

Overview

After reading *First Peas to the Table* by Susan Grigsby, students will learn about plant life cycles as they grow their own pea plants and compete to see who can get the “first peas to the table.”

Engage & Explore

Read *First Peas to the Table* by Susan Grigsby.

Announce to the class that you will also be holding a “first peas to the table” competition, just like Thomas Jefferson and the class in the book.

Activity

Students can work individually, in partners, or in small groups.

1. Give each student or group their own packet of pea seeds. The packets should be several different varieties. Announce the following rules to the class.
 - They may keep their seeds or trade them with other classmates or groups.
 - Each group will be given 1 square foot to plant their seeds.
 - They must determine when to plant, whether to plant indoors and transplant or plant outside, how many seeds to plant, and how to build a trellis for their peas.
 - They will be responsible for planting, watering, and caring for their pea plants.
 - They must keep a journal to record their notes.
 - The winner will be determined by the first group to fill up the bowl with fresh shelled peas.
2. Allow students time to research their peas. Give them a set time to trade peas with other groups if they wish.

Grade Level: 3*

**Designed for third grade but could be used to teach standards in multiple grade levels.*

Subject Area: Science / Social Studies

Time Frame: Ongoing. Start mid-February.

Materials:

First Peas to the Table by Susan Grigsby
 One packet of pea seeds for every student or group (as many different varieties as possible).
 ½ cup bowl for peas
 Various items that could be used to make a trellis (optional)
 Journal

Additional Resources:

How to Hold Your Own 'First Peas to the Table' Contest
A Teacher's Guide for 'First Peas to the Table': How Thomas Jefferson Inspired a School Garden
Farmers Almanac - Planting, Growing, and Harvesting Pea Plants
Farmers Almanac - Building a Trellis

Standards:

3.L.2.1
 3.L.2.2
 3.L.2.3
 3.H.1
 3.F.1

3. Assign each group a square foot of the garden bed to use for their peas.
4. Allow students to amend the soil in their bed if they wish as long as it is not harmful.
5. Set guidelines for journaling based on what information you would like them to record.
6. You may want to have small prizes for the first plant to reach a predetermined height, first plant to flower, first pod to develop, etc.
7. Show students what supplies they may use to build a trellis or allow them to bring in materials from home.
8. Take pictures throughout the competition (possibly the same day each week) so that you can go back and discuss the progress of the pea plants.
9. Plan how you will celebrate the "First Peas to the Table."
10. Have each group create a poster to document the life cycle of their pea plant.

Extension/Curriculum Ideas

Have students research Thomas Jefferson and his influence on the United States. Research where peas are grown and their economic influence on the community. How many products are made from peas?

Your Notes & Ideas

First Peas to the Table

Name: _____

Variety of Pea	Date Planted	Date Seedlings Appear	Date of 1st Flower	Date of 1st Pod	Date of Harvest

First Peas to the Table

Name: _____

Pea Seed	Pea Plant
Pea Flower	Pea Pod

First Peas to the Table

Name: _____

Measure and observe your pea plant the same day every week. Draw a picture and record the height.

Week 1	Week 2	Week 3
Height:	Height:	Height:
Drawing:	Drawing:	Drawing:

First Peas to the Table

Name: _____

Measure and observe your pea plant the same day every week. Draw a picture and record the height.

Week 4	Week 5	Week 6
Height:	Height:	Height:
Drawing:	Drawing:	Drawing:

First Peas to the Table

Name: _____

Measure and observe your pea plant the same day every week. Draw a picture and record the height.

Week 7	Week 8	Week 9
Height:	Height:	Height:
Drawing:	Drawing:	Drawing:

First Peas to the Table

Name: _____

Choose three pods and record the following information.

Pod #	Length	Predicted # of Peas	Actual # of Peas

HOW TO HOLD YOUR OWN First PEAS to the Table Contest

Based on the book **First Peas to the Table: How Thomas Jefferson Inspired a School Garden**

written by Susan Grigsby, illustrated by Nicole Tadgell, published by Albert Whitman & Co.

Thomas Jefferson, our third president, held a pea growing contest with his neighbors every spring. The first person to have a bowl of peas ready to bring *to the table* was declared the winner and would invite his neighbors over for a dinner that included a dish of peas.

1. WHAT TYPES OF PEAS SHOULD WE GROW?

The contest in the book was for growing garden shelling peas (often called English Peas or Garden Peas), not snow peas or snap peas – both of which have edible shells. Garden Peas, which must be shelled as the pod is not edible, come in many varieties. Your students may wish to strategize as to which varieties of Garden Peas to plant. The calculations of harvest time and yield, as well as plant spacing, provide for connections to the math curriculum.

2. WHEN SHOULD WE PLANT?

You first need to identify your garden zone: <http://www.garden.org/zipzone/>

Peas do best in cool weather, and are therefore generally planted about a month before the last frost date for your zone. However, weather conditions vary from year to year and bold gardeners often experiment with earlier plantings. It is often advised that the soil needs to be 45 degrees or warmer for the peas to germinate.

Average last frost dates are listed here:

<http://www.burpee.com/gardening/content/gygg/growing-zone/growingzoneinfo.html>

A growing calendar with suggested planting dates is listed here:

<http://www.burpee.com/gygg/growingCalendarNoZipCode.jsp>

3. JOURNALS AND CROWNS

We have included a journal form (page 3) and certificates for the students (pages 4 and 5). Suggestion: Have each student keep a journal in which they can record measurements and observations, draw, and make notes on a weekly basis. We invite you to post pictures of your own pea planting experiences on our [First Peas to the Table Facebook page](#).

4. PEA GROWING TIPS

There are many sites that provide tips for growing peas. A few are noted below:

<http://urbanext.illinois.edu/veggies/peas.cfm>

<http://www.extension.umn.edu/distribution/horticulture/M1249.html>

http://extension.usu.edu/files/publications/publication/HG_Garden_2005-09.pdf

<http://www.gardening.cornell.edu/homegardening/scene9697.html>

4. PEA GROWING TIPS (*continued*)

<http://www.ndsu.edu/pubweb/chiwonlee/plsc211/student%20papers/articles04/Austen%20Germolus/Bruce%20Sukut/gardenpeas.htm>

<http://www.burpee.com/vegetables/peas/all-about-peas-article10250.html>

5. WHERE CAN I LEARN MORE?

The Activity Guide for *First Peas to the Table: How Thomas Jefferson Inspired a School Garden* notes several activities and resources that connect to school curriculum. It can be downloaded from the Resources page of www.albertwhitman.com. There are additional resources noted in the book.

For general school gardening information, there are several good sites including:

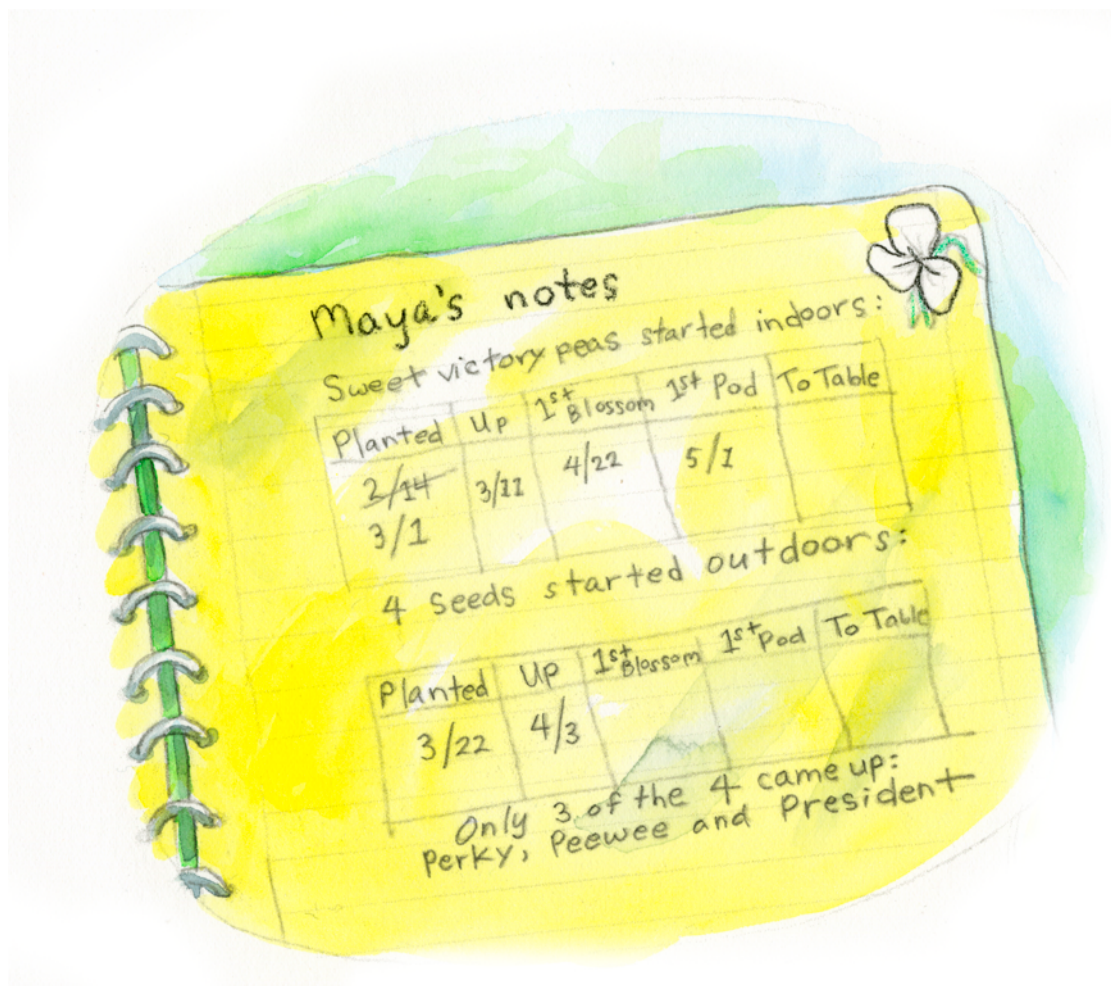
The California School Garden Network's guide "Gardens for Learning": <http://www.csgn.org/page.php?id=36>

LifeLab's "School Garden Resources": <http://www.lifelab.org/foreducators/schoolgardens/#lessons>

6. GARDEN JOURNAL

A printable form is included below.

The students' garden journal page will look similar to this:





First **PEAS** to the Table Contest

GARDEN JOURNAL FORM

Participating Students:



<i>Seed Variety</i>	<i>#Seeds Planted</i>	<i>Date Planted</i>	<i>Date Sprouted</i>	<i>Date 1st Blossom</i>	<i>Date 1st Pod</i>	<i>Date and Time to Table</i>

Date Harvested:

Quantity:

Notes: _____



Certificate of Participation

_____ (name)

participated in the

First Peas to the Table Pea Growing Contest

and harvested _____ cups of peas

on _____ (date).



Certificate of Award

(name)

and team members are the winners of the

First Peas to the Table Pea Growing Contest for _____.

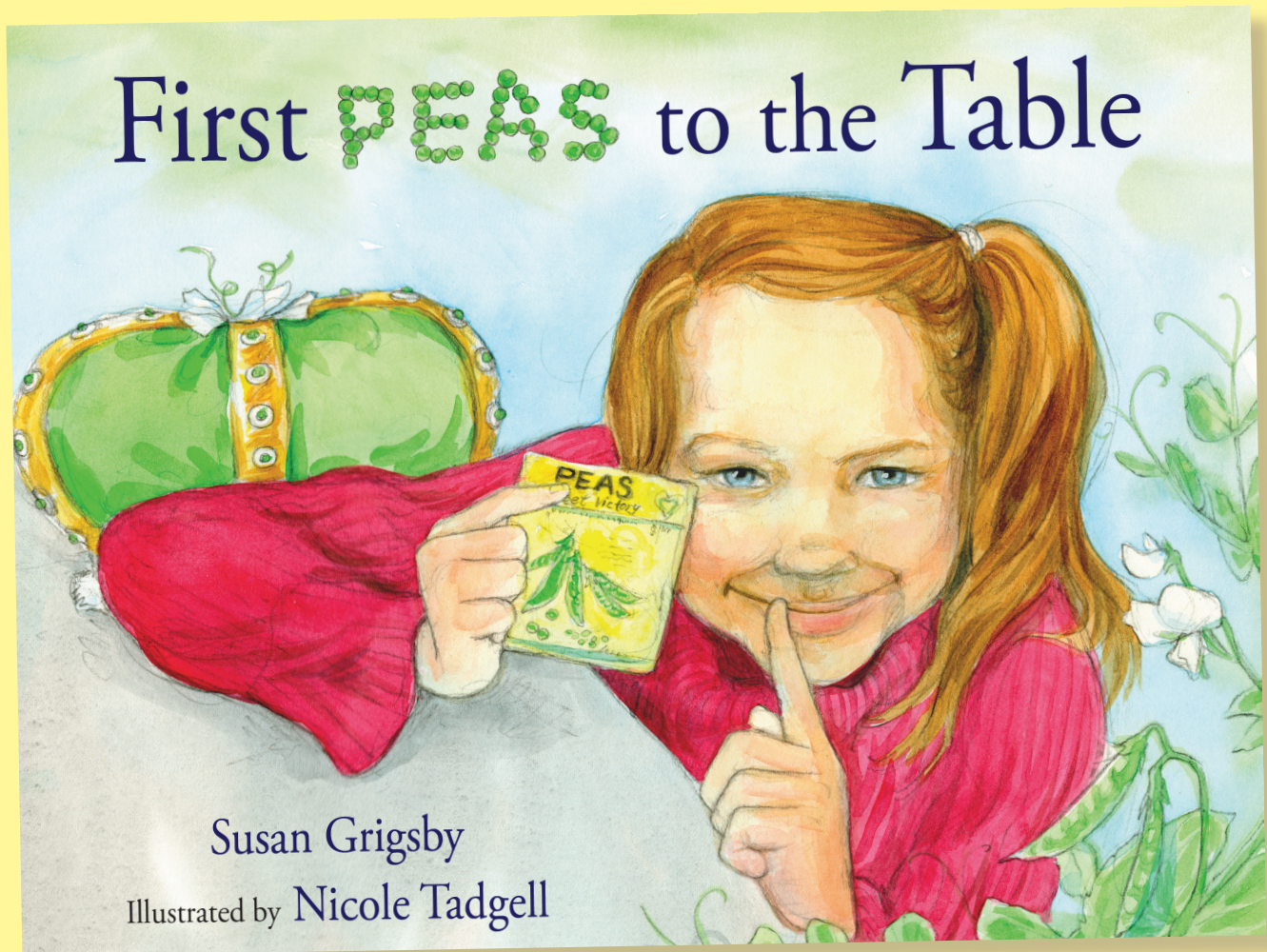
(school name)

They harvested _____ cups of peas

on _____.

(date)

A Teacher's Guide for
First Peas to the Table:
How Thomas Jefferson Inspired a School Garden



Guide written by Susan Grigsby
Book published by Albert Whitman & Company
ISBN 978-0-8075-2452-7

How Did Shakayla Win the Contest?

The First Peas to the Table Discussion Questions: Critical Thinking; Forming and Testing a Hypothesis

In the story, Shakayla wins the contest. Discuss the questions below with the class to hypothesize how she might have won.



1. Maya's first group of successful pea plants was planted on March first. What is the earliest date on which Shakayla's peas could have been planted? (Hint: On what day did the students receive their seeds?)
2. Can you write a mathematical sentence to determine how much older Shakayla's plants could have been compared to Maya's? What is the answer?
3. Why did the first group of seeds that Maya planted fail?
4. Maya kept Jefferson's note about soaking the pea seeds a "secret." Do you think that Shakayla may have also read about that idea? Where might she have found the information?
5. Thomas Jefferson would test many different varieties of the same plant to determine things like which ones grew fastest, tasted best, and yielded the most food. Different varieties of a plant can grow at different rates. How many varieties did Maya plant? How many varieties did Shakayla plant? Do you think that some of the pea varieties could have grown faster than others? Can you look at some seed packets (or seed sites on the internet) to investigate this further?
6. What kind of books does Maya see Shakayla carrying home? Why do you think she was reading them?
7. What factors do you think might have helped Shakayla to win the contest? Think beyond the story in the book to come up with additional answers. Make a class list, noting which are supported by clues in the book and which are based on individuals' knowledge of plants' needs.
8. Ask the class to use the list (#7) and form some hypotheses that they could test in the classroom or school garden. Discuss how to set up the experiments and record the data. Then let students test their ideas.

National Science Education Standards: Science as Inquiry A1 & A2; C1 Characteristics of Organisms; C3 Organisms and Environments

Bloom's Taxonomy: Critical Thinking Questioning Strategies

Common Core State Standards / Mathematics: Describing situations and solving problems with addition and subtraction; representing and interpreting data.

Word Detectives

Using the story text and illustrations for clues, match each word below to its meaning.

- | | |
|----------------------|---|
| 1. emerald (p 6) | A. a soft, wet, pulpy mass |
| 2. agriculture (p 6) | B. the act of winning a game, contest, or battle |
| 3. science lab (p 7) | C. a toy that spins around, like a pinwheel |
| 4. victory (p10) | D. a framework of light wood or metal used to support climbing plants |
| 5. mush (p 13) | E. to move and replant a plant in a new place |
| 6. transplant (p 18) | F. a place where scientific experiments and research are done |
| 7. whirligig (p 18) | G. a bright green precious stone |
| 8. trellis (p 19) | H. the gathering of a plant that one grows for food |
| 9. harvest (27) | I. the science or practice of farming |

Answer Key: 1-G; 2-I; 3-F; 4-B; 5-A; 6-E; 7-C; 8-D; 9-H

Standards for English Language Arts and Literacy: Vocabulary Acquisition K-5



Feed the Soil ... Feed the Plants Feed the Planet

Thomas Jefferson knew that healthy soil yielded healthy plants, resistant to insects and disease. One way to improve the soil is to add composted yard and plant food waste. Experiment in the classroom or school garden by planting seeds in different proportions of garden soil mixed with compost, employing the scientific method of testing a hypothesis through experimentation. Incorporate math concepts of measurement and presentation of data.

Another way to feed plants is by giving them compost tea:

Fill a container with one part aged compost to four parts water. Allow this to sit uncovered for six to seven days, stirring occasionally. Then strain off the liquid and use it to water your plants. An old sock or stocking can serve as a strainer. Alternatively, a sock makes a great “tea bag” – which avoids having to strain the tea at all! After you’ve poured off the liquid, return the compost to the garden bed or compost bin. Consider comparing the growth of a plant given compost tea to one given plain water and record the results. You could also try experimenting with different strengths of compost tea.

National Science Education Standards: Science as Inquiry A1 & A2; C1 Characteristics of Organisms; C3 Organisms and Environments



FRUIT OR VEGETABLE?



Most people consider vegetables to be savory plants and call sweet plants fruits. But in botany, a fruit is defined as a plant that grows from a flower and contains seeds in the portion of the plant that is eaten, such as tomatoes and cucumbers. Thomas Jefferson divided his garden into sections for roots, fruits, and leaves. We also eat stems (celery), bulbs (onions), flowers (broccoli), tubers (potatoes), and seeds (peas)!

Where would Thomas Jefferson have placed the plants listed below? To help the students answer this question, consider bringing in some fresh produce for your students to cut open, examine, and taste.

National Science Education Standards: C1 Characteristics of Organisms

Draw a line connecting the name of each plant noted below to the section where Thomas Jefferson would have planted it or draw a picture of each plant in the box that it would go in.

Carrots
Cabbage

Lettuce
Radishes

Cucumbers
Spinach

Peppers
Tomatoes

Peppers
Beets

Roots

Fruits

Leaves

Do a Pea Blossom Dance

When Maya sees her plant's first blossom she does a pea blossom dance. Can you create a dance for the whole life cycle of a pea? Look at the picture from Maya's journal (page 8) to get ideas. Start with a small seed beneath the soil. Sprout open and stretch towards the sun. Open your leaves like a little seedling, then grow and vine around a pole. Blossom and dance in the breeze. As the petals drift away, a pod appears. Let the pod ripen on the vine. What will happen to the seeds when the pod dries? What type of music might you choose to go with your dance?



At the Plantscfe website, in Module 8's media gallery, you can view some great photos depicting the pea life cycle: <http://www.plantscfe.net/en/food/module8.htm>.

National Science Education Standards: C2 Life Cycles of Organisms; Creative Expressions: Creation/Invention of Dance Movements

What's on Your Nickel?

From 1938-2003, Thomas Jefferson was on the front of the nickel and Monticello was on the back. In 2006, the U.S. issued a new nickel with a forward facing Jefferson on the front. Explore the history of money with your students. Ask them to design a coin and to write a paragraph explaining their choices. Some useful sites are: <http://www.kids.gov> (click on "grades K-5", then "Money"); <http://www.usmint.gov/kids>; and the online collections of both the American Numismatic Association (<http://www.money.org>) and The National Numismatic Collection of the Smithsonian Institute.



Student Instructions: Putting someone on a coin is a way to honor them. Design your own coin and select someone to put on the front. Create a scale for your drawing to indicate the actual size of the coin. What will you put on the back of your coin and why? What symbols will you use on the coin? How much will the coin be worth and why did you choose that amount? What will the coin be made of? Write a persuasive letter to the U.S. Mint explaining your choices.

Council for Economic Education: Standard 11 : Money and Inflation

Invention Convention

Thomas Jefferson is famous for many accomplishments including creating several inventions. He also enjoyed using other people's new inventions, often providing the inventors with feedback on how their inventions might be improved.



Inventions by Thomas Jefferson include a Moldboard Plow and a Wheel Cipher for sending secret coded messages. His inventions can be explored at this University of Virginia site:

http://cti.itc.virginia.edu/~meg3c/classes/tcc313/200Rprojs/jefferson_invent/invent.html.

The reason we are able to read so many of Jefferson's letters is that he made duplicates of them using an invention by John Isaac Hawkins called a polygraph machine. Learn more about it at the Monticello site:

<http://www.monticello.org:8081/site/house-and-gardens/polygraph>.

Explore inventors: http://www.invent.org/hall_of_fame/1_4_0_channels.asp

Invent: The Ad Council has partnered with the United States Patent and Trademark Office and The National Inventors Hall of Fame Foundation to launch a national PSA campaign: <http://www.inventnow.org/>.

Design a climbing plant trellis: Plants such as peas, cucumbers, and scarlet runner beans do best with a support structure to vine up. Look at the different types of trellises that Maya and Shakayla created. Some people use pruned tree branches as trellises. What will you use?

National Center for History in the Schools, Standard 8: Major Discoveries in Science and Technology

Who's been Nibbling in the Garden?

Children aren't the only ones that enjoy eating fresh garden plants. Slugs, birds, beetles, and squirrels, opossum, mice, raccoons, and rabbits are all common visitors. Inspect your garden area to determine likely nibblers.

Using gardening books or the internet, search out ways to deter these hungry nibblers. Motion, noise, and human-like (scarecrows) or snake-like items may scare some garden thieves away. Consider releasing ladybugs or making an organic spray.

Where do the offending creatures fall in your garden food chain or web? Provide your students with the opportunity to research, experiment, and solve the problem of uninvited guests. How will they measure their success? Also, ask them to consider the importance of a balanced ecosystem and the benefits of certain visitors. How might they encourage helpful garden creatures, such as butterflies and bees, to visit the garden?

National Science Education Standards: Science as Inquiry A1 & A2; C1 Characteristics of Organisms; C3 Organisms and Environments

Creative Writing: The Creature's Point of View

Ask your students to each research a creature that might live in your local gardening habitat. Then ask them to imagine, based upon the facts they know, what that creature sees, smells, tastes, hears, touches, and feels. Read together Alice Schertle's poem Invitation from a Mole from her book "A Lovely Thing." The poem, as well as an interview with Ms. Schertle, can be read at this site:

<http://missrumphiuseffect.blogspot.com/2010/04/poetry-makers-alice-schertle.html>.

Ask the students to write a poem in their creature's voice which shows what they experience with their five senses in their habitat.

The English Language Arts Standards in Reading, Writing, and Research

Tongue Twisters – Alliteration in Action

Tongue twisters are created by using alliteration – the repetition of consonant sounds that occur at the beginning of words or in stressed syllables (Peter Piper picked a peck of pickled peppers). Ask the students to find and read aloud the names that Maya chose for her plants. They are noted in the illustrations on pages 15 and 24. What do they notice about the names? Why do they think she chose them?



Ask each child to choose a plant they'd like to grow whose name begins with a consonant. Using that consonant, ask them to divide their paper into three columns and label the columns: Nouns, Action Verbs, and Adjectives. In each column, they should list five or more words that match with that part of speech and begin with the letter they've chosen. If they're stuck, this is a great opportunity to search the dictionary for word treasures. Next, ask them to draw lines connecting some of the most interesting words and to then create a tongue twister. Explain that they may need to add some connecting words so that their sentence makes sense. Let each child say their sentence fast 3 times and challenge the class to repeat, in unison.

Here are some examples:

I promised Polly, Poppy, and Peace a place in my pea patch.

Pretty pearls of peas popped from the pod.

Lovely lacey lettuce leaves leaped up from the land.

Learn More about Peas – from Pretty Flowers to Tasty Treats!

To learn more about Peas and find fun activities and recipes visit the Food Based Module: Peas on the North Bay Children's Center Garden of Eatin' website page: <http://www.nbcc.net/garden-of-eatin/early-ed>.

Visit the Obama Foodorama blog to read the garden pea recipe cooked at First Lady Michelle Obama's White House Kitchen Garden picnic: <http://obamafoodorama.blogspot.com/2009/06/recipes-for-white-house-kitchen-garden.html>.

Visit the White House Organic Farm Project website to learn about the White House Kitchen Garden and the Thomas Jefferson Bed planted there: <http://www.thewhofarm.org/faq/>.




Learn More about Thomas Jefferson and Read his Garden Journal

To learn more about Thomas Jefferson, visit the Thomas Jefferson Foundation's website at:
<http://www.monticello.org>.

You can read from Jefferson's actual Garden Book: photographed images are on the Massachusetts Historical Society's website at:
<http://www.masshist.org/thomasjeffersonpapers/garden>.



Planting, Growing, and Harvesting Pea Plants

 www.almanac.com/plant/peas



Pixabay

Peas are one of the first crops we plant. Plant as soon as the ground can be worked—even if snow falls after you plant them! Here’s our guide on how to plant, grow, and harvest peas.

There are three varieties of peas that will suit your garden and cooking needs:

- *Pisum sativum*, which includes both types of garden peas: **sweet peas** (inedible pods) and **snow peas** (edible flat pods with small peas inside).
- *Pisum macrocarpon*, **snap peas** (edible pods with full-size peas).

Pea plants are easy to grow, but have a very limited growing season. Furthermore, peas do not stay fresh long after harvest, so enjoy them while you can!

Planting

- To get the best head start, turn over your pea planting beds in the fall, add manure to the soil, and mulch well.
- As with other legumes, pea roots will fix nitrogen in the soil, making it available for other plants.

- Peas will appreciate a good sprinkling of wood ashes to the soil before planting. Learn more about [soil amendments](#) and [preparing soil for planting](#).
- Sow seeds outdoors 4 to 6 weeks before last [spring frost](#), when soil temperatures reach 45 degrees F. Here are some more tips on [when to start planting peas](#).
- Plant 1 inch deep (deeper if soil is dry) and 2 inches apart.
- Get them in the ground while the soil is still cool, but do not have them sit too long in wet soil. It's a delicate balance of proper timing and weather conditions. For soil that stays wet longer, invest in [raised garden beds](#).
- A blanket of snow won't hurt emerging pea plants, but several days with temperatures in the teens could. Be prepared to plant again.
- Peas are best grown in temperatures below 70 degrees F.
- Check out [this video](#) to learn how to plant peas early while soil is cold.

Care

- Make sure that you have well-drained, humus-rich soil.
- Poke in any seeds that wash out. (A chopstick is an ideal tool for this.)
- Be sure, too, that you don't fertilize the soil too much. Peas are especially sensitive to too much nitrogen, but they may like a little bonemeal, for the phosphorus content.
- Though adding compost or manure to the soil won't hurt, peas don't need heavy doses of fertilizer. They like phosphorus and potassium.
- Water sparsely unless the plants are wilting. Do not let plants dry out, or no pods will be produced.
- For tall and vine varieties, establish [poles or a trellis](#) at time of planting. Look at [this video](#) to find out how!
- Do not hoe around plants to avoid disturbing fragile roots.
- It's best to rotate pea crops every year or two to avoid a buildup of soil-borne diseases.

Pests/Diseases

Harvest/Storage

- Keep your peas well picked to encourage more pods to develop.
- Pick peas in the morning after the dew has dried. They are crispiest then.
- Always use two hands when you pick peas. Secure the vine with one hand and pull the peas off with your other hand.
- Peas can be frozen or kept in the refrigerator for about 5 days. Place in paper bags, then wrap in plastic.
- If you missed your peas' peak period, you can still pick, dry, and shell them for use in winter soups.

Recommended Varieties

- 'Snowbird' (snow pea), resistant to fusarium wilt
- 'Sugar Ann' (snap pea), early variety, short vine

- 'Green Arrow' (garden pea), mid-season variety, high yields, resistant to fusarium wilt

Wit & Wisdom

If a girl finds nine peas in a pod, the next bachelor she meets will become her husband.

St. Patrick's Day is a traditional day for growing peas. Find out how to grow peas when there's still snow on the ground with [this humorous video](#).

Recipes

- [Minted Peas](#)
- [Green Peas in Cream](#)
- [Pea Pod Salad with Shrimp](#)
- [Cream of Green Pea Soup](#)

Planting Times

Old Farmer's Almanac

 www.almanac.com/video/how-build-trellis-and-supports-climbing-vegetables

If you're growing climbing peas, beans, cucumbers, or any other vining plant, you'll need to build supports to help them grow skyward. Providing support also means you can pack more sprawling plants such as squashes and melons into your space by training them upward instead.

In the video, we demonstrate how to choose the best supports for your garden and give step-by-step instructions for creating the ultimate pea and bean frame. We've also included the video text below, at the request of our readers. After you watch this video, why try our Almanac Garden Planner for free here: <https://gardenplanner.almanac.com/>

How to Build the Best Supports for Climbing Vegetables

Climbing vegetables trained up supports are easy to pick, need less weeding and can be used to create an attractive leafy backdrop or windbreak for your plot.

Canes, Poles and Stakes

The very simplest supports include sturdy stakes, poles and bamboo canes. Push them securely into the ground at the base of plants to offer an immediate vertical hook for vining veg to grip onto. You may need to tie in young plants to their supports at first to encourage them in the right direction.

Canes or poles can be arranged in traditional rows with a horizontal cane linking the tops to create a rigid structure. Tie in the canes where they cross with string, twine or wire.

Or why not create an attractive wigwam or tepee? Space four to eight canes or poles around a circle marked out in the ground. Tie the canes together about a foot from the top using string or wire. Bamboo and willow wigwams are perfect for climbing peas and beans, while taller, sturdier wigwams made of thicker poles are recommended for heavier climbers such as squashes and melons.

Trellising

Trellis panels can be screwed to walls and fences, or left free-standing by attaching to upright posts. Use them for growing beans, peas, squashes and more. You can make your own out of wood, or for a contemporary look use thick-gauge galvanized wire mesh panels.

Make your own mini-trellis by tying lengths of cane together using wire or string – perfect for individual squash or marrow plants.

Our online Garden Planner includes a selection of structures, from arches and arbours to willow wigwams. To drop one onto your plan simply click once to select, move the mouse to

where you want to position it, then click and drag to place. The corner handles can be used to expand the structure to the correct area.

The Best Bean Frame

We've discovered the ultimate solution for growing beans, using bamboo canes positioned in such a way that the pods hang outwards, away from the frame, which makes them much easier to spot and pick. The stems are also less likely to grow into a thick, tangled mess.

To make the frame you will need the following materials and tools:

- 2x lengths of timber: 2in x 2in x 32in
- 2x length of timber: 1in x 2in x 5ft
- 2x lengths of timber: 2in x 2in x 7ft 4in
- 2x 4in screws
- 2x 2.5in screws
- Screwdriver
- Drill with drill bit to match width of the screws
- Sandpaper
- Pencil
- Tape measure
- 12 or 14 bamboo canes, 7ft long
- Garden wire or string

Start by sanding down any rough edges to the timber using the sandpaper. Now join together the top of the frame, screwing the 5ft lengths of timber to the 32in lengths. To prevent the wood from splitting, drill pilot holes one inch in from both ends of the two 5ft lengths of timber. Screw these to the ends of the 32in lengths using the 2.5in screws.

The rectangular top of your frame is now ready to screw to the 7ft 4in uprights. Measure and mark halfway along the two 32in sides of the top section. Drill pilot holes through these two points. Screw the top section to the uprights using the two 4in screws.

Next, dig two holes to accommodate the uprights. Then lift up the frame and bury the uprights into the ground, backfilling the holes and firming in with your boot to get a good, tight finish. A hole that's at least one foot deep will work best.

Set the bamboo canes at equal distances along both sides of the frame. Push them into the ground to get an even finish along the top of the frame, and tie them in with wire, twine or string.

Now plant your beans, one to each cane. It won't take long for the stems to latch onto the canes and begin twining round.

Climbing vegetables are a must for gardeners looking to pack more into their plot. If you've got any ideas for home-made supports please do share them by dropping us a comment below.