



Green Industries

TIJ10/THJ10

Home-Grown Vegetables / Herbs



ONTARIO COUNCIL
FOR TECHNOLOGY
EDUCATION



This Project Overview

By the end of this project, the student will identify and explain the impact that growing our own food crops had on civilization. Students will demonstrate an understanding of where food comes from and the importance of growing our own food. Students will demonstrate an understanding of soil basics, plant nutrition, seed germination and plant care. Students will demonstrate learning skills that include responsibility, organization, independent work, initiative and self-regulation.





This Project Outline

Activity # 1 - How Growing Crops Changed the World

Activity # 2 - The Importance of Growing Our Own Crops

Activity # 3 - Understanding Soil Basics & Plant Nutrition

Activity # 4 - Seed Germination and Plant Care

Culminating Activity - Homegrown Windowsill Herbs & Vegetables (option A & B)

[Follow along with this presentation](#)





Activity # 1 - How Growing Crops Changed the World

Students will gather information on the question - How did growing crops change the world? The fact is that civilization, as we know it was born when we became farmers! Take some time to gather information through student research on the question, “How did growing crops change the world?” using the resources provided below:

- [National Geographic Education website](#)
- [The New York Times article titled How the First Farmers Changed History](#)
- [Beaker Life article titled The Evolution of Agriculture](#)

Students will answer the following questions after they have research the topic in question:

When and where did humans start to grow/farm their own crops for food? What were some early crops?	
What changes in society resulted from farming? How did it impact where and how people lived? How did it affect human health & longevity?	
We were nomadic people before this revolution happened, what does that mean? How did we get our food before we began growing crops? What kind of house would people have lived in back then?	



Activity # 2 - The Importance of Growing Our Own Crops

Students will use the following resources provided to research the importance of growing their own food.

Resources:

- [Google](#)
- [McGill University Food Services website on Sustainability](#)
- [CBC article on How important is it for Canada to produce its own food?](#)
- [Food Secure Canada: What Is Behind The Trend Of Local Food?](#)



Activity # 2 - The Importance of Growing Our Own Crops

Once they have researched the topic the students will be asked to answer the following questions:

Where do some foods (produce) originally grow and how does it travel before arriving at our grocery stores?	
What kind of carbon footprint are we leaving behind with the current practice of food delivery?	
Describe how a typical head of lettuce starts in California and makes its way to our grocery store.	
How can we change the way we farm in order to eat more locally and sustainably? <i>Clue: Farm to Table (home gardens, community gardens, local farms, food share)</i>	
What are the benefits of growing food in your backyard compared to imported produce from your grocery store?	



Activity # 3 - Understanding Soil Basics & Plant Nutrition

Students will use the resources provided to research information on basic soil knowledge and plant nutrition.

Resources:

- [Gardening Know How: Soilless Potting Mix – What Is A Soilless Mixture And Making Homemade Soilless Mix](#)
- [The Spruce: Soilless Potting Mix](#)
- [Master Gardeners of Ontario website](#)
- [West Coast Seeds: What the Heck is N-P-K ?](#)



Activity # 3 - Understanding Soil Basics & Plant Nutrition

Once they have researched the topic the students will be asked to answer the following questions:

What is a soilless potting mix used for and what are its benefits?	
What ingredients make up a soilless potting mix?	
What can you do to improve soil in your garden? Ie: adding organic compounds...	
NPK are nutrients required for plants to grow and succeed. What does each letter stand for and what are the benefits of each nutrient. (ie: N= Nitrogen: excellent for the growth of healthy leaves and shoots)	



Activity # 4 - Seed Germination and Plant Care

Students will use the resources provided to research information on seed germination and plant care

Resources:

- [Gardening Know How article on caring for seedlings after germination](#)
- [The Spruce article on when should I feed plant seedlings](#)
- [Gardeners article on how to start seeds](#)
- [Gardeners article on Growing Tomatoes from Seed to Harvest](#)



Activity # 4 - Seed Germination and Plant Care

Once they have researched the topic the students will be asked to answer the following questions:

What is a viable seed?	
What is required to encourage seed germination? (requirements/conditions)	
Explain the difference between a cotyledon and true leaves?	
What does damping off mean and what causes it to occur?	
What does it mean to transplant your seedlings?	
What does hardening off mean?	
Describe the steps involved in starting and caring for a tomato from seed to fruit.	



Activity #5 - Culminating Activity

Home Grown Windowsill Vegetables and Herbs

Can we grow food at our own homes?

The fact is that with a little knowledge and very limited resources we can grow vegetables and herbs almost anywhere. Using the resources provided, students need to research basic gardening skills and information that will assist the students to complete the options available in this cumulative activity.

Resources:

- [Gardening Know How article on Caring For Seedlings After Germination](#)
- [The Spruce article on How to Care for Plant Seedlings](#)
- [Gardeners article on how to start seeds](#)
- [Gardeners article on Growing Tomatoes from Seed to Harvest](#)



Activity #5 - Culminating Activity

Learning Goals

- Students will describe the history of growing food
- Students will recognize the importance of growing our own food
- Students will describe the basics of soil characteristics and plant nutrition
- Students will grow a plant from seed

Success Criteria

- Students will create a Google slides presentation, including description and pictures
- Students will successfully grow a plant from seed
- Students will identify what went right/wrong with the seed starting project



Activity #5 - Culminating Activity - Option A

Growing Seedlings at Home

A package will be mailed out to students by the teacher and will contain the following,

- Potting mix
- Seeds (Herbs or Vegetables)

Teachers please note: if this activity is taking place in the fall semester it is best to grow herb seeds which can continue to grow on a windowsill. If it occurs in spring, a vegetable growing option also works well so seedlings can be transplanted outdoors when ready.

Students will be resourceful and use any suitable container available to start their own seeds by creating a mini-greenhouse. (There are many examples on the internet using items such as coffee cups or egg cartons with plastic wrap)

Students will research their seeds requirements for optimum germination and survival

Students will sow their seeds into their homemade mini-greenhouses

Students will use Google slides to document their progress from beginning to end.



Activity #5 - Culminating Activity - Option B

Observation of Growing Seedlings

Teachers who may not have a budget allowance to send seeds and potting soil to all students can use this option.

The teacher will grow a few different seed varieties (herbs and/or vegetables) and post images in real time to all students of the process from beginning to end

Students will research how they could create their own mini-greenhouse from household items. (There are many examples on the internet using items such as coffee cups or egg cartons with plastic wrap)

Students will research the seed varieties (chosen by the teacher) requirements for optimum germination and survival

Students will use Google slides to summarize their research and to document progress from sowing seeds to germination from observing the instructor's images



Reflection Notes

Teachers will ask the students to answer the following questions after the completion of all activities that conclude the student's presentation:

Questions	Answers
Explain what you liked and disliked about this project. Why?	
Did you learn something new? What stands out?	
Has your outlook on where food is produced had an impact on your diet?	
Please provide any feedback you may have for improving this lesson.	



Rubrics, career connections and more information

In depth resources for [Home Grown Garden](#) can be found at:

https://docs.google.com/document/d/1hBHDnZsZ0_uKC8vKXmozaphGa4dQpALH/edit?usp=sharing&oid=117184926765398363298&rtpof=true&sd=true

https://drive.google.com/file/d/10vl4cr6rzku3yqW0q_zY6gl3nyjdC24b/view?usp=sharing





Safety Resources

[OCTE Green Industries
Safety Guidelines](#) - Link

PPE Required:
Safety Glasses
Gloves where applicable



Be prepared for success, take**TECH.**

