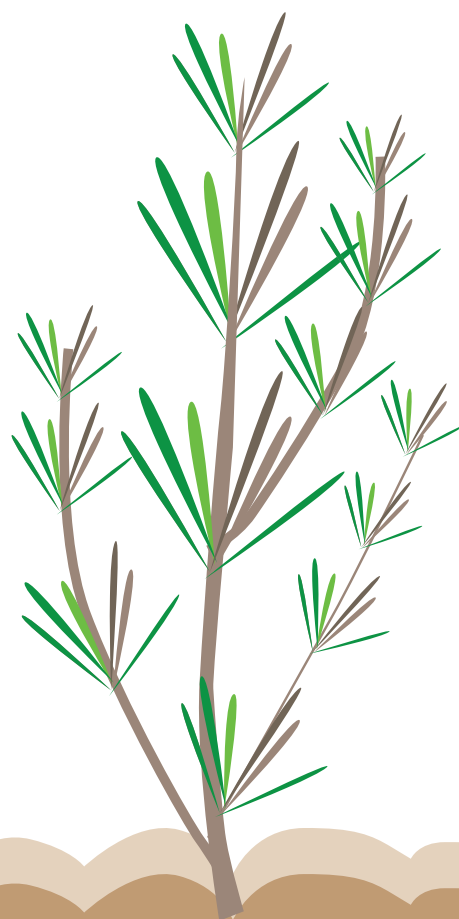


# A Guide to Growing a School Herb Garden



# Table of Contents

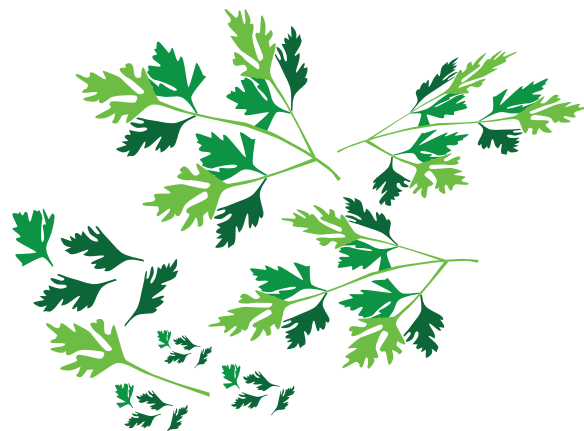
What Are Herbs? .....	3
What Is the Difference Between Herbs and Spices? .....	3
Why Plant Herbs? .....	3
Before You Start.....	4
Herbs, Herbs and More Herbs.....	5
Annual Herbs Best Suited for Spring and Summer .....	5
Annual Herbs Best Suited for Fall and Winter .....	5
Perennial Herbs.....	6
How Many Herb Plants Does Our School Garden Need?.....	6
Spring- and Summer-Planted Herbs .....	7
Lavender.....	7
Mint.....	8
Sage.....	9
Basil .....	10
Thyme.....	11
Rosemary.....	12
Bay Laurel.....	13
Lemon Verbena.....	14
Catnip .....	15
Fall- and Winter-Planted Herbs.....	16
Parsley .....	16
Dill.....	18
Borage .....	20
Cilantro/Coriander .....	21
Chives .....	22
Garlic.....	23
Oregano.....	24
Chamomile .....	25
Glossary of Terms.....	26
Gardening Terminology .....	26
Culinary Terminology.....	27



## What Are Herbs?

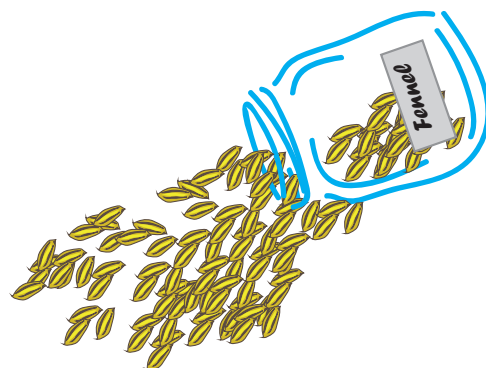
An herb is any plant with leaves, seeds or flowers used for flavoring, food, medicine or perfume.

Typically, herbs are plants with leafy parts that are used to flavor food and drinks. Basil, parsley, thyme and oregano are common examples of herbs. The flavor and aroma of herbs varies greatly. Herbs also are used for many other purposes such as medicines, aromatics and aesthetics. Herbs are a wonderful addition to the garden because they fill multiple roles.



## What Is the Difference Between Herbs and Spices?

Herbs are the green fleshy parts of plants. Spices are everything else, like seeds, barks and stems. Many people use cilantro (herb) in dishes like tacos and salsas, but they also may use coriander (spice), which is the seeds of the cilantro plant, to season other dishes. Fennel bulbs and greens (herbs) are used to season many food items, while fennel seed (spice) is a main flavor in Italian sausage. Even though herbs and spices may be from the same plant, they are different parts of the plant.

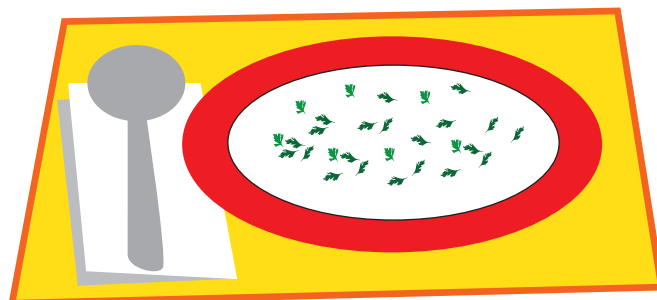
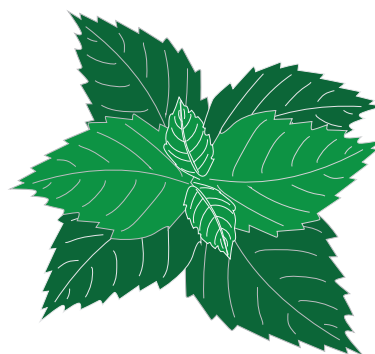


## Why Plant Herbs?

Herbs are a wonderful addition to the school garden. Many students already are growing fruit and vegetable plants. Why not add this category of edibles to spice things up?

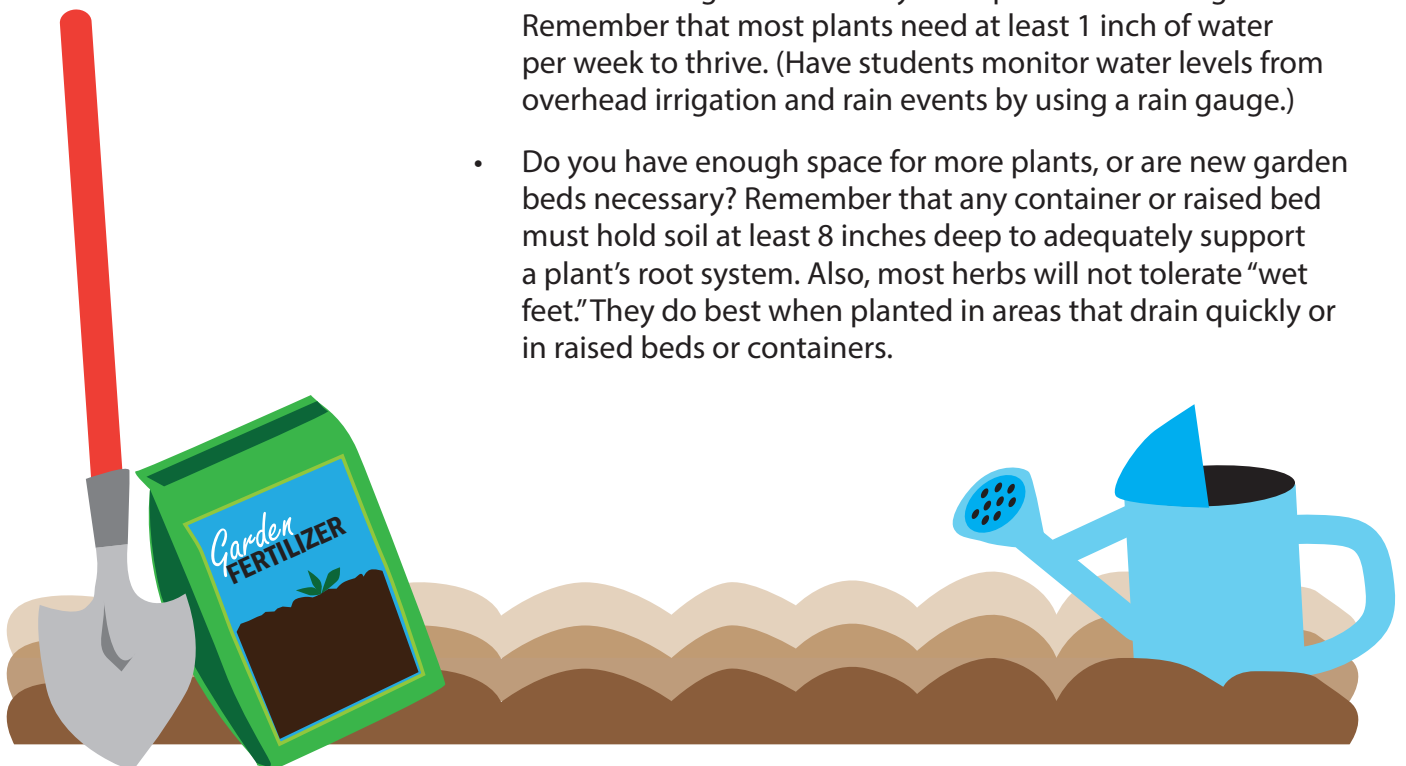
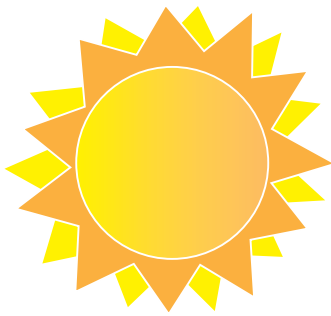
One of the main reasons schools institute gardens is to encourage students to become healthier by engaging in physical activity and eating more nutritious foods. Herbs aren't usually thought of for their vitamin content but they can add to the flavor of a dish without adding unnecessary salt, fat or calories. If we can teach students to grow their own food, why not teach them how to season food in a healthful and nutritious manner by simply adding a few extra items to the garden.

We hope you use this publication not only for the growing tips provided but also to engage students in a few fun activities associated with growing herbs.



## Before You Start!

- Is your garden space ready to be planted? Like other edibles, herbs require a few basic items to thrive in the school garden. Before you purchase plants or start seedlings, make sure you have considered:
- Is your soil prepared for seeding herbs directly into the garden? Work soil at least 6 inches deep and smooth the soil's surface with a rake or hoe to prepare the ground.
- Have you incorporated fertilizer? Adding compost or complete fertilizers (equal parts N-P-K) will help provide the required minerals and nutrients that herbs need to grow. Herbs do not need excessive fertilizer for proper growth. Sometimes excessive fertilizer can reduce flavor. Follow instructions on the fertilizer bag that you purchase and use the lowest suggested rate. Submitting a soil sample prior to planting herbs also will guide you on the amount of fertilizer that needs to be added to the soil. The LSU AgCenter has a soil lab. Visit [http://www.lsuagcenter.com/en/our\\_offices/departments/SPESS/ServiceLabs/soil\\_testing\\_lab/](http://www.lsuagcenter.com/en/our_offices/departments/SPESS/ServiceLabs/soil_testing_lab/) for information on how to correctly sample soil, prices for analysis of your sample and obtaining your results.
- Is your garden receiving adequate sunlight? At least six hours of direct sunlight are need for most herbs to flourish.
- Do you have a watering plan? Purchasing a soaker hose or a few watering cans is money well spent in a school garden. Remember that most plants need at least 1 inch of water per week to thrive. (Have students monitor water levels from overhead irrigation and rain events by using a rain gauge.)
- Do you have enough space for more plants, or are new garden beds necessary? Remember that any container or raised bed must hold soil at least 8 inches deep to adequately support a plant's root system. Also, most herbs will not tolerate "wet feet." They do best when planted in areas that drain quickly or in raised beds or containers.





## Herbs, Herbs and More Herbs...

Herbs can be grown throughout the year in Louisiana. Some do better in warmer temperatures and others in cooler temperatures.

Herbs like parsley and cilantro thrive in the cooler months but will bolt or slow down significantly in the heat of the summer. Herbs like basil, mints and oregano will flourish during the hotter parts of the year.

Even some of the warm-season herbs still need protection from our hot, humid summers. Lavender and lemon verbena are examples. They like warm weather but when August comes, they do better with a little shade to protect them from the extreme late summer heat.

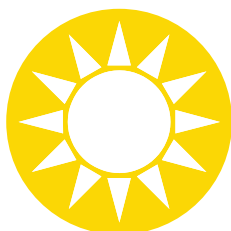
Many herbs are from the Mediterranean region. While that area does have warm summers, the weather there still is not as hot and humid as here and it doesn't match the long Louisiana summers, so you may have to take a few steps to help them endure the heat.



**FALL**



**SPRING**



**SUMMER**



**WINTER**



### Annual Herbs Best Suited for Spring and Summer

Warm-season herbs are best planted into the garden after the danger of frost has passed. This typically is mid-March through early August.

Of course, if you are starting the herbs from seed, you can get a jump on the growing season by sowing the seeds up to a month prior to the first planting date. You will need to sow the seeds into seed trays or old, but clean, containers and keep them in a greenhouse, warm windowsill (with plenty of light) or a hot box.

Warm-season herbs that generally grow well in Louisiana include basil, mint, lemon verbena, rosemary, sage, thyme, lavender, catnip and bay laurel.



### Annual Herbs Best Suited for Fall and Winter

Cool-season herbs are best planted into the garden between the months of September and February. Most cool-season herbs can tolerate normal winter freezes in Louisiana. Later in the cool season, in March or early April, plant larger transplants, and you could still expect acceptable harvests in May or early June.

Cool-season herbs that generally perform well in Louisiana include parsley, cilantro, chamomile, dill, oregano, borage, chives, garlic, celery, chicory, fennel, arugula and chervil.



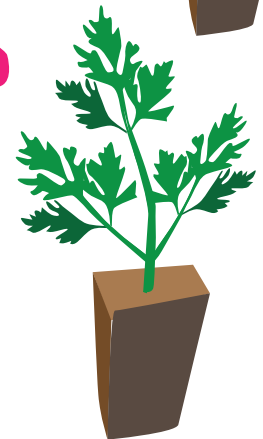
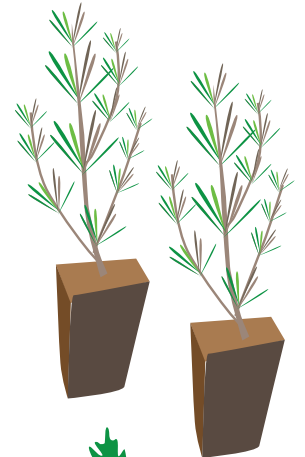
## Perennial Herbs

Some of the perennial herbs that do well here are mints, lemon verbena, lemon balm, rosemary, Mexican tarragon, burnet, sorrel, society garlic, catmint, garlic, chives, oregano, catmint, anise hyssop, mountain mint, bay laurel, pineapple sage and rue.

Although most perennial herbs can be planted throughout the year, perennial herbs generally are best when planted in the fall using transplants available at local nurseries. This allows them to become well established during the less stressful cool season. An exception is that Mexican mint marigold should be planted in May through August.

Thyme, sage, catnip and lavender are perennial herbs that require excellent drainage to survive the summer. They may be more successful when grown in containers and placed in a location that gets some shade in the afternoon during the summer. Even grown under good conditions they tend to be short-lived and often succumb to root and stem rots in the hot, wet conditions of the late summer season.

Several perennial herbs that have difficulty surviving our summers are grown here as cool-season annuals and include French tarragon, feverfew and chamomile.



## How Many Herb Plants Does Our School Garden Need?

With herbs, a little goes a long way. While you usually have to plant greater numbers of vegetable plants, we use relatively small amounts of the herb plants and usually just the leaves. That means one or two plants of each type of herb should produce plenty in most school gardens.

Transplants are a much easier and more reliable method of herb propagation for a few reasons. The plants already are growing, so you don't have to worry about germination. Since only a few plants are needed, you don't have to buy a pack of 25 seeds that may prove difficult to germinate. Even more, although transplants aren't very big, they can be enjoyed immediately.

The following pages provide the novice teacher or student gardener with tips and activities concerning cultural and culinary practices of both warm- and cool-season herbs.

## Spring- and Summer-Planted Herbs



# Lavender

**Common Name:** Lavender

**Scientific Name:** *Lavandula angustifolia*

**Annual or Perennial:** Hardy perennial (in Louisiana)

**Direct-Seeded or Transplanted:** Transplanting is the easiest way to start a lavender plant and the preferred method of planting into school gardens.

**Optimum Soil Temperature for Germination:** 70 degrees Fahrenheit

**Appropriate Planting Depth for Seed:** Plant the roots of a lavender transplant no deeper than they were in the original container.

**Average Days to Germination:** 15-20

**Edible Portion of the Plant:** Flowers

**Average Mature Height:** 1-3 feet

**Average Mature Width:** 1-3 feet

Lavender prefers dry, well-drained soil. For optimum production and to entice this plant to live as a perennial in your garden, plant only in pots or raised beds with very good drainage. High humidity, heat and rainfall can lead to root rot problems, so provide good air circulation by not sowing densely populated plantings. Lavender prefers a cooler climate, so it may not do well in full sun during a hot Louisiana summer. Plant lavender transplants in the fall. Spanish and French lavender tend to do better than English lavender in Louisiana.

Native to the Mediterranean area, lavender commonly is used as an ornamental and planted as a bedding plant in lieu of foliage and flowers. Lavender also has many culinary uses. It is used in a variety of dishes, found in Herbs d' Provence herb mix, used as a crop that bees visit to produce a mono-floral honey and often added to iced and hot teas. In addition, lavender produces an essential oil used in perfumes, potpourri, sachets, home fragrances and aromatherapy.

**Fun Fact:** The color lavender comes from the flowers of the herb.

### Lavender Tea Recipe:



#### Ingredients:

**8 cups of water**

**2 teaspoons fresh lavender flowers, chopped  
Honey (for flavoring)**

Wrap chopped lavender blossoms in a piece of cheesecloth or in a tea ball. Bring the 8 cups of water to a boil in a 3 quart saucepan. Place the blossoms in the boiling water and turn off heat. Steep blossoms in the water for 10 minutes. Remove the blossoms. Pour over ice or serve hot. Flavor with honey until desired sweetness is achieved.



Lavender

**Extension:** *Lavender also can flavor lemonade or other fruit beverages. Try creating your own recipes!*



# Mint

**Common Name:** Mint

**Scientific Name:** *Mentha spp.*

**Annual or Perennial:** Hardy perennial

**Direct-Seeded or Transplanted:** Transplant mint seedlings into the garden. This ensures you achieve the desired flavor. Many mint cultivars are asexually propagated and therefore not grown from seeds.

**Optimum Soil Temperature for Germination:** 70 F

**Appropriate Planting Depth for Seed:** Plant mint seedlings no deeper than they were in the original container.

**Edible Portion of the Plant:** Foliage

**Average Mature Height:** 1-4 feet

**Average Mature Width:** 1-4 feet

**Fun Fact:** The Romans believed eating mint would increase intelligence. The scent of mint also was supposed to stop a person from losing his or her temper. Royal ambassadors carried mint sprigs in their pockets to aid them during negotiations.

## Try Eating Mint in a Variety of Ways

**Pairings:** Eat mint leaves with foods like chocolate and fruit. Does it enhance or distract students from what they taste? Great options to try: Provide each student with one mint leaf and a Hershey Kiss™ or one mint leaf and an apple slice, grape, chunk of watermelon or any fruit you have growing in the school garden!

If the cafeteria selection for the day includes spicy foods, have the students try cutting mint leaves into thin strips and eating them between bites of the spicy foods. Mint has a “cooling” effect. It contrasts with the heat and tempers the spiciness.

## Mint Tea Recipe



### Ingredients:

4-5 stalks of fresh mint, with stems

4 cups boiling water

¼ cup sugar

### Instructions:

Mint teas are delicious, too! To make a mint tea, bring 4 cups of water to a boil. After water has come to a full boil, turn off heat and add mint leaves. Let it steep for 5 to 10 minutes. The longer it steeps, the stronger the flavor will be. Remove mint leaves. Now make a simple mint syrup. To do this, add ¼ cup of sugar to the warm mixture and stir until it is well dissolved. The students can drink this tea hot or pour it over ice for a cool refreshment.



Mint

**Extension:** *Mint can become an invasive plant in your school garden. It generally spreads by its rhizomes. Discuss invasive plants with students. Can they come up with methods to prevent mint from getting out of hand? Think about containing the plant in a pot, cutting and removing roots periodically, etc. Also, discuss with students instances when an aggressive plant like mint would be beneficial. Think about erosion prevention, hillside plantings to reduce mowing, etc.*





# Sage

**Common Name:** Sage

**Scientific Name:** *Sage officinalis*

**Annual or Perennial:** Perennial

**Direct-Seeded or Transplanted:** Sage most commonly is transplanted into school gardens.

**Optimum Soil Temperature for Germination:** 70 F

**Appropriate Planting Depth for Seed:** If seeding directly, plant seed no more than ¼ inch deep.

**Average Days to Germination:** Up to 20

**Edible Portion of the Plant:** Foliage

**Average Mature Height:** 1-2 feet

**Average Mature Width:** 2-3 feet

Similar to lavender, sage requires well-drained soil for proper growth. If your garden holds a lot of water, plant this herb in raised beds or containers.

Sage is available in many varieties, with foliage ranging from gray hues to variegated leaves. Native to the Mediterranean region, sage commonly is used to season meat such as turkey, duck and pork.

When sage blooms it attracts many pollinators to the garden.

**Fun Fact:** In the 19th century it was a common practice to rub teeth with sage to whiten them.

**Extension:** Sage also can be propagated by layering. Simply take a long branch of sage and pin it to the ground using soil to cover and hold it down. After a month, examine the portion of the sage branch under the soil. It should have developed roots. You can now cut it from the mother plant to have two sage plants!

## Propagating Sage



### Materials:

Several mature sage plants

Markers

Pencils or scissors

Paper or foam cups

Potting soil

Watering can

Sage can be propagated by seed, layering and root cuttings. Propagation is the term used to describe how a plant is multiplied. Root cuttings are fun to take. Have students dig up one or two sage plants from the garden. Cut sections of the roots into 2 inch pieces. Each student should write his or her name on the side of a cup. Then poke a hole or two into the bottom of the cup with a pencil or scissors. This will allow proper drainage. Fill the cup 2/3 from the bottom with soil. Lay the 2 inch root cutting horizontally in the cup and fill with another 1 ½ inches of potting soil. Place cups outside if the temperatures are warm. Place them inside on a bright windowsill if temperatures are cooler. As a class, record the number of days until shoots emerge from the top of the soil.



Sage



# Basil

**Common Name:** Basil

**Scientific Name:** *Ocimum basilicum*

**Annual or Perennial:** Warm-season Annual

**Direct-Seeded or Transplanted:** Basil most commonly is transplanted into school gardens, but it also is relatively easy to grow from seeds.

**Optimum Soil Temperature for Germination:** 70 F

**Appropriate Planting Depth for Seed:** If seeding directly, plant seed no more than ¼ inch deep.

**Average Days to Germination:** Three to six

**Edible Portion of the Plant:** Foliage

**Average Mature Height:** 1-3 feet

**Average Mature Width:** 1-3 feet

**Fun Fact:** Basil is considered a symbol of love in some cultures, such as those in parts of Italy and Romania. If a young man or woman gives a sprig of basil to someone, it signifies feelings for the person.

## Let's Make Pesto!



### Ingredients:

**4 cups fresh basil leaves**

**1/3 cup pine nuts**

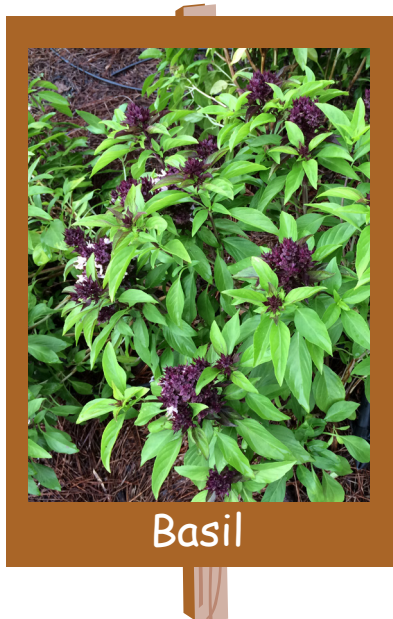
**2 garlic cloves**

**1/4 cup freshly grated Parmesan cheese**

**1 teaspoon coarse kosher salt**

**1/2 cup olive oil**

Using a pestle and mortar, crush the basil leaves until they resemble a green puree – or pulverize them in a food processor. Add the pine nuts, garlic cloves and olive oil and blend together using a food processor. The final product should look like a uniform/smooth paste. Add Parmesan cheese and salt and pepper to the paste, again mixing/blending until smooth. Scrape mixture into a bowl and cover with ½ inch of olive oil. Cover the bowl with plastic wrap and store in the refrigerator for up to seven days.



Basil



**Extension:** Using the homemade pesto your class just prepared, spread the mixture on your bread of choice and add a light layer of mozzarella cheese and sliced homegrown tomatoes and bake in the oven until cheese melts. Serve and enjoy!



# Thyme

**Common Name:** Thyme

**Scientific Name:** *Thymus vulgaris*

**Annual or Perennial:** Perennial

**Direct-Seeded or Transplanted:** Thyme most commonly is transplanted into school gardens.

**Optimum Soil Temperature for Germination:** 70 F

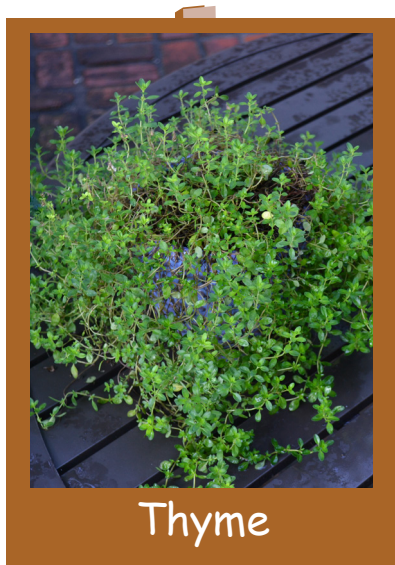
**Appropriate Planting Depth for Seed:** If seeding directly, the seeds need to be exposed to light for best germination. Simply press each seed into the soil and gently water in with a fine spray from your hose nozzle. Or spread a very thin layer of vermiculite over the top of the seed bed.

**Average Days to Germination:** Seven to 14

**Edible Portion of the Plant:** Foliage

**Average Mature Height:** 3 inches to 1 foot

**Average Mature Width:** 18 inches



**Extension:** *Write a short story or poem about the school garden using the word "Thyme" at least three times within the story plot or poem.*

**Fun Fact:** There are more than 300 varieties of thyme and they are all in the Lamiaceae family, along with mint. Thymol, the essential oil of thyme, is the active ingredient in Listerine.

## Jazzing Up Soup



### Materials:

**Canned soup of students' choices**

**2 teaspoons of fresh thyme per student group (The number of groups depends on the number of students in class.)**

**Bowls – 2 per group**

**Spoons – 2 per student**

Partner students into groups of four. Each group will need 1 can of soup and 2 teaspoons of fresh thyme. Prepare soup using label directions. Some cans of soup are condensed and need water added to them and others do not need to be diluted. Each group should then divide their soup into equal parts, pouring half into a bowl to be served immediately and the other half back into the pot or microwave safe bowl. Add the 2 teaspoons of fresh thyme to one portion of the soup and heat for another 2 minutes, stirring so the thyme can flavor the soup.

Have each student sample each soup, with and without thyme. Do they like the flavor? Discuss with students other types of soup that would be good with some thyme added. If students did not like the thyme flavor, is it because of the type of soup they chose or is it because this herb does not taste good to the student?





# Rosemary

**Common Name:** Rosemary

**Scientific Name:** *Rosmarinus officinalis*

**Annual or Perennial:** Perennial

**Direct-Seeded or Transplanted:**

Rosemary most commonly is transplanted into school gardens.

**Optimum Soil Temperature for Germination:** 70 F

**Appropriate Planting Depth for Seed:**

If seeding directly, plant no deeper than ¼ inch into the soil.

**Average Days to Germination:** 10

**Edible Portion of the Plant:** Foliage

**Average Mature Height:** 4-6 feet

**Average Mature Width:** 2-4 feet

Rosemary is a woody shrub. It does best in areas that receive full sunlight and that are well drained. Rosemary comes in two forms: standard, which is an upright bushy plant, and trailing, which has a spreading, low-growing form. Make sure you read the label on the transplant you purchase for your school garden to ensure you are purchasing the form you ultimately desire. Both forms are acceptable for culinary purposes.

## Let's Make Wreaths!



### Materials:

**Pruners**

**Long pieces of your rosemary shrub (Make them 8 inches or longer and try to get the more herbaceous rather than woody sections. This means get the pliable, easy-to-bend portions of the plant.)**

**Green floral wire**

**Small grapevine wreaths (4-6 inches each) or other inexpensive and minimal wreath forms.**

**Ribbon**

Using the green floral wire, secure one end of your rosemary stem to the grapevine wreath. Bend the rosemary stem so it follows the curve of the wreath form. Continue to use the floral wire to secure the rosemary to the wreath. Twist and knot the floral wire on the back of the wreath so it doesn't show from the front. Repeat this process with as many stems of rosemary as you like until you achieve your desired fullness. Using small ribbon of any color, tie a bow to one side of the wreath. The ribbon can match the season or holiday. These small festive wreaths make great presents for family members and also can be used to decorate the school for homecoming, holidays and other major events.



**Fun Fact:** Many years ago people thought rosemary prevented balding and would rub it on their heads to keep their hair from falling out. Today, rosemary is one of many ingredients used in medicines to treat digestive problems, eczema and bruising.

**Extension:** *Rosemary easily can be propagated by cuttings. Simply snip more herbaceous portions of the plant and strip off the lower leaves. Stick the stripped portion of the stem into moist soil in a cup or pot. Keep moist and in sunlight for at least a month. Carefully remove the plant from the cup or pot and see if new roots are forming. Once roots are touching the edges of the pot/cup, you can transplant it into the garden.*



# Bay Laurel

**Common Name:** Bay tree, Bay laurel, true bay and French bay

**Scientific Name:** *Laurus nobilis*

**Annual or Perennial:** Perennial

**Direct-Seeded or Transplanted:** Laurel most commonly is transplanted into school gardens, although it can be propagated from cuttings.

**Optimum Soil Temperature for Germination:** 70 F

**Appropriate Planting Depth for Seed:** If seeding directly, plant no deeper than ¼ inch into the soil.

**Average Days to Germination:** 10

**Edible Portion of the Plant:** Foliage

**Average Mature Height:** Normally 10-15 feet, but up to 60 feet in its native range

Bay laurel is a native tree from the Mediterranean area. It does best in well-drained soil and full sun. Bay leaves are common in European cooking. Bay laurel symbolizes victory and merit. Laureate, as in poet laureate and baccalaureate are derived from Greek. In addition to honoring achievement, Bay laurel also is used to flavor many dishes. It can be used whole or ground. If left whole, remove the leaves before serving since they can be a potential choke hazard.



**Fun Fact:** Laurel wreaths often are used to crown poets, scholars and athletes, a custom dating back to ancient Greece.

**Extension:** *When cooking with bay leaves, the whole leaf usually is used. What are some other examples of sticks, twigs, leaves and bark that people cook with? Discuss the origin of these items and locate the areas of origin on a map. How are these cultures different from your own?*

## Making a Laurel Wreath Crown



Each student in the class has a particular talent. Have students nominate each other for something special that student can do. Every student must be awarded with a special achievement. Make the wreaths following the directions below and have a mock awards ceremony in the classroom, celebrating each student's unique differences!

### Materials:

**Inexpensive plastic headbands**

**Floral wire**

**Leafy stems cut from a bay tree**

Provide each student with a headband and at least five branches (6-8 inch each) of bay leaves. Using the floral wire, twist and knot each branch along the headband to securely attach the branch to the headband. Keep working until the entire headband is covered. Wear the headband so that it covers the front of the forehead and rests gently above the ears.





# Lemon Verbena

**Common Name:** Lemon verbena

**Scientific Name:** *Aloysia triphylla*

**Annual or Perennial:** Perennial

**Direct-Seeded or Transplanted:** Lemon verbena most commonly is transplanted into school gardens.

**Optimum Soil Temperature for Germination:** Lemon verbena seed is very hard to locate. It most often is reproduced vegetatively.

**Appropriate Planting Depth for Seed:** N/A

**Average Days to Germination:** N/A

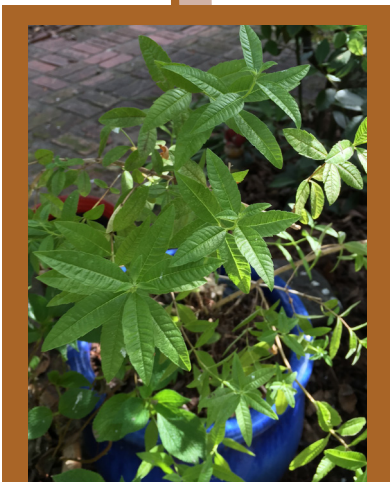
**Edible Portion of the Plant:** Foliage and flowers

**Average Mature Height:** 2-6 feet

**Average Mature Width:** 2-6 feet

Lemon verbena prefers warm climates and will remain evergreen if your school is located in south Louisiana. Otherwise, it probably will die back to the ground each winter. To ensure it returns, place a layer of mulch around the base of the plant. Lemon verbena needs full sunlight for proper growth. Lemon verbena foliage does not need to be crushed or bruised to enjoy its intense fresh lemon scent. Planting it near doorways or sidewalks surely will catch student's attention.

**Fun Fact:** Lemon verbena first was cultivated and prized for its lemon scent, which people of many cultures used to make perfumes and oils to scent themselves and their homes.



Lemon Verbena



**Extension:** Make a lemon verbena tea by filling a jar with lemon verbena leaves and water and letting it sit in the sun for 24 hours. Add sugar to taste and allow it to cool. Serve over ice or with soda water to make a sparkling lemonade.

## Lemon Flavored Sugar Cookies



### Ingredients:

**1 ½ cups of lemon verbena leaves (pulled off stems)**

**1 ½ cups white sugar**

**2 ¾ cups all-purpose flour**

**1 teaspoon baking soda**

**½ teaspoon baking powder**

**1 cup butter (softened)**

**1 egg**

**1 teaspoon vanilla extract**

The day before you make the cookies, remove enough lemon verbena leaves from the stems to make a cup and a half of leaves. Gently crush the leaves with a rolling pin. Mix the leaves into a cup and a half of white sugar and keep in an airtight jar overnight.

The next day, preheat oven to 375 F.

Sift the sugar into a small bowl, removing the leaves from the sugar.

In a small bowl, mix flour, baking soda and baking powder.

In a larger bowl, cream together the butter and sugar (pulling out any leaves that might still be in the sugar).

Slowly beat in the egg and vanilla.

Gradually add the dry ingredients to the butter and sugar mixture.

Place spoonful of the sugar cookie dough onto ungreased cookie sheets.

Bake 8 to 10 minutes in the preheated oven or until a light golden color is achieved.





# Catnip

**Common Name:** Catnip

**Scientific Name:** *Nepeta cataria*

**Annual or Perennial:** Perennial

**Direct-Seeded or Transplanted:** Catnip can have low germination rates, so transplanting may be easier in the school garden.

**Optimum Soil Temperature for Germination:** 70-80 F

**Appropriate Planting Depth for Seed:** ¼ inch

**Average Days to Germination:** 10-20

**Edible Portion of the Plant:** Foliage

**Average Mature Height:** 18 inches

**Average Mature Width:** 18 inches

Although catnip is a perennial, do not expect it to survive for as many years as rosemary plants. It typically dies out within three years or so and will need to be replanted. Catnip, like many other herbs, requires good drainage. Planting in a pot may help extend catnip's life.

**Fun Fact:** Catnip is in the mint family. All mints have square stems. Catnip has unique properties that make it appealing to cats, usually causing them to become more playful.

**Extension:** Talk to your 4-H agent about dog and cat grooming and care. In addition to playing with your domesticated animals, what other things do they need to be provided with for a long and healthy life?

## Making Cat Toys



### Materials:

**Fleece fabric (enough for each student to have an 8-inch-by-8-inch square)**

**Polyester fiber**

**Dried catnip (Each student will need 2 teaspoons.)**

**Thread and needles for each student**

Start by harvesting fresh foliage from your catnip plants. Bundle together using rubber bands and dry in a dark closet for two weeks, hanging the bundles upside down. Using wire hangers works best.

Provide each student with an 8-inch-by-8-inch square of fabric. Fleece works best because it is soft and easy for cats to chew.

Have students fold the square in half and stitch together two of the three open sides. Mix a handful of the polyester fiber with the dried catnip foliage so the catnip is all over and mixed into the fiber. Stuff the fiber into the square and stitch the third side shut. Give to your cat or a neighbor's cat.



## Fall- and Winter-Planted Herbs



# Parsley

**Common Name:** Parsley

**Scientific Name:** *Petroselinum crispum*

**Annual or perennial:** Cool-season annual

**Direct-Seeded or Transplanted:** Planting can be established by both direct-seeding and transplanting, but transplanting is more common in school gardens.

**Optimum Soil Temperature for Germination:**  
65 F

**Appropriate Planting Depth for Seed:** ¼ inch

**Average Days to Germination:** 7-21

**Edible Portion of the Plant:** Leaves

**Average Mature Height:** 8 inches to 2 feet

**Average Mature Width:** 8 inches to 2 feet

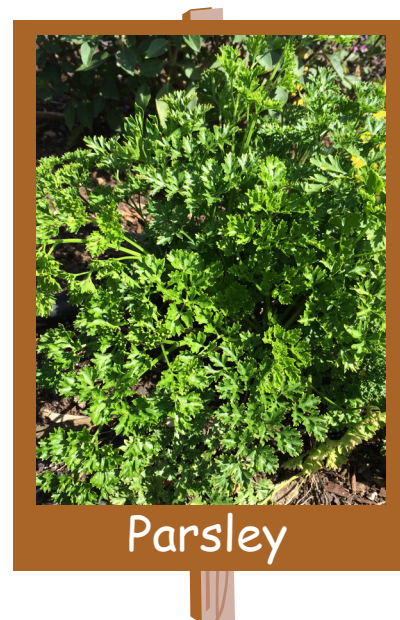
Parsley is one of the most well-known herbs. It often is used as a garnish, but most people do not fully appreciate all of its potential. Parsley can be used as a flavor enhancer in place of salt. It also adds color and texture to dishes and the garden.

Native to the Mediterranean area around Italy and North Africa, parsley has been naturalized around the world. Parsley can be found in three forms – flat leaf (Italian parsley), root parsley and curly leaf. Curly leaf parsley has an interesting appearance but is not as flavorful does not fare as well in the heat as Italian parsley. Root parsley is not very common in the United States but produces a larger root, like a carrot. Curly and flat leaf parsley will produce large tap roots that also can be eaten. These tap roots are not as large as those of root parsley, however.

In addition to being useful in the kitchen, parsley can be grown as an ornamental. Reaching heights up to 4 feet when in bloom, parsley can be used as an annual hedge or ground cover in the cooler parts of the year. Parsley will start to bolt or flower when the weather warms up in April or May.



**Fun Fact:** Parsley is a host plant for black swallowtail butterfly larvae. It also attracts other pollinators such as honeybees and bumble bees. Parsley and carrots are in the same family. When in bloom, the very small flowers of the parsley are visited by tiny parasitic wasps that feed on nectar. These wasps are excellent predators that help keep insect populations under control in the garden.



## Roasted Potato Taste Test



Prepare the recipe for roasted potatoes below. Divide the potatoes evenly into three bowls. Season each bowl separately – one with salt, the next with parsley only and the third with parsley and garlic according to the recipe below. Mark paper plates with the letters A, B and C. Place one spoonful of the salted potatoes on A, one spoonful of parsley potatoes on B and one spoonful of parsley and garlic potatoes on C. Ask students which potato bite had the best flavor.

### Ingredients:

**9 pounds of small new potatoes**

**$\frac{3}{4}$  cup of olive oil (divided into thirds)**

**1  $\frac{1}{2}$  teaspoons sea salt**

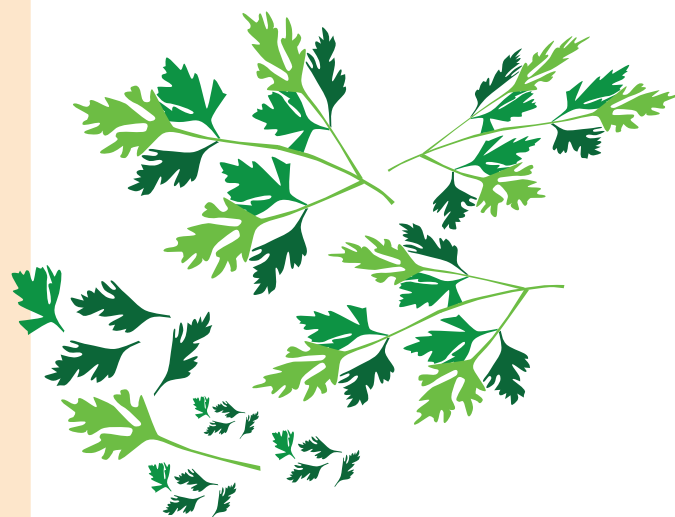
**2 tablespoons of minced garlic (approximately 6 cloves)**

**4 tablespoons of minced fresh parsley (divided into two parts)**

### Method:

Preheat the oven to 400 F. Quarter all of the small new potatoes. Divide the potatoes into three separate bowls, placing approximately 3 pounds of potatoes into each bowl. Pour  $\frac{1}{4}$  cup of olive oil into each of the three bowls. Season the first bowl of potatoes with 1  $\frac{1}{2}$  teaspoons of sea salt. Leave the second bowl of potatoes plain, and season the last bowl with 2 tablespoon of minced garlic. Toss the potatoes into the oil and seasoning. Be sure to wash the spoon between uses in each bowl so you don't transfer any spices from one bowl to the next.

Pour potatoes from each bowl onto three separate cookie sheets. Roast in the oven for 45 minutes to 1 hour until potatoes are brown and crisp. You may need to flip potatoes up to two times while in the oven. Be sure not to mix potatoes from one sheet to another or forget which sheet has which type of potato on it. For potatoes on the baking sheet with no additional seasoning and the baking sheet with garlic seasoning, toss each with 2 tablespoons of fresh minced parsley immediately after you take them out of the oven. Serve warm.



**Extension:** *You can even use dill or rosemary in this recipe and complete a taste test comparing them to salt or other herbs.*

*Have students grow their own potatoes and then prepare this recipe. Potatoes should be planted into the garden from mid-January through mid-February so you can harvest prior to the school year ending.*



# Dill

**Common Name:** Dill

**Scientific Name:** *Anethum graveolens*

**Annual or Perennial:** Cool-season annual

**Direct-Seeded or Transplanted:** Planting can be established by both direct-seeding and transplanting. Direct-seeding is very easy.

**Optimum Soil Temperature for Germination:** 60 F

**Appropriate Planting Depth for Seed:** ¼ inch

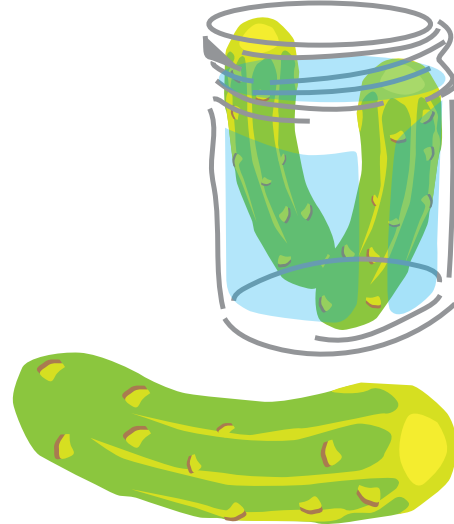
**Average Days to Germination:** 10-14

**Edible Portion of the Plant:** Seeds, stalks and leaves

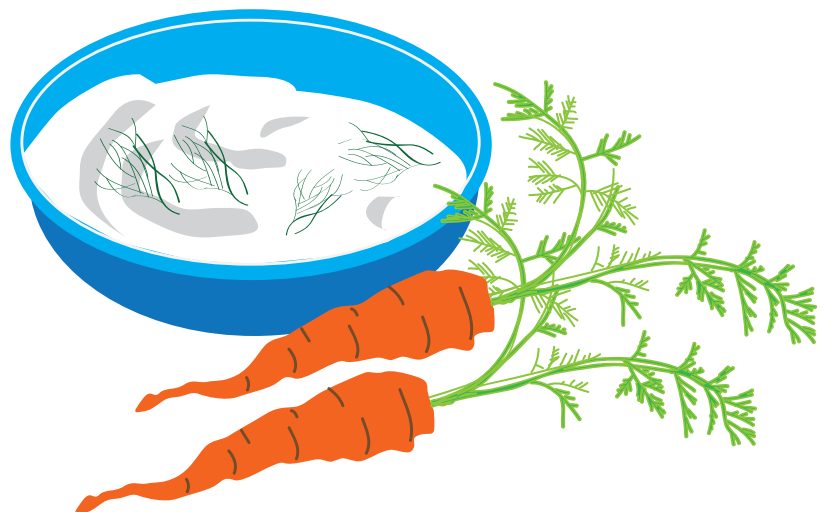
**Average Mature Height:** 1-3 feet

**Average Mature Width:** 6 inches to 2 feet

Dill is most commonly known as a spice to flavor pickles. As dill starts to grow in the garden, encourage students to run their hands over the foliage. Can they smell pickles? Dill has many other uses as well, however. It commonly is used in Northern European, Southeast Asian, Indian and Middle Eastern cuisines. Dill is also used to season butter, grilled fish and steamed vegetables. It is a great ingredient to mix into sour cream to create a quick dip for raw vegetables, such as carrots, celery, broccoli and cauliflower that might be growing in your school garden.



**Fun Fact:** Dill is a host plant for black swallowtail butterfly larvae.





## An Easy Way To Dry Herbs



### Materials Needed:

Paper plates or paper napkins

Fresh dill sprigs

Microwave oven

Plastic sandwich bags or airtight containers

Permanent markers

Rubber bands

Wire or plastic hanger

### Method:

Plenty of recipes call for a sprig of dill or a few tablespoons, but what do we do with all of that fresh dill remaining in the garden? Collect dill sprigs into bundles and use a rubber band or wire tie to secure the bundle. Hang the bundle in a dry place with air flow to dry out the herbs.

Dill also can be dried by placing sprigs in the microwave. The hanging method of drying herbs is preferred by most gardeners and cooks, however, because the plants retain more oils and therefore more flavor by using that method.

Divide students into several groups. Assign each group a particular number of minutes from 1 to 6. Have each group place two sprigs of equal length on a paper plate or paper towel. Microwave each group's dill sprigs on high for the assigned number of minutes. After each group has taken its turn, compare sprigs. Which sprigs are dry enough that the leaves crumble easily and can be detached from the stem? Which need more time in the microwave? Which have burned and should have been taken out earlier? Can students determine the ideal number of minutes needed to dry dill? After students have adequately dried their portion of dill sprigs and removed all stems and crumbled the foliage, store the dill in airtight containers or sandwich bags that zip closed for later use. Don't forget to label the bags with the date and name of the spice.

**Extension:** *Extend this activity by discussing how a microwave works. This activity also can be extended by comparing the flavor of the naturally dried dill sprigs to those dried in the microwave. Simply take equal portions (1 tablespoon each) of both air-dried and microwave-dried dill and place into two separate bowls of olive oil (¼ cup each). Then dip warm French bread or other crusty bread into the rosemary and olive oil mixture. Which dip has more flavor?*





# Borage

**Common Name:** Borage or starflower

**Scientific Name:** *Borago officinalis*

**Annual or Perennial:** Cool-season annual

**Direct-Seeded or Transplanted:** Transplant borage seedlings into the school garden.

**Optimum Soil Temperature for Germination:** 65 F

**Appropriate Planting Depth for Seed:** 1/8 inch

**Average Days to Germination:** 7-10

**Edible Portion of the Plant:** Flowers and foliage

**Average Mature Height:** 1-3 feet

**Average Mature Width:** 6 inches to 2 feet

Borage is as equally beautiful as it is useful in the school garden. If your school has blue, white or purple as one of its colors, this is a must-have plant. The colorful flowers paired with the soft velvety foliage make this plant a wonderful teaching tool for younger students learning to define their senses.

Native to the Mediterranean region, borage most often was cultivated for medicinal and culinary purposes. It was once claimed that borage helped relieve urinary tract infections and diarrhea symptoms. Heart patients also drank a borage tea.

Chefs use borage flowers to decorate cakes. Young leaves are used in pasta fillings, to season pickles, chopped fresh into salads and as garnishes for soups and other dishes. Older leaves develop prickly hairs, making them less palatable than the young, tender leaves.

**Fun Fact:** Borage leaves and flowers taste like cucumbers.



Borage

## Flowers We Can Eat!



Have your students ever eaten flowers? Harvest borage flowers and divide equally among students. Try borage flowers by themselves. Have students decorate cupcakes with the flowers and eat them together as a class snack.

**Extension:** *While eating the borage cupcakes, lead a group discussion and ask the class to think of as many edible flowers as they can. Make a list and challenge students to try at least four or five flowers before the school year ends.*

*Edible flowers we like include squash blossoms, violas and calendula.*

**Extension:** *Can you think of any other foods that people either hate or love? What portions of our tongue enable us to taste sweet, salty, bitter, sour and umami? Use the Internet to discover tongue maps. Try tasting different flavors on different portions of your tongue. What role does our nose play in tasting? Try a sample of salsa while holding your nose. Then try it without holding your nose. Does the salsa taste different? What do you notice?*



# Cilantro/ Coriander

**Common Name:** Cilantro or coriander

**Scientific Name:** *Coriandrum sativum*

**Annual or Perennial:** Cool-season annual

**Direct-Seeded or Transplanted:** Seed directly into the school garden or plant transplants.

**Optimum Soil Temperature for Germination:** 65 F

**Appropriate Planting Depth for Seed:** ½ inch

**Average Days to Germination:** 7-10

**Edible Portion of the Plant:** Flowers and foliage

**Average Mature Height:** 5 inches to 2 feet

**Average Mature Width:** 4-10 inches

Cilantro is thought to be native to several places – the Middle East, southern Europe and the Mediterranean region. Cilantro is the name used to describe the plant, while the term coriander is used to refer to the seeds of the cilantro plant. Cilantro has a flavor that is either loved or hated. Some people taste soap when eating cilantro, while others taste a spicy floral flavor similar to anise.

Cilantro is a common ingredient in Spanish-style dishes and a must-have for salsa lovers. If adding this crop to the school garden, be sure to leave plenty of space for tomatoes and peppers, too!

For a fun twist on flavoring dishes, add coriander seeds to your pepper jar and grind traditional black pepper with the coriander to achieve a unique flavor.

**Fun Fact:**  
Coriander was found in King Tut's tomb.



## What Do You Taste?

Let see how many students taste soap and how many taste a delicious flavor when eating cilantro. Make the recipe below and share with tortilla chips. Ask students to raise their hands if they taste soap. Graph the number of students who taste soap and the number of students who taste a nice spicy flavor.

### Ingredients:

**3 tomatoes**

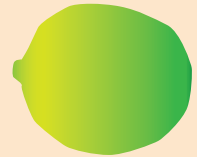
**½ onion**

**Clove of garlic**

**½ cup loosely packed cilantro (leaves and stems)**

**2 limes**

**Salt and pepper**



1. Core the tomatoes and cut into small pieces, about ¼ inch to ½ inch each and add to a large mixing bowl.
2. Cut off the top and bottom of the onion and remove the dried outer layers.
3. Cut the onion into ¼ inch diced pieces.
4. Crush the garlic with the flat edge of a knife and rough chop.
5. Roll the cilantro leaves and stems up in a rough ball and slice the ball into thin ribbons. Repeat a few times.
6. Zest the limes. Mince the zest or leave whole.
7. Juice limes and set juice aside.
8. Combine all ingredients in a large mixing bowl.
9. Slowly add lime juice while combining ingredients, adding lime juice to desired taste.
10. Add salt and pepper to taste



# Chives

**Common Name:** Chives

**Scientific Name:** *Allium schoenoprasum*

**Annual or Perennial:** Perennial

**Direct-Seeded or Transplanted:** Chives are planted by sets. These look like small onions that form the green tops or foliage. Sets usually do not have soil around their roots. Instead they are bundled together dry. Nurseries also sell transplants, which basically are sets planted into small pots of soil. Transplants have more established root systems. Either sets or transplants are acceptable for a school garden.

**Optimum Soil Temperature for Germination:** 70 F

**Appropriate Planting Depth for Seed:** Make sure entire white bulb is under the soil.

**Average Days to Germination:** 10-14 (if planting seed, although sets more commonly are the planting method for school gardens)

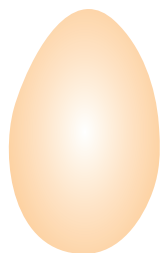
**Edible Portion of the Plant:** Foliage and flowers

**Average Mature Height:** 8-18 inches

**Average Mature Width:** 8 inches to 12 inches

Chives are large enough to harvest and consume about 30 days after transplanting. Divide bulbs and keep replanting to extend your harvest.

Chives are native to Asia and Eastern Europe and are used for many culinary purposes. Chefs season soups, dips, spreads, eggs and salads with this onion-flavored plant.



**Extension:** *Eggs are a tasty and nutritious food. After scrambling your eggs, place the egg shells into the school's compost bin. Egg shells are high in calcium, a vital mineral for plant growth. It helps build and strengthen a plant's cell walls. If your school doesn't compost, start it today! Composting is an excellent way to recycle unused portions of plants from the garden.*

## Scrambled Eggs and Chives

**Ingredients:**

**2 tablespoons butter or margarine**

**6 eggs**

**2 tablespoons chopped chives**



Chop chive sprigs into small 1/8 inch pieces and put aside. In a large bowl, whisk together the 6 eggs until they become frothy. Heat the butter in a large frying pan over medium heat. Once butter is melted, pour eggs into the pan and cook, turning eggs often, until very little liquid remains in the pan. Sprinkle tops of scrambled eggs with the fresh chopped chives. Serve warm.

**Fun Fact:** Chives are high in vitamin C content and often are used not only for cooking but also as a decorative border in formal gardens.







# Garlic

**Common Name:** Garlic

**Scientific Name:** *Allium sativum*

**Annual or Perennial:** Garlic is a perennial that is grown as an annual in Louisiana.

**Direct-Seeded or Transplanted:** Plant cloves or toes directly into the garden.

**Optimum Soil Temperature for Germination:** 65 F

**Appropriate Planting Depth for Seed:** Make sure entire white bulb is under the soil, generally 2-3 inches deep.

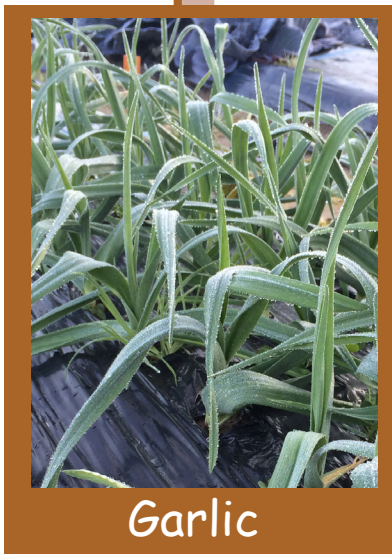
**Average Days to Germination:** 10-14 (if planting seed, although sets are a more common planting method for school gardens)

**Edible Portion of the Plant:** Bulb and foliage

**Average Mature Height:** 2 feet

**Average Mature Width:** 2 feet

**Fun Fact:** The psychological term for fear of garlic is "*alliumphobia*."

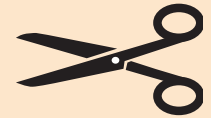


Garlic

**Extension:** Research other plants that can be used in insect/pest control.

## Fight Pests with Garlic Spray

Organic gardeners have long relied on garlic as part of their pest-fighting arsenal. Garlic contains sulfur, which, in addition to being toxic to pests, also is an antibacterial and antifungal agent. The dish soap in this mixture also breaks down the bodies of soft-bodied pests, such as aphids.



**Materials:**

**3-4 cloves of garlic**

**Mineral oil**

**Strainer or cheesecloth**

**Liquid dish soap**

**Water**

**Spray bottle**

**To make garlic oil spray:**

Mince or finely chop 3-4 cloves of garlic and add them to 2 teaspoons of mineral oil.

Let this mixture sit for 24 hours.

Strain out the garlic pieces and add the remaining liquid to 1 pint of water.

Add 1 teaspoon of liquid dish soap.

This mixture can be stored and diluted as needed.

When you need to spray, use 2 tablespoons of the mixture added to 1 pint of water in a spray bottle.

**To use garlic oil spray:**

First test by spraying an inconspicuous part of the plant to see if your mixture harms it at all. If there are no signs of yellowing or other leaf damage after a day or two, it is safe to use.

If there is leaf damage, dilute the mixture with more water and try the test again.

Once you have determined that it won't harm your plant, spray the entire plant, paying special attention to the undersides of leaves.

**Warning:** Garlic oil is a nonselective insecticide. This means it will kill both beneficial insects and pests. It's best to keep as many beneficial insects around as possible. This spray should be used only if you haven't seen any beneficial bugs in your garden.



# Oregano

**Common Name:** Oregano

**Scientific Name:** *Origanum vulgare*

**Annual or Perennial:** Perennial

**Direct-Seeded or Transplanted:** Transplanting into the school garden is easiest.

**Optimum Temperature for Germination:** 70 F

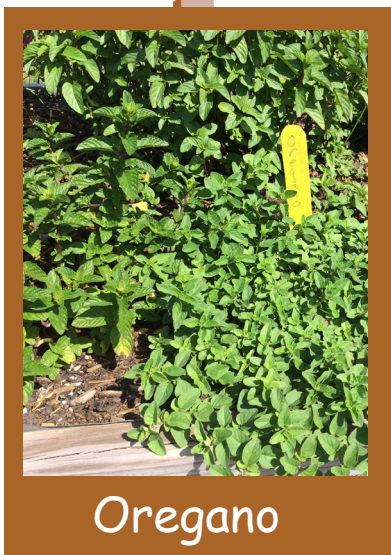
**Appropriate Depth for Planting Seeds:** Seeds should be exposed to light. Scatter seeds on surface.

**Average Days to Germination:** 7-14

**Edible Portion of the Plant:** Foliage

**Average Mature Height:** 1-2 feet

**Average Mature Width:** 2-4 feet



Oregano

## Insecticide

Chemical compounds from oregano are thought to repel insects. Because of that, oregano may act as natural insecticide when it is planted in the garden. Please keep in mind, however, that many scientists have researched herbs and other plants for pest control benefits. To date, this theory still is in the experimental stages. In your school garden, plant five tomato plants with an oregano plant between each tomato plant. In a separate bed or area of the garden, plant an additional five tomato plants without oregano near them. Over the course of the season, journal or make notes on insect activity on each set of tomatoes. Do you notice more or less insects on the tomatoes planted near the oregano?

### Make a Homemade Insect Repellent:

**1 cup chopped oregano**

**1 pint of boiling water**

Bring 1 pint of water to a boil. Then pour boiling water over 1 cup of oregano.

Let steep for several hours or overnight.

Strain and pour into a clean, labeled spray bottle.

Try using the homemade insecticide in your school garden. Does it work?



**Fun Fact:** Ancient Greeks believed cows that grazed in fields full of oregano had tastier meat. Oregano also is known as the "pizza" herb.

**Extension:** *Other plants make good companion plants. In addition to oregano, what are some other plants that provide benefits to their plant neighbors?*



# Chamomile

**Common Name:** Chamomile

**Scientific Name:** *Chamaemelum nobile*

**Annual or Perennial:** Perennial

**Direct-Seeded or Transplanted:** Direct-seeded

**Optimum Soil Temperature for Germination:**  
65 F

**Appropriate Planting Depth for Seed:** ½ inch

**Average Days to Germination:** 10-14

**Edible Portion of the Plant:** Foliage

**Average Mature Height:** 8 inches

**Average Mature Width:** 2 feet

**Fun Fact:** The name chamomile originates from the Greek words “chamos,” meaning “ground,” and “milos,” meaning “apple.” Chamomile grows close to the ground, and some people say it smells like apples. Chamomile teas also are used to lighten hair color, similar to the way people put lemon juice in their hair when sunning on the beach.



## Peaceful Scents

Let's make chamomile sachets to either place under our pillows at night or to place in sock drawers.

### Materials:

**Muslin or cotton drawstring bags (no bigger than 3 inches long).**

**Dried chamomile flowers and foliage**

**Plastic sandwich bags**

Harvest chamomile flowers and leaves from the school garden. Hang upside down in bundles from wire hangers in a dark closet for two weeks. Have students crush the dried flowers and foliage in a sandwich bag using their hands. Then fill the small muslin or cotton drawstring bag with the dried foliage and double-knot it closed.

Have students take it home and place it under their pillows or in their dresser drawers. Do students like the smell? What other herbs would make nice smelling sachets. Practice making more sachets with a variety of herbs and combinations of herbs fresh from the school garden.

**Extension:** *Make these same sachet bags using dried herbs from the school garden. Dry an assortment of herbs from the school garden. Allow students to smell all the herbs they are growing and decide if there are particular combinations of smells they prefer? Each student can mix and match and make a sachet to place in his/her clothing drawer at home.*



# Glossary of Terms

## Gardening Terminology

**Annual** – A plant that only lives one season.

**Compost** – Brown, crumbly decomposed organic matter that is the end product of the composting process.

**Edible** – A plant that is grown for eating purposes.

**Herb** – The leafy parts of various plants used to flavor foods, for their pleasant aromas or for medicinal properties.

**Host plant** – A plant butterfly larvae consume before entering the pupa stage of their life cycle.

**Fertilizer** – A fertilizer is any material added to a plant's environment, generally the soil that provides one or more essential elements.

**Propagation** – Literally means “to increase in number.” Plants can be propagated in various ways. The most common way plants are propagated is by seed. Plants also can be propagated from cuttings or layering.

**Perennial** – A plant that lives for more than two years.

**Scientific name** – The two-part name composed of the genus and species given to each individual living thing on Earth.

**Transplant** – To take a small seedling and plant it into the ground. Transplanting allows a larger plant to be placed into a garden at an earlier date than with direct-seeding.



## Culinary Terminology

**Cheesecloth** – A loose woven gauzelike cloth used in cheese making and cooking. It is used for straining. A colander or fine sieve also can be used for straining.

**F** – Abbreviation for degrees Fahrenheit.

**Minced** – Food items cut into small uniform pieces. This can be done with a chef's knife or food processor. Mincing is finer – different from diced or chopped.

**Roast** – A cooking method using dry heat. Roasting can be done over an open flame or other source of heat.

**Rough chop** – Coarsely chopping an ingredient when uniformity of size does not matter. Children may not eat something with rough chopped herbs, but minced herbs will be hidden enough so they will eat something they didn't know they liked.

**Sprig** – A small piece of an herb that is cut or broken off the plant.

**Steep** – Letting something soak in boiled water for an extended period of time (about 30-45 minutes) to extract the flavor, like tea.

**Tea ball** – A small contraption for steeping loose tea leaves. Many are round but they can come in a range of shapes.

**Umami** – Literally translates from Japanese as pleasant, savory taste – one of the five basic tastes along with salty, sweet, bitter and sour.

**Zest** – Removing just the outer layer of skin, usually on citrus, leaving behind as much of the inner material (the white part of citrus) as possible. Citrus peels contain oils that greatly increase the flavor of whatever they are added to.



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