

# Choosing Plants and Planting Times



# Introduction to Annual and Perennial Plants

*Nature does not hurry, yet everything is accomplished.*  
-Lao Tzu

## ***What are Perennial Plants?***

Perennial plants are plants that last two or more seasons. Perennial plantings serve as a foundation for your school garden and can have various purposes such as:

- ❖ attracting wildlife and providing habitat for beneficial insects (pollinators and predators) both of which connect to science content
- ❖ food production (herbs, fruit trees, shrubs, and vines)
- ❖ medicinal uses (teas, tinctures, salves, and balms)
- ❖ ornamental uses (dried floral crafts, cut flowers)
- ❖ providing year round color and foliage
- ❖ providing year round plant material for studying and projects

Perennial plants are usually easier to maintain than annual vegetable crops and, once planted, perennials provide a place of beauty and interest for years to come.

There are many considerations to take into account when selecting perennials:

- ❖ Evergreen vs. deciduous: Do you want a plant that stays green all year or one that drops its leaves in winter?
- ❖ Flowering/fruiting months and colors: It makes most sense to choose plants that will fruit or flower when school is in session.
- ❖ Size and structure: Will the mature size of the plant fit properly in the space available?
- ❖ Uses of plants: Will they be for culinary herbs, ornamental uses, medicinal uses, habitat, food production, special theme or study purposes?
- ❖ Light requirements: Will the plant receive the appropriate amount of light throughout the year?
- ❖ Appropriate climatic zones: Will the plant survive your winter cold?

## ***Climate Zones for Perennial Plants***

To determine which plants are suitable for a climate zone, gardeners refer to hardiness charts or “climate zones.” There are two zone charts that are commonly used in the western region:

- ❖ USDA Zones
- ❖ Sunset Western Garden Zones

The USDA Zones range from 1-13, with **1** being the coldest and **11** being the warmest. In California most locations fall between zones **7-10**.

The Sunset Garden Zones are similar to the USDA Zones, but are more detailed allowing for a more specific match of a plant's ideal environmental preferences and a location's climate. There are 24 Sunset zones and the *Sunset Western Garden Book* is an indispensable resource that lists thousands of plants, their zones and growing information for the Western US.

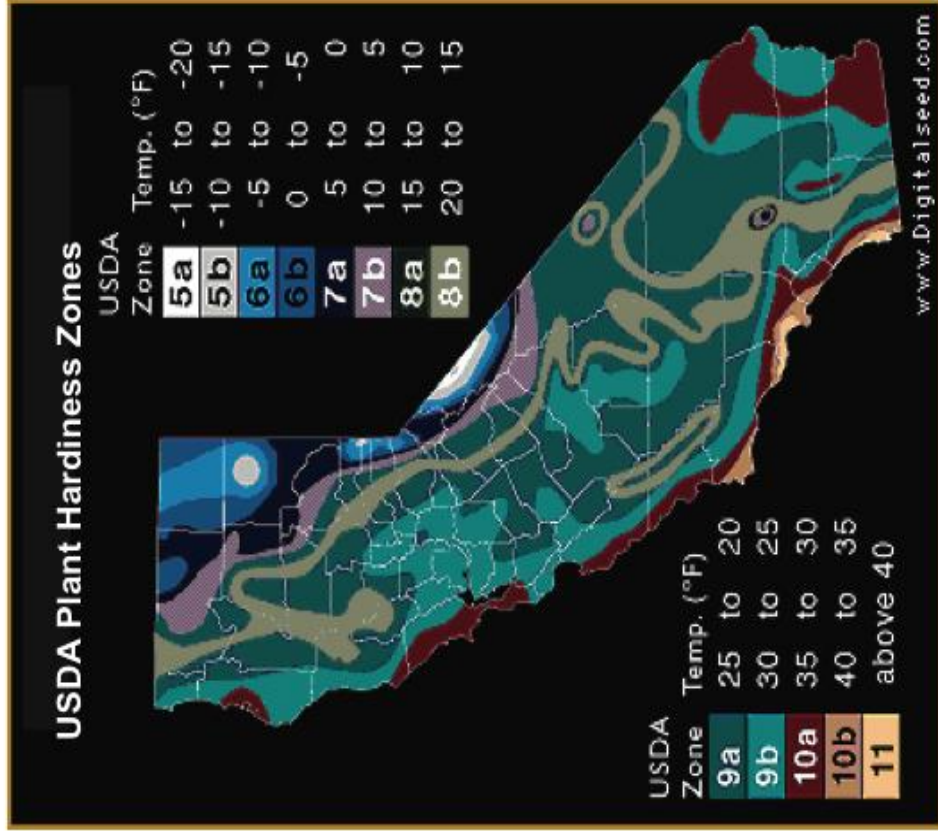
To determine your specific zone, ask a local nursery professional, contact your County Master Gardener ([www.mastergardeners.org](http://www.mastergardeners.org)), or view the "Know Your Zone" maps on the following page. To find out what zone a particular plant will thrive in, refer to the plant label, your nursery professional, or a resource such as the *Sunset Western Garden Book*.

Here are a few more points to consider when planting perennials:

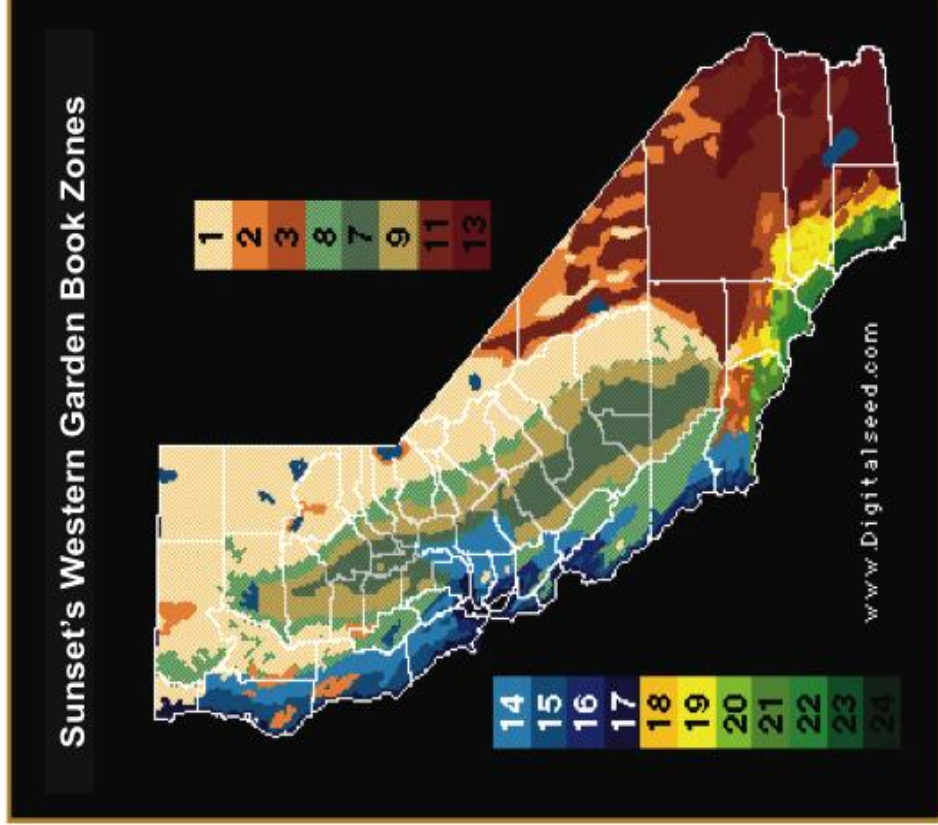
- ❖ “Herbaceous” perennial plants die back to the ground in the winter and re-grow in the spring. “Woody” plants maintain their branching structure during the winter and may be evergreen or deciduous. “Evergreen” perennials keep their leaves during the winter. Keep these characteristics in mind when planning your garden's design.
- ❖ Evergreen perennials can be planted any time of the year, but often the best time of year is in the fall. This allows plants root systems to get established before their growing season and to take advantage of winter rains.
- ❖ Bare root perennials such as fruit trees and vines should be planted in the dormant season (winter or late winter months if your ground is frozen).
- ❖ Most bulbs are planted in the fall for spring blooming dates; they are a great option for school gardens.

## Know Your Zone

Cold tolerance or "plant hardiness" is an important consideration when selecting plant varieties for your garden. There are two commonly used climate zones used to gauge temperatures in a particular area. The USDA has established plant hardiness zones for the country. When selecting plants it is important that the plant is suitable for your zone. Zone information for plants can often be found on plant labels or from nursery staff. Sunset's Western Garden Book has created their own zone. Keep that in mind when using their books in garden planning.



[http://www.digitalseed.com/gardener/climate/usda\\_zones.html](http://www.digitalseed.com/gardener/climate/usda_zones.html)



[http://www.digitalseed.com/gardener/climate/plantclimate\\_zones](http://www.digitalseed.com/gardener/climate/plantclimate_zones).

## What are Annual Plants?

Annual plants are plants that live their whole life cycle (from a planted seed to a mature plant that flowers and fruits and makes a seed again) in a year or less. Annual plants make up most of our vegetable crops, and most of them can be harvested within 2 to 3 months after sowing. Bi-annual plants are similar to annuals but they may live up to two years before coming to the end of their lives.

Annuals are generally classified as either “warm season” or “cool season” crops.

- ❖ Cool season crops thrive in cool areas or during cooler months of the year.
  - Generally they are the root, stem, leaf, and flower bud crops.
  - Many of these crops can “over winter” in mild winter areas if planted in the fall, or can be planted in early spring for a late spring harvest.
  
- ❖ Warm season crops thrive in warm areas or during the hotter months of the year.
  - Generally they are the fruit and seed crops.
  - They are often planted in mid-late spring to summer and harvested in the summer and fall.

## School Year Planting Options

Cool Season Crops		Warm Season Crops	
<ul style="list-style-type: none"> <li>• <b>Late Summer/Fall Planting</b> Harvest late-fall through winter.</li> <li>• <b>Early Spring Planting</b> Harvest before school ends.</li> </ul>		<ul style="list-style-type: none"> <li>• <b>Late Spring (or Summer*) Planting</b> Harvest when returning to school in fall. (Have a plan in place for summer weeding, watering, and harvest.)</li> </ul>	
Best to sow directly into Garden Beds	Best to plant transplants into Garden Beds	Best to sow directly into Garden Beds	Best to plant transplants into Garden Beds
Beets Calendula (edible flower) Carrots Garlic Nasturtium (edible flower) Onions Peas Radish Spinach	Asian Greens Broccoli Cabbage Cauliflower Chard Collards Kale Kohlrabi Lettuce Nasturtium (edible flower) Onions	Amaranth Corn Cucumbers* Melons Popcorn Potatoes Pumpkins Shelling Beans Snap Beans* Summer Squash* Sunflowers (with edible seeds) Winter Squash	Eggplant Onions Peppers Tomatoes

# Average Last (Spring) and First (Fall) Frost Dates in California Cities

From [www.victoryseeds.com/frost/ca.html](http://www.victoryseeds.com/frost/ca.html)

City	Last Frost	First Frost
Auburn	4/13	11/14
Alturas	7/16	8/9
Bakersfield	3/3	11/20
Barstow	4/15	10/29
Berkeley	1/19	12/26
Bishop	5/25	9/26
Blythe	3/1	11/28
Boca	8/5	7/29
Burney	7/15	8/12
Chico	4/23	10/30
Death Valley	2/11	11/30
Eureka	3/14	11/15
Escondido	3/30	11/12
Fairfield	3/27	11/11
Fresno	4/1	11/7
Klamath	4/27	10/28
Livermore	4/27	11/3
Lodi	3/31	11/2
Lompoc	4/11	11/7
Long Beach	2/11	12/8
Los Angeles	2/11	12/8
Marysville	3/16	11/14
Mineral	7/14	8/7
Modesto	3/28	11/10
Monterey	2/11	12/11
Mt. Shasta	6/13	9/12
Napa	4/28	11/9
Needles	3/2	11/30
Nevada City	6/4	9/24

City	Last Frost	First Frost
Ojai	4/9	11/5
Orick	5/18	10/4
Orland	4/15	11/8
Oxnard	2/9	12/24
Palmdale	5/2	10/27
Palm Springs	3/6	11/18
Palo Alto	3/30	11/9
Pasadena	2/3	12/13
Paso Robles	4/18	10/7
Petaluma	4/25	11/5
Pismo Beach	3/11	12/1
Placerville	5/18	10/22
Pomona	4/1	11/16
Red Bluff	4/2	11/14
Redding	5/10	10/31
Sacramento	3/23	11/14
San Diego	3/30	11/12
San Francisco	1/24	12/8
San Luis Obispo	3/27	11/22
Santa Barbara	2/26	12/4
Santa Rosa	5/1	11/5
Tahoe City	6/30	8/22
Tulelake	7/6	8/14
Ukiah	4/29	10/25
Upland	4/14	11/21
Visalia	3/17	11/8
Willows	4/23	11/8
Yreka	5/31	9/25

## Plant Hardiness Definitions

From [www.digitalseed.com/gardener/climate/hardiness.html](http://www.digitalseed.com/gardener/climate/hardiness.html)

**Hardy** Not injured by light frosts and seed will germinate at rather low temperature. May be planted about two weeks to a month before the average date of the last killing frost in the spring. In general, these plants can safely be planted as soon as the soil can be worked into condition. **Includes: onion sets, smooth peas, cabbage plants (well-hardened), kale, kohlrabi, Brussels sprouts, spinach, turnip, radish, asparagus, rhubarb.**

**Half-Hardy** May be planted about the time of the last killing frost. The seeds of this group will germinate at rather low temperatures, but the young plants are injured by frost. **Includes: lettuce, beet, carrot, chard, parsley, parsnip, heading broccoli, early potatoes, onion seeds, garden peas, celery plants, cauliflower plants.**

**Tender** Injured by light frost and does not thrive at low temperatures even though frost does not occur. These shouldn't be planted until all danger of frost is past. **Includes: snap bean, tomato, sweet corn, sweet potato.**

**Very Tender** Does not thrive until the soil has become warm and the seed will rot in the ground unless the soil is warm. **Includes: eggplant, pepper, cucumber, watermelon, muskmelon, lima bean, squash, pumpkin.**



## **Planting Annual Plants**

Gardeners use planting charts (for an example, see *Gardens for Learning* pages 65-68) or the information found on seed packets to determine when to plant annual plants. Most planting charts and seed packets refer to weeks before or after average frost dates as a guide for when to sow seeds or plant (set) transplants outdoors.

The “average last frost date” of the season lands in the late winter or spring. The “average first frost date” lands in the fall or early winter. Planting charts and seed packets will usually instruct you to plant seeds directly into the garden or transplant seedlings a certain number of weeks before a first frost and before or after a last frost.

Contact your local Master Gardeners (found at [www.mastergardeners.org](http://www.mastergardeners.org)) or a local nursery professional, or use *Creating and Sustaining Your School Garden's "Average Last and First Frost Dates in California Cities"* to find out your region’s frost dates.

## ***Planning Your School's Edible Harvest***

One of the most challenging aspects of planning a school garden harvest is that most crops are ready for harvest in the summer months, when schools are out of session. With a bit of planning, however, you can create a crop harvest schedule that fits with your school year.

Crop planting charts and seed packets list the “Days to Harvest” of the crop that you are planting. The days to harvest are an approximation of how many days it will take for your plant to go from a newly sown seed to an edible treat. Planning your sowing and harvest dates is as simple as selecting seasonally appropriate crops and noting the days to harvest of the particular crop. Of course there are many other variables like the weather, irrigation, fertilization, and pests that may accelerate or retard a plant's growth, but all of those variables are learning opportunities for gardeners. View the *Creating and Sustaining Your School Garden Crop Harvest Planning Chart* for specifics on planning a school year harvest.

Once you have chosen which crops to plant, read the *Creating and Sustaining Your School Garden Vegetable Planting and Harvesting Tips*, or refer to an online planting guide at [www.csgn.org/csystg](http://www.csgn.org/csystg) to learn more about growing and harvesting your crops.

## ***Planning a Fall Harvest***

One mistake many new school gardeners make is planting a garden that matures during summer while students are away. In order to plant vegetables that are ready to harvest in the fall, plant longer “days to harvest” vegetable varieties and plant them in the late spring or early summer. Read the "days to harvest" listing on the back of seed packages and plan accordingly.

Another suggestion is to plant crops that can dry in the garden like popcorn, winter squash (pumpkins), or shelling (dry) beans. Popcorn can dry in the field for weeks once mature, whereas sweet corn needs to be harvested within a week or two for a tasty harvest. Also remember that many fruiting vegetables need to be harvested to keep producing throughout the summer, so make sure your summer garden guardians harvest regularly to encourage continual fruiting.

Try planting some of these crops in late May or June and come back to school with something to harvest.

Shelling Beans (dry beans)	Peppers
Sunflowers (Edible or Birdseed)	Eggplant
Winter Squash	Melons
Popcorn	Tomatoes
Pumpkin	Parsnip
Potatoes	Health Master Carrots
Amaranth	

### ***Edible Theme Gardens***

Many successful school garden programs have learned that planting an edible theme garden is a good way to pique students' interest, grow healthy food and connect to the classroom via cultural studies. For example, the Native American **Three Sisters Garden** demonstrates the interdependence of corn (which uses nitrogen added to the soil by the beans), beans (which grow up the corn stalks), and squash (which covers the ground and reduces weed growth). Another popular example is a **pizza garden**, in which everything needed to make a pizza can be grown (add a statue of a cow to represent the source of cheese and a pig the "pizza meat" animal).



# Crop Harvest Planning Chart

*Plant carrots in January and you'll never have to eat carrots.*

~ Author unknown

## Average Frost Dates

Most seed packets and planting guides recommend the number of weeks to plant or transplant (set out plants) before or after the average first or last frost date in your area. Refer to the average frost date chart and write your average frost dates below:

<b>Last Frost (Spring):</b>	<b>First Frost (Fall):</b>
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## 2012

January	February	March	April
Su Mo Tu We Th Fr Sa 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	Su Mo Tu We Th Fr Sa 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29	Su Mo Tu We Th Fr Sa 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	Su Mo Tu We Th Fr Sa 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
May	June	July	August
Su Mo Tu We Th Fr Sa 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	Su Mo Tu We Th Fr Sa 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	Su Mo Tu We Th Fr Sa 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	Su Mo Tu We Th Fr Sa 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
September	October	November	December
Su Mo Tu We Th Fr Sa 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	Su Mo Tu We Th Fr Sa 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	Su Mo Tu We Th Fr Sa 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	Su Mo Tu We Th Fr Sa 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

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## Planning Planting and Harvest Dates

1. Review the school year planting options list for a summary of school year planting/harvest windows.
2. With your average frost dates noted refer to a seed packet or planting guide for more specific details on when to plant.
3. Use a seed packet or planting guide to find the **number of days until harvest**. "Days to Harvest" are based on the day that the seed is first put into soil (container or direct sown).
4. Chose a crop and fill out the chart below selecting a harvest date when school is in session.

Crop	Planting Date	Number of Days to Harvest	Target Date for Harvest
<i>Example: Lettuce</i>	<i>March 10<sup>th</sup></i>	<i>50 days from direct seed</i>	<i>May 30<sup>th</sup></i>

Keep in mind the weather and a number of other factors can affect the number of days to harvest. If you are planting a transplant, you can subtract about 20-30 days off the "days to harvest" found on seed packets and planting guides. Note: some seed packets (such as tomatoes and peppers) state the days to harvest from setting out a transplant.

# Suggested Perennials and Perennial Themed Gardens

Plant	USDA Zone	Culinary	Ornamental	Insectary	Medicinal	Flower Color	Flowering Times	Evergreen or Deciduous
Sage <i>Salvia</i> Various types	6-10	☼	☼	☼		Various	Depends on Variety	E/D
Rosemary <i>Rosmarinus officinalis</i>	1 -9	☼	☼	☼	☼	Blue	Early Spring-Summer	E
Penstemon <i>Penstemon strictus</i>	4-9		☼			Various	Spring	E
Jerusalem Sage <i>Pulmonaria fruticosa</i>	1-3		☼	☼		Yellow	Spring	E
Lambs Ear <i>Stachys byzantina</i>	4-8		☼	☼		Purple	Spring	E
Peruvian Lily <i>Alstroemeria</i>	1-7		☼			Various	Spring- Summer	D
Artichoke <i>Cynara scolymus</i>	7-11	☼	☼			Purple	Spring-Fall	E
Society Garlic <i>Tulbaghia violacea</i>	7-10	☼	☼			Purple	Spring - Summer	E
Rhubarb <i>Rheum</i>	3-9	☼ <small>Leaves are toxic</small>	☼			Greenish-white	Late Spring - Summer	D
Kangaroo Paw, Cat's Paw <i>Anigozanthos flavidus</i>	9-10		☼			Various	Late Spring - Summer	E
Mints Various types	4-11	☼	☼	☼	☼	Violet-Lavender	Late Spring - Summer	E
Yarrow <i>Achillea</i>	3-9		☼	☼	☼	Various	Late Spring - Summer	D
Coreopsis	4-10		☼		☼	Yellow, Orange, Red	Spring - Fall	E
Honeysuckle <i>Lonicera</i>	4-10		☼	☼	☼	Yellow, Red	Late Spring - Summer	E
Common Sorrel <i>Rumex acetosa</i>	3-11	☼	☼	☼	☼		Late Spring	D

Plant	USDA Zone	Culinary	Ornamental	Insectary	Medicinal	Flower Color	Flowering Times	Evergreen or Deciduous
Oregano <i>Origanum</i>	4 - 5	☼	☼	☼		Light Purple, Pink, White	Summer	E
Lemon Verbena <i>Akitsu truogtkka</i>	8-10	☼	☼		☼	White	Summer	D
Thyme <i>Thymus</i>	5-11	☼		☼		White, Pink, Purple	Summer	E
Lemon Balm <i>Melissa Officinalis</i>	4-5	☼			☼	White	Spring - Summer	E/D
Lavender <i>Lavandula</i>	5-10	☼	☼	☼	☼	Purple, White	Summer	E
Catnip <i>Nepeta cataria</i>	4-8		☼	☼		White	Summer - Fall	D
Milkweed <i>Asclepias</i>	3-9			☼		Pink, Yellow, Orange	Summer - Fall	D
Shasta Daisy <i>Leucanthemum</i>	4-10		☼	☼		White	Spring - Summer	E
Cape Fuschia <i>Phygelius</i>	7-9		☼			Orange, Red, Yellow	Spring – Late Fall	E
Butterfly Bush <i>Buddleia davidii</i>	5-9		☼	☼		Purple, Pink, Yellow White	Spring - Fall	E
Asters	3-9		☼	☼		Various	Summer - Fall	E
Scabiosa columbaria <i>Pincushion flower</i>	5-9		☼	☼		Red, Blue, Lavender, White	Spring - Summer	E/D
Bulbs	Varies		☼			Various	Choose for school year blooming	D
Lion's Tail <i>Leonatus leonurus</i>	8-10		☼			Orange	Summer - Fall	E
Comfrey <i>Symphytum officinale</i>	4-9		☼			Blue, Pink, White	Spring - Summer	D
Santa Barbara Daisy <i>Erigeron karvinskianus</i>	5-9		☼	☼		Pink, White, Violet	Spring - Fall	E
Lantana <i>Lantana camara</i>	8-11		☼	☼		Various	Year-round	E

## Re-seeding Annuals

Although these are not technically perennial plants, they sure act like them! They come back year after year from seeds they dropped the previous years.

Amaranth  
Coreopsis  
Cosmos  
Fever Few  
Marigolds  
Mullein *Verbascum*  
Nigella

Poppies  
Snap Dragons  
Stock  
Sunflowers  
Sweet Peas  
Zinnias

### These have edible flower petals:

Bachelor Buttons  
Borage  
Calendula  
Nasturtiums  
Violas

## Perennial Themed Gardens

Many educational gardens are arranged by themes that connect with student's studies. Here is a list of suggested theme gardens. With a little research and thought, you can easily create a planting list to support these themes.

Alphabet Garden – plant something for every letter in the alphabet  
Zoo Garden – plants with animal characteristics (i.e. lambs ears, tiger lily)  
Craft Garden – plants that can be used for art  
Edible Flower Garden – flowers with edible flower parts  
Nectar Suckers – flowers with good nectar sources to suck from  
Medieval Garden – plants grown and used during the medieval times  
Fairy Tale Garden – plants from a favorite story  
Rainbow Garden – plant all the colors of the rainbow  
Herb or Tea Garden – culinary and tea plants  
Cut Flower Garden – plants grown for making bouquets  
Butterfly or Pollinator Garden – plants that attract pollinators or butterflies

Prehistoric Garden – relatives of plants that were around when the dinosaurs roamed the earth (non-flowering plants)  
Sensory Garden – plants that smell and feel good  
California History or Mission Garden – plants used during the mission period  
Medicinal Garden – plants traditionally used for medicine  
Stinky Garden – plants with strong smells  
Cultural Garden – plants that have traditionally been grown by a particular culture or ethnic group  
Bog Garden – plants adapted to wet areas  
Succulent Garden – plants adapted to dry areas  
Carnivorous Garden – plants adapted to eat insects for nourishment

# Selecting Fruit Trees and Vines for California School Gardens

*“Today is the second best day to plant a tree.  
The best day to plant a tree was 10 years ago.”*

Planting a fruit tree or vine is an investment in your garden’s future. When selecting a tree for a school garden there are a few basic concepts to understand so that you can make the best choice. Consider consulting a fruit tree expert to discuss the conditions described below.

## **When will the tree set fruit?**

Choose varieties that will make fruit while students are in session. There are many varieties of each type of fruit. Different varieties produce fruit at different times throughout the season.

## **Select the appropriate tree size for your garden site.**

Many trees can be purchased on rootstocks that will help determine the tree’s ultimate height. Dwarfing rootstocks can keep some varieties of fruit trees under 8 feet.

## **Select appropriate varieties for your climate zone.**

Stone fruits (peaches, nectarines, plums, apricots, cherries) can be grown in areas with average annual minimum temperatures below -10°F. Pome fruits (apples, pears, and relatives) can be grown in areas with average annual minimum temperatures below -20°F. Citrus should be grown in warmer areas, where average annual minimum temperature is no lower than 30°F.

## **Select appropriate varieties for the average chill hours in your region.**

Many fruit trees need a specific number of “chilling hours” (temperatures between 32°F - 45°F). Trees that do not receive their proper amount of chill hours during the winter may experience delayed foliation or have problems flowering and forming fruit.

The number of necessary chill hours for fruit trees will vary by variety. For example: an “Anna” Apple has a low chill factor requiring only 200 hours, while the “Gravenstein” Apple needs 700 cumulative chill hours to fruit well. Most of Northern California receives between 800 and 1,500 hours of chill each winter. Southern California may only receive 100-400 hours.

## **Plant your tree in an area with good drainage.**

Shallow, poorly drained sites will produce small, weak plants that have lower yields, more pest problems, and require special water management practices. Notice where water accumulates or puddles in the winter and avoid planting trees in those areas.

# Fruit Trees and Vines for California School Gardens

*(listed in order of fruiting season)*

<b>Fruit Name</b> <small>* These trees require minimal pruning and maintenance expertise.</small>	<b>USDA Zone</b>	<b>Best Time To Plant</b>	<b>Harvest Time</b> Dates may vary by variety	<b>Tree Height</b> Tree height varies by rootstock and pruning	<b>Evergreen or Deciduous</b>
Pear	5-8	Best to plant from bare root tree in winter	Summer - Fall	Dwarf height 8-10 ft, Standard 30ft	D
Apples	5-9	Best to plant from bare root tree in winter	Summer - Fall	Dwarf height 8-12 ft, Semidwarf 12-18 ft Standard 18-22ft	D
Grapes	4-8	Best to plant from bare root tree in winter	Summer - Fall	10-15 ft vine, Grow on trellis or fence	D Vine
Pineapple Guava *	7-10	Fall As container plant, can plant year round	Fall - Winter	4-12 ft	E
Kiwi Fruit	8-10	Fall, can plant year round, need male and female for fruit production	Fall - Winter	15 -25 ft vine, Grow on trellis or fence	D Vine
Almond	7-9	Best to plant from bare root tree in winter	Fall	12-15 ft	D
Walnut	4-9	Best to plant from bare root tree in winter	Fall	20-50 ft	D
Pomegranate *	7-11	Best to plant from bare root tree in winter	Fall - Winter	5-12 ft	semi - D
Persimmon *	7-10	Best to plant from bare root tree in winter	Fall - Winter	12-18 ft	D
Citrus *	8-11	Fall Container plant, can plant year round	Late Fall - Spring depending on variety	6-25 ft , depending on variety	E
Cherries	4-8	Best to plant from bare root tree in winter	Early Spring	10-30 ft	D
Apricot or Aprium	4-8	Best to plant from bare root plant in winter	Late Spring - Summer	12-20 ft	D
Fig *	7-11	Fall Container plant, can plant year round	Spring and Fall, depending on your region	15-30 ft	D
Raspberries *	3-9	Best to plant from bare root tree in winter	Late Spring – Fall, depending on variety	4-6 ft	D
Plum or Pluot	4-8	Best to plant from bare root plant in winter	Late Spring - Summer	15-40 ft	D
Blackberries *	5-8	Best to plant from bare root plant in winter	Summer - Fall	3-6 ft	D



# Growing California Natives

## What are native plants?

A native plant is a plant that is native to a specific region, where it has grown naturally and co-evolved with other life forms. Native plants make up the foundation of an ecosystem and have specific inter-relationships within it, such as providing food and shelter for a wide variety of organisms. Since the arrival of European people and the plants and seeds they introduced, native plants have had new competition for survival. In some areas, native plant populations have been replaced by "invasive" species that out-compete the natives for the sun, soil, and water. For this reason, restorative landscaping with natives has become quite a popular practice.

## Growing native plants in your garden can provide many benefits.

Native plants are found in all types of climatic zones, so you will always be able to find a plant suitable to your growing conditions. For this reason, native plants are often easier to care for. By growing endemic native plants, you can begin to restore the natural biodiversity of your region. Other benefits include the following:

- Native plants can attract animal and insect populations in your garden by providing the habitat that nature originally provided for them.
- Native plants selected from your growing region will need little or no additional irrigation once the plant is established.
- Because native plants have evolved with other plant and animal species from their region, the amount of pest disturbance is usually lower.

## Tips for planting natives

Natives are best planted from late fall through early spring. Taking advantage of winter rains helps get plants off to a good start. To increase your rate of success of direct sown seeds, it is advisable to irrigate until seeds have germinated and made early growth. With perennial plantings, supplemental irrigation is suggested through the first summer. After they are established, native plants should require relatively low maintenance.

When direct sowing seeds such as wildflowers, it is important to create a good seedbed to promote firm soil to seed contact, provide consistent moisture, and keep weeds under control. One method of weed control is to pre-irrigate the seedbed to be planted to sprout your weed seeds and then remove them. After you remove the weeds, try not to till your soil, as you might bring up more weed seed. Once you have sown your seeds in a well-prepared seedbed, a gentle tamping can help to ensure soil to seed contact.

## Choosing natives

When purchasing native plants, it is best to buy from nurseries that specialize in native plants. Native plant nurseries often collect seed and propagate plant material from plants that are acclimatized to your particular region.

# Vegetable Planting and Harvest Tips

Taken from *The Growing Classroom*

## Beans, Bush

- Keep sowing every 2 weeks for constant supply of beans. Plants may stop producing beans during extreme heat but will begin again when temperatures decrease.
- Pick beans before you can see bean swelling in pod. Be sure to pick beans frequently (3-5 days) so the crop keeps producing.
- Sensitive to transplanting, consider sowing directly in garden.
- Eat raw, steamed, boiled, or pickled in vinegar.

## Beans, Pole

- A pole bean is a climbing variety and needs support of a pole, trellis or fence to grow.
- Pole beans often produce for a longer period than other beans.
- Pick beans before you can see bean swelling in pod.
- Pick beans frequently (every 3-5 days) for continual harvest.
- Sensitive to transplanting, consider sowing directly in garden.
- Eat raw, steamed, boiled, or pickled in vinegar.

## Beans, Shelling

- Shelling beans are grown until the bean and pod is dry. Let the beans completely dry on the stem before harvesting.
- Place dried bean pods on tarp and have kids stomp on them to remove pod or place in sack and strike sack to break beans from shell. Some kids like to hand shell each pod.
- These beans need to be boiled to eat.

## Beets

- Sow seed directly in garden every 10 days for continual harvest.
- Thin plants when they are young.
- When beets are 1-2.5 inches in diameter, pull the roots.
- Beets will get woody when overly mature. Beets will keep in ground during frosts.
- Eat raw, pureed, baked, steamed, boiled, or pickled in vinegar. Beet greens may be cooked like spinach.

## Broccoli

- Broccoli is a cool season crop that grows best in full sun.
- Pick broccoli when heads form into tight, firm clusters.
- Cut off the head with 6 inches of stem attached. Side heads will form after first head is cut.
- Eat florets and stems raw, boiled, or steamed.

## Brussels sprouts

- Plant Brussels sprouts in spring for a fall harvest. Exposure to frost improves flavor and sweetness.
- To harvest, twist sprouts off the stem when 1.5" wide and start with lower ones first. Remaining sprouts will keep on plants through part of winter.
- Eat boiled or baked.

## Cabbage

- Plant in mid-summer for a fall harvest. In mild areas sow in fall for a early spring harvest.
- Harvest cabbage heads when they have formed tight, firm heads.
- Eat raw, boiled, steamed, or pickled as sauerkraut.

## Carrots

- Sow seed directly in the garden. Thin crowded plants when small.
- Harvest carrots at almost any time in the growth cycle. Carrots will keep in the garden after the first frost, right up until ground freezes in winter.
- If needed, loosen carrots with digging fork before pulling.
- Eat raw, boiled, steamed, baked, pureed, or pickled in vinegar.

### **Cauliflower**

- Tie outer leaves around head to protect cauliflower from the sun.
- Cauliflowers are cool season crops that are ready to harvest when the flowerets are tightly formed and dense. Cut the head off the main stem.
- Eat raw, cooked, boiled, or pureed.

### **Celery**

- Requires a lot of nutrients and water.
- Harvest after the stalks have reached a foot or more.
- The inner stalks are more tender and taste best uncooked.

### **Chard**

- Cut the outer leaves close to ground when 8-10" tall. Make sure to leave 4-6 leaves on the plant so it can continue to grow.
- Refrigerate chard for up to two weeks.
- Cook by boiling, steaming, or stir-frying.

### **Corn (sweet)**

- Sensitive to transplanting, consider sowing directly in garden.
- For good pollination plant in blocks at least 4 feet by 4 feet.
- Ears are ready to harvest about 20 days after the silks appear or when they turn brown.
- Peel back the husk to and puncture a kernel with your fingernail. If the kernels are fat and juice is milky - white, the ear is ready for eating.
- Eat raw, steamed, or boiled.

### **Corn (pop)**

- Sensitive to transplanting, consider sowing directly in garden.
- Do not plant sweet corn in same garden with popcorn; the quality of sweet corn will be reduced if cross-pollinated by popcorn.
- Allow the kernels to dry in field as long as possible before winter rains.
- Harvest kernels when hard and the husks dry. Remove the husks and place the ears in mesh bags and hang in a warm, dry location.
- Once a week, shell a few kernels and try popping them; when test kernels are popping well store ears in cool dark dry place or remove kernels and store in airtight containers.

### **Cucumbers**

- Mound soil into hills; plant 3 seeds per hill.
- Try growing cucumbers vertically on a trellis to increase air circulation and sunlight.
- Cucumbers are tastiest when harvested young before the seeds fully develop.
- Harvest lemon cucumbers when they are light green with just a blush of lemon color.
- Eat raw or pickled

### **Eggplant**

- In northern gardens where growing season is short, start with large transplants.
- Eggplant may develop a bitter flavor when grown in stressful conditions. Pick them while the skins are glossy and before seeds form inside.
- Cut stem, rather than pull from plant.
- Soak eggplant in water for 15 minutes or salt and let sit before cooking to reduce bitterness. Eat baked, pureed, stuffed, or roasted.

### **Garlic**

- Harvest when half to three-quarters of the leaves turn yellow - brown.
- Remove flower stalks to encourage efficient bulb growth.
- Loosen soil beneath bulb before pulling.
- Tie garlic together in bundles of 6 to 10 bulbs; hang them for four to six weeks in shaded, dry, area to cure.
- Mince and use in any dish as flavoring.

## Kale

- Pluck leaves of kale on the outside of plant when leaves are 10" or longer.
- To keep the plants in production, avoid cutting center bud or leaves. Frost enhances the flavor.
- Eat pureed, boiled, steamed, or baked in a casserole.

## Kohlrabi

- For best texture, harvest kohlrabi bulb when it reaches 2-3 inches in diameter. Bulbs become tougher as they grow and age.
- Pull or slice at base. Bulbous stem and leaves are edible, peel off skin around bulb before eating.
- Eat raw, steamed, boiled, or pureed.

## Leeks

- Plant transplants when 4" high.
- Harvest leeks when they are about 1 inch in diameter and before they make their flower stalk.
- Slice open lengthwise and rinse inner leaves.
- Eat in soups, salads, baked dishes, or as a substitute for chive.

## Lettuce

- Lettuce prefers cooler weather, in hot weather plant lettuce may go to seed prematurely (bolting).
- Harvest outer leaves of leaf lettuce early to encourage growth.
- Head lettuce is ready to harvest when heads are firm and tight.

## Melons

- Sensitive to transplanting, consider sowing directly in garden. Melons grow best in hot weather. Harvesting the perfectly ripe melon is not always easy, refer to seed packet information for particular varieties.
- **Cantaloupes:** Pick when heavy and tan. Look for "netting" that is hard and raised and a crack that forms around the stem where it touches the fruit. The stem should slip easily off the vines with a quick pull, but should not have fallen off by itself.
- **Honeydews:** Should have a slight yellow blush and get a bit softer on at the blossom end.
- **Watermelons:** Develop a dull green cast and have a light patch at the bottom that changes from green to light yellow when mature. Also, the leaf on the tendril nearest the fruit turns brown and withers. The skin should be hard, difficult to pierce with a fingernail.
- Eat right in the garden for ultimate satisfaction.

## Onion

- Harvest when tops fall over and tips of leaves start to turn brown.
- Pull onions, shake off any soil, but do not wash them or pull off outside wrapper leaves. Store in dry area to cure for about a week.
- Use raw, blanched, sautéed, baked, or just about any dish.

## Parsley

- Long germination and growth period.
- Soak seeds over night before planting.
- Harvest parsley as soon as plants are growing vigorously.
- Snip outer stems from plants; they will produce new growth.
- Parsley dries and freezes well. Can be eaten dried or fresh.

## Peas

- Sensitive to transplanting, consider sowing directly in garden. Harvest peas daily to encourage vines to keep producing.
- **Shelling Peas:** Pick them when the pods are rounded and the peas have filled in pod, but before they grow tough. Pods are not edible.  
**Snap Peas:** Pick when their edible pods begin to grow rounded, plump and juicy, but before they get tough.  
**Snow Peas:** Pick them when the pods have grown to 2-3 inches but are still flat.
- Eat raw, boiled, steamed, or stir - fried.

## Peppers

- Sensitive to cold and harsh sun. In extreme heat, shade peppers by planting in a dense block.
- Peppers are edible when they're green, but most don't develop full flavor and mineral content until they turn from green to orange, yellow, or red.
- Eat raw, baked, stuffed, or sautéed

## Potatoes

- When foliage starts to wither and die, the tubers should be fully grown and ready to harvest in a couple of weeks. Let soil dry down a bit to help cure potato skin and dig up with a spading fork before first frost. Do not wash potatoes before storing; rather just brush off dirt.
- Potatoes that are nicked or bruised during harvest don't store well, so eat as soon as possible.
- "New potatoes" can be harvested before the plant begins to die back. New potatoes should be washed and eaten shortly after harvest.
- Always cook potatoes, the raw starch is mostly indigestible. Boil, steam, or bake. Leaves are not edible.

## Pumpkin

- Pumpkins prefer to be sown directly from seed in hills, 3 - 4 seeds per hill. Leave plenty of room for vine sprawl (6 feet for bush types and 10 to 12 feet between vining sorts).
- Do not pick pumpkins until the vine begins to turn brown and dry. Then cut vine 3 - 4 inches above pumpkin.
- Leave pumpkin in sun for a week or two to cure. Eat baked, boiled, or pureed. It is easiest to remove pumpkin flesh from skin after baking.

## Radish

- Sow seed directly in garden every 10 days for continual harvest.
- Spring radishes should be checked frequently because of quick maturation. Will get woody when over-mature. Pull radish roots when 1-2 inches in diameter.
- Eat raw, stir-fried, or pickled in vinegar.

## Spinach

- Sensitive to transplanting, consider sowing directly in garden.
- Plant every two weeks for continual harvest.
- Harvest larger outer leaves early in morning when crisp, or cut whole plant at base.
- Keep cool. Will "bolt" and go to seed in hot weather.
- Wash well. Eat raw, pureed, stir-fried, steamed, boiled, or in baked dishes.

## Squash, Summer

- Sensitive to transplanting, consider sowing directly in garden.
- Pick frequently when fruits are small. Skins should be tender enough to poke fingernail through.
- Pick zucchini no larger than 6-7", patty pan squash at 2-3", and round zucchini at 3-4".
- Skin can be eaten along with the inside. Eat raw, boiled, baked, roasted, or in soups.

## Squash, Winter

- Sensitive to transplanting, consider sowing directly in garden.
- Grow throughout the season and harvest when plant materials die back in fall and the squash skin is hard.
- Most winter squash store well. After harvest, store in cool dry.
- Eat boiled, baked, steamed or pureed in soups. It is easiest to remove squash flesh from skin after baking.

## Tomatoes

- Prefers warm weather although nighttime temperatures over 90 degrees can prevent fruiting.
- Harvest when fruits are full color.
- Eat raw, stuffed, stewed, boiled, baked, or pureed. Leaves are not edible.
- Great crop to comparative taste fresh vs. store bought.

Edible Theme Bed Planting and Harvesting Calendar  
for Schools in California's Central Coast Region

The colorful lines on this calendar represent each plant's growth cycle, from when to plant the seed through when to harvest the crop. The approximate number of days the plant will take to grow from seed to first possible harvest are noted in parentheses. Actual days to harvest will depend on seed varieties, plant care, weather, and climate.

**Pizza Garden Bed**

Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
					Tomatoes (70-90 days*)						
					Onions (100-140)						
						Zucchini (50 days)					
						Basil (40 days)					
					Peppers (80-100 days*)						
						Wheat (90 days)					

*Planting and Harvesting Tips:* **Tomatoes** prefer warm weather, although nighttime temperatures over 90 degrees can prevent fruiting. Harvest when fruits show bright colors. Leaves are not edible. **Onions** should be harvested when tops fall over and leaf tips start to turn brown. Pull onions and shake off soil, but do not wash or remove outer skin. Store in a cool, dry area to cure. **Zucchini** needs a lot of space to branch out. Pick fruits when they are 4-6" long or when it is still possible to penetrate skin with thumbnail. **Basil** likes full sun. Start harvesting leaves when plant is 12: tall or more. Cut off desired amount of leaves and chop. **Peppers** are sensitive to harsh sun and cold. In extreme heat, shade peppers by planting them in the shadow of taller crops, or plant them in a dense cluster. Edible when they're green, full of flavor when yellow, orange or red. **Wheat** grows quickly. Harvest when grass stalks turn yellow and kernels are dry. Wheat is only usable once ground into flour. A lot of wheat is required for pizza dough, so the wheat grown in the garden is a good

**Salsa or Tomato Sauce Garden Bed**

Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
					Tomatoes (70-90 days*)						
					Onions (100-140)						
						Cilantro (45 days)					
					Peppers (80-100 days*)						
						Tomatillos (80 days)					

*Planting and Harvesting Tips:* See Pizza Bed Section for information on **tomatoes, onions, and peppers**. **Cilantro** grows best in direct sun in cooler climates. It will not make it in hot summer heat. Harvest bunches of leaves when plant is bush-like. Cut from plant with scissors. Chop leaves finely and use as seasoning. **Tomatillos** prefer to be started in containers 4-6 weeks before being transplanted into the garden. They are ready to harvest when fruit is plum and husk splits open slightly. Plant at least 2 feet apart. Fruits can store in cool place for 2-4 weeks. Peel off husk and prepare as

\* = For the plants with asterisks, the noted days to harvest are based on planting transplants rather than seeds.



Edible Theme Bed Planting and Harvesting Calendar  
for Schools in California's Central Coast Region

Soup Garden Bed											
Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
								Tomatoes (70-90 days*)			
								Onions (100-140 days)			
								Carrots (55-75 days, can wait longer)			
								Peppers (80-100 days*)			
								Winter Squash (90-120 days)			
								Parsnip (100 days)			
								Potato (70-120 days)			
								Shelling Beans (75-95)			
								Corn (80-100 days)			
<p><i>Planting and Harvest Tips:</i> See Pizza Bed Section for <b>tomatoes, onions, and peppers</b>, and Grazer's Garden Bed section for <b>carrots</b>. <b>Winter squash</b> seeds prefer to be sown directly into the garden soil. Grow in the summer and harvest when plants die back and squash skins are hard. Most winter squashes store well if kept in a cool, dry place. To prepare, cut open, remove seeds, bake or boil, remove skin, and enjoy! <b>Parsnips</b> grow best in deeply worked soil. Prepare roots for eating in the same way as carrots. <b>Potatoes</b> are ready to harvest when plant begins to wither and die. Let soil dry out a bit to help cure potato skins. Dig out with spading fork before the first frost. Do not wash potatoes before storing in a cool, dark place; simply brush off dirt. Potatoes that are nicked or bruised during harvest store less well, so eat these ones first. Boil, steam, or bake potatoes. Raw potatoes are indigestible, and potato leaves are also inedible. <b>Shelling beans</b> can be harvested when the beans and pods have dried completely on the plant.</p> <p>To shell, place pods on a tarp and have students stomp on them; or place pods in a sack and strike the sack; or work together to shell by hand. Soak and cook beans before eating. <b>Corn</b> seeds prefer to be sown directly into garden soil. For good pollination, plant in blocks at least 4 feet square. Ears are ready for harvest about 20 days after the silks appear, or when the silks turn brown. Peel back husk and puncture kernel with your fingernail. If the kernels are fat and milky, the ear is ready to harvest. Eat raw, steamed, or boiled.</p>											

\* = For the plants with asterisks, the noted days to harvest are based on planting transplants rather than seeds.

Edible Theme Bed Planting and Harvesting Calendar  
for Schools in California's Central Coast Region

Winter Stir Fry Garden Bed											
Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
			Broccoli (50 days*)						Broccoli (50 days*)		
			Cauliflower (50-70 days*)						Cauliflower (50-70 days*)		
			Carrots (55-75 days)						Carrots (55-75 days)		
			Chard (55-70 days)						Chard (55-70 days)		
			Snow Peas (60-75 days)						Snow Peas (60-75 days)		
<p><i>Planting and Harvesting Tips:</i> <b>Broccoli</b> grows best in the full sun of a cool season. Pick broccoli when heads form into tight, firm clusters. Cut off the head with 6 inches of stem attached. Side heads will form after the first head is cut. <b>Cauliflower</b> does best if you tie the outer leaves around the heads to protect them from the sun. Harvest heads once the florets are tightly formed and dense. Cut the head off the main stem. See Grazer's Bed section for information on <b>carrots</b>. <b>Chard</b> leaves should be cut from the outside in when 8 to 10 inches tall. Leave 4 to 6 leaves on the plant to continue to grow. Refrigerate chard for up to two weeks. Boil, steam or stir fry to eat. <b>Snow peas</b> are ready to harvest when pods are 2-3 inches long and still flat. Eat peas and pods.</p>											
Three Sisters Garden Bed											
Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
					Popcorn (90-110 days)						
					Winter Squash (90-120 days)						
					Pole Beans (75-95 days)						
<p><i>Planting and Harvesting Tips:</i> We choose to use <b>popcorn</b> and <b>winter squash</b> instead of sweet corn and summer squash because both of these can grow through the summer, dry on the vine, and be harvested once students are back in school and even into October. See Soup Garden Section for more information on winter squash. To prepare popcorn, remove from cob. Place oil, popcorn and salt in a large, metal mixing bowl. Cover with heavy-duty aluminum foil and poke 10 slits in the top with a knife. Place the bowl over medium heat and shake constantly using a pair of tongs to hold the bowl. Continue shaking until the popcorn finishes popping, approximately 3 minutes. <b>Dry or shelling pole beans</b> are ideal here, and will need the support of a pole, trellis, or fence to grow. Pole beans often produce for a longer period than other beans. Sow directly into the garden soil. Pick before you can see bean seeds swelling in the pods, and pick frequently (every 3 to 5 days) for a continual harvest. Shell and eat raw, steamed, boiled.</p>											

\* = For the plants with asterisks, the noted days to harvest are based on planting transplants rather than seeds.

Edible Theme Bed Planting and Harvesting Calendar  
for Schools in California's Central Coast Region

Grazer's Garden Bed											
Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
				Tomatoes (70-90 days*)							
				Carrots (55-75 days, can wait longer)							
				Snap Beans (50-70 days)							
				Peppers (80-100 days*)							
				Cantaloupe (75 days)							
<p><i>Planting and Harvest Tips: See Pizza Bed Section for information on <b>tomatoes</b> and <b>peppers</b>. <b>Carrot</b> seeds should be sown directly into garden soil. Thin crowded plants when they are small. Harvest almost any time during growth cycle. Carrots will keep in the garden after the first frost, until the ground freezes in winter. If needed, loosen carrots with a digging fork before pulling. <b>Cantaloupe</b> vines need space to grow; plant at least 1 foot apart. Melons require full sun and lots of water. Allow to ripen on vine. Harvest when they pull off vine easily and have a strong fragrance. Eat soon after harvesting.</i></p>											
Salad Garden Beds											
Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
			Lettuce (50 days*)					Lettuce (50 days*)			
			Spinach (50 days)					Spinach (50 days)			
			Carrot (55-75 days)					Carrot (55-75 days)			
			Beet (45-60 days)					Beet (45-60 days)			
			Nasturtium (40)					Nasturtium (40)			
			Radish (35 days)					Radish (35 days)			
			Celery (90 days*)					Celery (90 days)			
<p><i>Planting and Harvest Tips: <b>Lettuce</b> prefers cool weather. You can shade plants in hot weather, to prevent it from bolting (producing seed and turning bitter) prematurely. Harvest outer leaves of leaf lettuce early to encourage growth. Harvest head lettuce when heads are firm and tight. <b>Spinach</b> also prefers cool weather and can also be shaded in hot weather. Harvest large outer leaves in the morning, when they are crisp. Alternatively, harvest all leaves at once and allow plant to regrow. See Grazer's Garden Bed Section for information on <b>carrots</b>. <b>Beets</b> should be thinned when plants are young and harvested when roots are 1-2.5 inches in diameter. Beet roots can survive light frosts. <b>Nasturtiums</b> enjoy full sun. Flowers and leaves are edible! <b>Radishes</b> grow quickly, so check frequently and harvest when they are 1-2 inches in diameter. <b>Celery</b> requires a lot of nutrients and water. Harvest when stalks are 12 or more inches long. Inner stalks are more tender and taste better raw.</i></p>											

\* = For the plants with asterisks, the noted days to harvest are based on planting transplants rather than seeds.