed the circle!* might provide answers to some of these questions if we look closely enough.
- Referring to the information in the teaching guide *Environment and Society*, have the students explore the content of the poster *From the earth to your plate...and if we closed the circle!* Guide their investigation with the following questions:
 - What elements is it made up of?
 - What does the title of the poster suggest?
 - What do the illustrations in the centre ring represent (stages in the production chain)?
 - Who do you think the people around the table are?
 - What do the transportation methods above the pipeline represent?

- What is the meaning of the arrow that starts at the environment, surrounds the production chain and then returns to the environment?
- What did the people who created this poster want to show?
- Then draw students' attention to the illustrations representing the processing of wheat in the lower segment of the central ring of the poster. Using the bread cycle, introduce the various stages of the cycle along with the roles the various actors play:
 - *the producer*: the farmer who raises the wheat (or other grain);
 - *the processor*: the miller who grinds the wheat into flour; the baker who makes the bread from flour and other ingredients;
 - *the packager*: the worker who puts the bread produced into a bag and then into a box;
 - *the wholesaler*: the businessperson who buys the bread from the producers and processors and ensures the transportation and resale to the retailer.
 - *the advertiser*: the person who creates the advertising and designs the packaging, imagining what messages will make people buy this bread instead of another;
 - *the retailer*: the merchant from whom we buy the bread, whether at a supermarket, the bakery, the *depanneur* or the snack-bar;
 - *the consumer*: you and I and everybody else who eats bread.
- With the students, repeat the same exercise with the potato you just showed them. What journey did it take, from producer to consumer? Who were the people involved in that journey? Who grew it? Who washed and packaged it? Who promoted it? Who transported it from the field to the factory?

Analysis

- Create five groups and give each one of the following products:
 - french fries from a fast-food chain;
 - a packet of dried potato soup;
 - a package of frozen scalloped potatoes;
 - a foil-wrapped baking potato;
 - a bag of potato chips.
- Have the students, in their groups, analyse the journey their product has taken, from production to consumption.
- Ask each group to try to answer the following questions:
 - What workers were involved in the production of this food item?
 - What products other than food ingredients went into the creation of this item (cardboard, paper, aluminum, etc.)? Where do they end up following consumption?
 - What are the most important stages of the production cycle?
 - How has this product been processed? Why has it been processed? To reduce preparation time at home? To satisfy consumer demand? To improve taste? To make it more attractive? To make it keep longer?
 - How much does this item cost?
- Point out that students can refer to the poster to check the various stages of the cycle. Note, however, that it is only an example, and that the importance of various stages can vary from one product to another. What is important is to establish the links between producers and consumers, with the knowledge that there are other intermediaries that may play a role in the process.
- Finally, have the teams illustrate on a sheet of cardboard the principle stages of production of their product and present it to the rest of the class.

Transformation

- Have the groups share what they have learnt with the rest of the class.
- Then initiate a discussion based on the following questions:
 - What have you learnt? Was there anything that surprised you?
 - Was all the processing the product underwent necessary?
 - What people involved in the production cycle played an essential role?
 - What was the impact on the environment (energy consumed, waste produced, etc.) as a result of the various stages of processing?
- Lead the students to realise that processed foods usually have fewer nutrients, cost more, produce more waste, consume more energy, and are further removed from the producer.
- Discuss with students some of the things that might influence our consumption choices: foods processed as little as possible; foods produced locally or with minimal packaging and that provide the farmer with the greatest return.

Further suggestions

Encourage students to visit producers, promoters, factories in their area.

Suggest that teams do research on the Internet. Refer them, in particular, to the following sites:

- www.yum-yum.com (go to the FAQ section)
- www.saveurs.sympatico.ca/ency_3/patate/pde/terre.htm
- <http://www.cnipt.com/histoire/htm>
Comité national interprofessionnel de la pomme de terre (histoire de la pomme de terre)

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