



Lesson Plan
Agriculture | Week 4

Inch by Inch, Row by Row
(Taken from growing-minds.org)

Goal

Students will determine the space needed to grow the vegetables for a soup recipe. They will then make the soup using seasonal ingredients from a local farm as an optional extension activity.

Materials

Books to Read

- *Local Farms and Sustainable Foods* by Julia Vogel
- *Who Grew My Soup?* by Tom Darbyshire
- *Saving Strawberry Farm* by Deborah Hopkinson

Supplies for each group

- Seed catalogue with planting instructions and yield information
- Access to the Internet
- Scale
- One of each vegetable:
 - Potato
 - Carrot
 - Onion
 - Tomato
 - Green Bean

Activities

Read a book.

Make the books *Local Farms and Sustainable Food*, *Who Grew My Soup*, and *Saving Strawberry Farm* available to students.

Procedure:

The class will be “growing” vegetable soup. The students will have to figure out how much of each vegetable to grow and how much space will be needed in order to make the soup recipe. You may want to demonstrate how to use the scale for weighing produce. Instruct students to use the seed catalogs and the Internet to calculate the average yield of each vegetable per square foot. Explain to students how to fill in the chart on the student worksheet and double check that they understand how to calculate how many of each vegetable they will need to prepare their soup.

Extension (optional): Make the Soup!

Ingredients and Materials:

- 3 lbs. potatoes 2 lbs. of carrots 1 lb. onion
- ½ lb. green beans 2 lbs. tomato
- 8 bouillon cubes
- 10 cups water
- 3 bay leaves
- ½ cup parsley, chopped
- 2 tsp. dried marjoram
- 2 tsp. dried thyme
- Salt and pepper
- Large pot
- Large spoon
- Measuring cups
- Measuring spoons
- Large bowl
- Hot plate
- Sharp knife

Instructions:

It is very important to review knife safety with students before proceeding. Students will slice onion and carrots into rounds. Cut potato into cubes. Cut beans into 1 inch pieces. Put in a large cooking pot. Set aside. Students will chop tomatoes into eighths. Put in a bowl. Set aside. Students will add bouillon cubes and water to cooking pot with vegetables.

Teacher will be responsible for using the hot plate.

Bring to boil.

Reduce heat to medium low and simmer, uncovered, about 10 minutes. Make sure students do not linger around the hot plate. Students will add tomatoes. Add herbs. Stir. Bring back to a simmer.

Simmer, uncovered, about 30 minutes, until vegetables are crisp-tender.

Name: _____

Measurement – Inch by Inch, Row by Row

	GUESS How many in a pound?	TEST How many in a pound?	How much does 1 square foot yield?	TEST How much space is required to grow 1 lb?	TEST How much space is required to grow 1 lb?
Potato				___ feet ²	___ feet ²
Carrot				___ feet ²	___ feet ²
Onion				___ feet ²	___ feet ²
Tomato				___ feet ²	___ feet ²
Green Bean				___ feet ²	___ feet ²

How many of each item will be in the soup?

3 lbs. potatoes = _____ potatoes

2 lbs. carrots = _____ carrots

1 lb. onion = _____ onions

½ green beans = _____ green beans

2 lbs. tomatoes = _____ tomatoes

1. Which item requires the most space to grow? Which one requires the least?

2. Which item do you think would be the easiest for farmers to grow and harvest?

3. Write an algebraic equation that you could use to calculate how many square feet are required to grow 10 lbs of a vegetable.