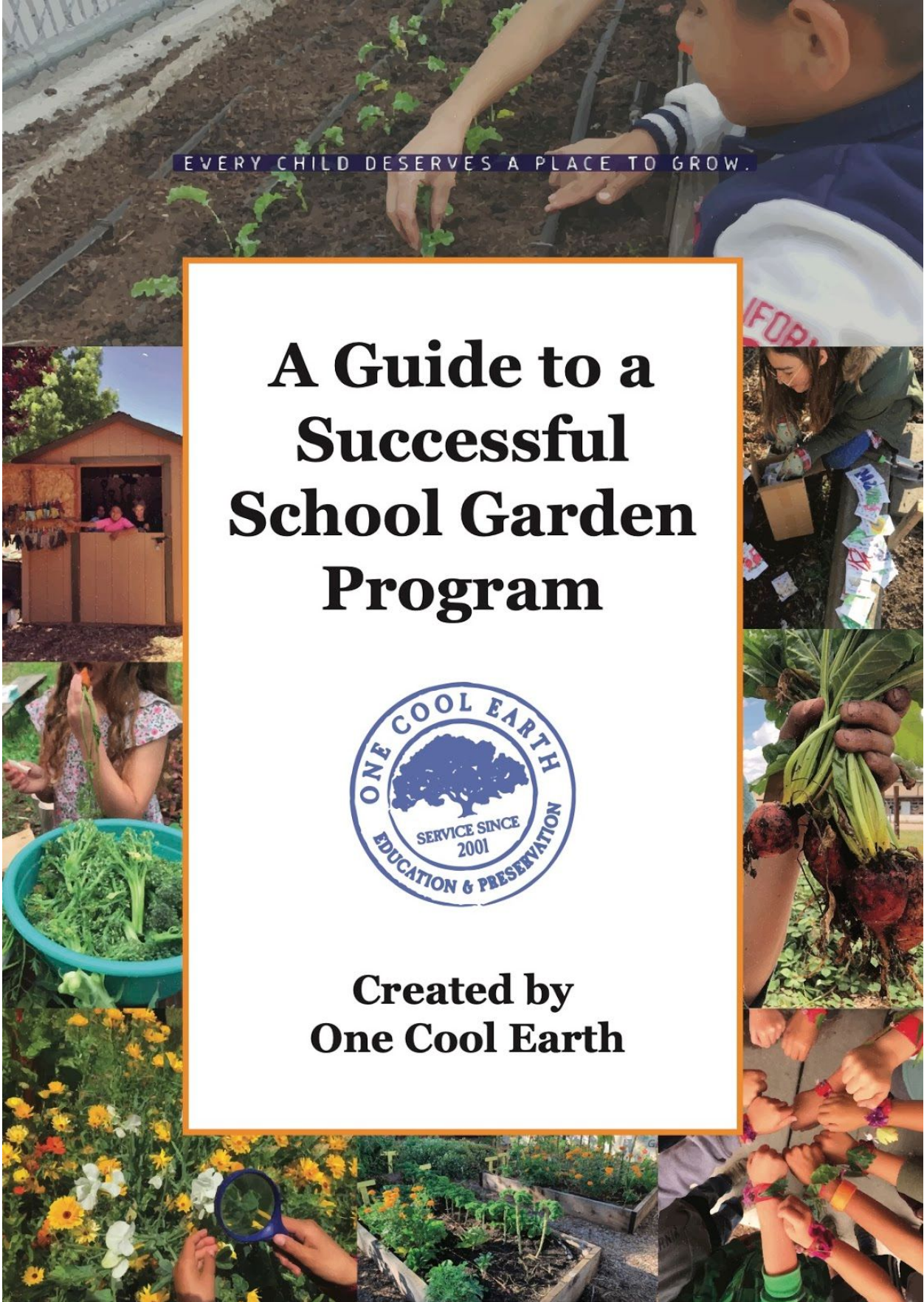


EVERY CHILD DESERVES A PLACE TO GROW.

# A Guide to a Successful School Garden Program



Created by  
One Cool Earth





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## A Message from Our Team...



### Executive Director: Dylan Jones

The school garden is one of the few places on a campus where everyone can feel like a genius. Whether you like to get your hands dirty, eat the freshest veggies or enjoy the wildlife the garden invites, you and your students can always find something to spark your curiosity. The below guide has been developed after years of experience and the collaboration of our entire team, both past and present. The guide is a culmination of our experience and we hope you use it as a reference. Every school is unique, so are the gardens that will come from them and what you want out of it. We strongly believe that any subject can be enhanced in the garden and this guide will help you get there. As I mentioned, this is a guide, it's designed to help get you started and provide meaningful ways to integrate the garden into existing structures on campus. But just like the garden, things will change over time. If you ever need further help than this guide provides, please do not hesitate to reach out.



### Program Manager: McKenna Lenhart

Hi everyone! We sincerely hope that this guide helps to start you off on the right foot when beginning your school garden journey. It is not an easy journey, but wow is it fulfilling! Find what makes you tick and direct that passion towards the garden. Remember that there are no failures, just experiences!

For more resources check out our website [onecoolearth.org](https://onecoolearth.org)!



## Garden Best Practices

### Productive Gardens

School gardens should be more than pretty landscapes or outdoor classrooms. These gardens grow food! Ideally, harvests should occur at least 3 or 4 times per year. It is important to plant and cultivate in a timely manner. There are **five** main tasks to keep a productive garden:

1. **Compost!** We do not encourage the use of fertilizers other than natural composts. Each school *should* have some kind of compost system in place whether it be a vermicomposting system, a traditional composting system, or both! Spread finished compost at least 1 week before planting, working the compost into the top 6 inches of soil.
2. **Plant Often and Densely.** One plant every 3 to 6 inches in any direction is a good general rule. This rule refers to annual vegetable crops planted in raised beds or cultivated rows. Planting with students is a good lesson, but also be sure to improve plantings afterwards to fill in gaps in planting. School gardens have high mortality rates for plantings due to loss of water, accidental pulling, early harvesting, etc. It is easier and more productive to plant densely and thin later if necessary. You can always fill in later with seedlings that will not mature in time for the next harvest. Many adolescent plants can be harvested for tastings, so thinning is not a waste of plants! Dense planting also helps to suppress weeds. Replant as soon as any extra space from fatalities or missed spots is noticed. Keep a pack of seasonally appropriate seeds or a tray of seedlings on hand so that you can replant as needed, ideally every week you are in the garden. Refer to the planting calendar for advice on when to plant and harvest crops.
3. **Mulch!** Mulching helps reduce weeding, saves water, and provides nutrients to the soil. In veggie beds, mulch with a thin layer of wet newspaper (it sticks together and forms a mat). Make sure irrigation lines are underneath the newspaper, or distribute enough water to soak through it. Cover the newspaper with straw. In pathways and around perennial plantings, mulch with cardboard, then wood chips. Mulch at least 3 inches deep.
4. **Weed every day in every garden.** No day should pass where a weed is not pulled. Weeds are subjective, but within veggie beds they are usually anything that you did not plant.





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Some weeds (hemlock and nightshade) are poisonous and resemble edible relatives (carrots and tomatoes). Other weeds (purslane) are delicious and healthy (highest yield of omega-3 fatty acids of any land plant). Leave the useful weeds if you like and pull the rest as they compete for water, nutrients and sunlight with your planted crops. It's easier to pull them when they're small!

5. **Watch your water.** Automatic irrigation is great, until it fails. Water turns off unexpectedly, hoses break, drippers plug, valve wires are eaten by gophers. Every week, spend time manually turning on the irrigation system, and checking and adjusting all emitters. You may be able to avoid this step if everything looks healthy (no drooping leaves) and soil moisture is good (test with your finger, sticking it at least 4 inches into the soil). Soil often appears wet on top, but always check for saturation deep down. Water barrels by hand if needed--cherish and use your water key.

## Beautiful Gardens



There are many school gardening philosophies. One Cool Earth's philosophy is that clean, beautiful gardens are like flowers that attract pollinators--if we keep them well-maintained, teachers and students will be drawn to them, and better able to use them. Also, we don't expect students to do all the work in the garden, just as students don't do all the work to keep a classroom clean, decorated, and operational. Taking on the regular maintenance ourselves means that students can spend their time in the garden on more academically-focused activities.

Also, work should never be used as a form of punishment--it may produce negative associations with gardening.

1. **Prioritize.** Focus your garden maintenance attention on growing areas first (inside raised beds and cultivated rows), then areas of high traffic/visibility (entrances, street-sides). After that, take care of the lesser-used garden areas (inside tool sheds, corners, back areas).
2. **Mulch magic.** Use wood chips and straw to reduce weeds and improve the garden's appearance.
3. **Clean house regularly.** Make sure to spend a little time picking up trash (a great kid activity, too!). Make sure not to hoard items in the garden. Don't be afraid to throw out old pots, wood, move piles of weeds to green waste containers. Keep your tool shed organized and swept.



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4. **Paint!** Welcome signage, inspired sayings, plant markers, anything that adds a little color to the garden and makes it more navigable to the uninitiated.
5. **Garden Workdays:** Community workdays are crucial both for the purpose of getting larger projects complete, and to build garden investment within the school community. 1.5- 2 hour workdays occurring on Saturday mornings are most effective. They should mostly involve members from the school community, especially parents and students, but also be open to outside members of the community. Workdays should be scheduled when your garden needs a lot of hands on maintenance (ex. weeding, mulching, spreading wood chips, adding new soil to beds, etc.). Post flyers around the school and send them out electronically in the school newsletter!

### Educational Gardens

Weeding, mulching, and planting are good work for students and teach work-ethic, provide physical exercise, and build teamwork, but physical labor shouldn't be the only thing that students experience in the garden. Our gardens are about more than production and aesthetics, they are an outdoor classroom as well. To judge whether the garden is educational, ask:

1. How often are students in the garden during the day? Month? Year?
2. How many students can be in the garden?
3. Are they participating in activities that are supporting their learning, behavior, and/or health?
4. Are garden lessons providing experiential learning opportunities that connect with in-classroom curriculum?
5. Do you have proper educational materials such as a whiteboard/chalkboard, seating, and lesson materials?



## Classroom Management

### Rules and Discipline

Set up a standard garden orientation program for your students (in the 1st meeting)

- Create specific rules for using garden tools.
- Allow kids to have ownership over agreements
  - How do we want to feel when we are in the garden?
  - How can we act to feel that way?



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- How do we treat the garden? Insects? Tools?
    - Demonstrate to students proper and improper use of tools
    - Look up 'Tools and Us'
  - Establish what will happen when they out step these agreements.
    - "Cool off" for 5 minutes
  - Phrase the rules positively and try to keep them simple
    - The fewer the better
1. Do NOT handle problems publicly
    - This risks embarrassing the student & can lead to a power struggle
  2. Positive Discipline
    - Encourage students to be their best selves
    - Reward with giving students more responsibility
    - Say "Yes" and notice what students are doing well
    - Think of garden jobs that will bring out the best in particular students or groups, and figure out appropriate work for particular people's needs
    - Ask questions (e.g. "Why do you think you got pulled out of the circle?")
    - If a student gets sent out of the group, have an adult follow up with a discussion with the student

### Conflict Resolution

The above strategies are a proactive approach to preventing conflict and allowing students to show up as their best selves. However, when conflict does arise, you can use these questions to find a resolution.

#### Questions: to help those affected

1. What did you think when you realized what had happened?
2. What impact has the incident had on you and others?
3. What has been the hardest thing for you?
4. What do you think needs to happen to make things right?

#### Questions: to respond to the challenging behavior

1. What happened?
2. What were you thinking/feeling all the time?
3. What have you thought about since?
4. Who has been affected by what you have done?
5. In what way have they been affected?
6. What do you think you need to do to make things right?





### Routines and Rituals

Routines and rituals create a culture so students know what to expect

- Sit in a circle or semicircle so they can clearly see you & feel connected to the rest of the group. Or, use benches, hay bales, or even a well-maintained lawn area.
- Giving directions before passing out materials and making expectations clear will help students to understand what they are supposed to do (idea: use whiteboard and draw pictures)
- Have a Job Board: 3-4 jobs for students to rotate between. Break down the steps for the garden job and have students identify necessary tools before going to the toolshed.
- Signal clean up: Put tools back, pick up trash
- After gardening, review what was accomplished, how things went logistically, and what were the ties to additional lessons. Linking garden activities to classroom learning reinforces the importance of taking garden time seriously.

### Participation Structures

One of the most effective means of equalizing participation and engagement across a diverse group is to provide a structure for response when you pose a question to your group. Every activity starts and ends with students in a circle, talking about something. You can make this discussion richer and more engaging by adding any of the following participation structures to it.

**Think-Pair-Share:** Explain that you are going to pose a question. Their job is to think silently to themselves about the answer, and give a thumbs-up when they have thought of something; then, tell them to turn to a person sitting near them to talk about their reflections. Once they've discussed their answers, you ask each pair to share their thoughts with the room (answers the pair had in common or answers that heard from their partners to encourage active listening).



**Side Note:** For introverted students, this gives them the time to process their thoughts and ensures they have the experience of expressing their thoughts out loud. Often, once they've had a run-through with another student, they're much more likely to want to share with the whole class.

**Toe-to-Toe:** Have students stand up. Explain that you'll call out 2 body parts, like "toe-to-toe!" and their job will be to find someone silently and stand toe-to-toe with them. Once everyone is silently paired up (if there's an odd number, you can play, too), pose a question for the pairs to discuss. After a minute, call out a new set of body parts, such as "pinky-to-pinky," "elbow-to-elbow" or





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“knee-to-knee.” Their job is to find a new partner, connect silently, and then together with their new partner answer a new question posed by you.

**Hop and Find:** Ask everyone to start hopping on one foot. Now their job is to hop around and find someone else also hopping on that same foot. If almost everyone has a partner, but you have two people left hopping on different feet, tell them they can be partners. Once they’ve found a partner, have them do something fun to connect, like give a high-five, or have a thumb war. Then ask a question and have them share answers with their partners.

**In-Out Circle:** Have students stand up in a circle. Ask every other person going around the circle to take a step into the circle and then make a half-turn clockwise, so that they are now facing the person who used to be standing to their right. Now they have a partner (if you have an odd number of students, you can play, too). Have them do something fun to connect, like give a high-five or have a thumb war. Then ask a question and have them share answers with their partners. Next, tell the outside circle to move one person to the right, so each person has a new partner. Ask a new question for them to share, or ask them to share what they just learned about the first question from their last partner.

**Pass the Ball:** Gather everyone in one circle. Hold a ball and explain that this is the “talking ball.” Ask a question and ask anyone who wants to answer to raise a hand. Toss the ball to someone with their hand up. They can answer while they have the ball and then toss it to anyone else who has their hand raised. Once everyone who wants to answer has had a chance, they can toss the ball back to you and you can pose a new question.

## Cooperative Learning

Dividing students into small groups can bring a welcomed sense of structure to outdoor learning activities.

1. To begin, teach how to listen to one another and how to share responsibilities
  - How this works: Teachers provide students with clear directions for a structured activity, and then provide support for the groups as they work together.
2. Divide the class into groups for garden classroom work.
3. Set up multiple independent stations that students can explore in groups.
  - completing a garden scavenger hunt, measuring and recording the growth of sunflowers they planted last week, and collecting seeds from dried flower heads

## Getting The Group's Attention

- Address the class when everyone is quiet
- Do NOT phrase things with “don’t”. Refer to Garden Agreements
  - EX: don’t tap your pencil. Instead, EX: Do be good listeners
- Piggyback on teachers way of getting attention
- Have a loud sound and a quiet sound based on lesson
  - Loud: bird call, howl like coyote, rooster call, crow call



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- Quiet: chime, rain stick, coyote hand sign
- Use call-and response sayings to get your classes attention:

Garden Educator	Students
Ready set	You bet!
Hocus Pocus	Everybody Focus!
Holy Moly	Guacamole!
Macaroni and Cheese	Everybody Freeze!
1,2,3 eyes on me	1,2,3 eyes on you
Ready to Rock	Ready to Roll

### Strategies

- Kids mirror us. If you calm and quiet yourself, they will follow. If you enter with energy, you might have to grab their attention more often.
- Create inefficiency
  - It is not the most efficient to have kids fill up 1 gal of compost and walk far to dump it. BUT, it will allow more kids to do a task when a wheelbarrow allows 2- 3 kids to do it.
- Have ready a sample of the lesson so that they know what they are going to end up with.
  - It is helpful for students to have something to visualize, but we should not expect them to create an identical example.
- When posing a question and the first response is correct, ask other students so you get multiple answers. This allows students to feel like their answer is important too. OR, whisper your answer to the person next to you.
- Teach general management tasks so that students have ownership
  - Weeding, mulching, planting, irrigation, planting seeds to germinate
  - Allow groups to take ownership by adopting a tree, bed, plant, etc.
- Provide **positive rewards** for good behavior. Rewards do not have to be tangible; praise and special privileges (ex: Reward with more responsibility) can be positive rewards.
- Pointing out students who are behaving appropriately can also help show other students a model of expected behavior.



## Child Safety Guidelines

One Cool Earth cares about the wellbeing of our students--it is embedded in our very mission, "to power happy, healthy, smart youth." These guidelines will help you ensure that we respect and protect student rights, health, and wellness and respond to threats appropriately.

1. **Be Prepared for Emergencies**

- Always have a first aid kit in the garden.
- Know if any of your students have special health concerns, such as asthma or an allergy to bee stings.
- Understand school fire drills, lockdowns, and other emergency drills, and know what to do if you are either alone in the garden or with students.



2. **Restrooms** - Do not use kid's bathrooms. There are adult restrooms in the office.
3. **Appropriate Contact** - "High Fives," handshakes, etc. are welcome contact for most students. You must consider how any physical contact may be perceived. A hug or a pat on the shoulder may be appropriate for certain situations. It is best to hug and touch in the open, preferably with others around.
4. **Media Release** - If the picture can be used to identify the child (faces, discerning characteristics, name tags, etc.), you cannot use their photo unless the child has a signed photo release on file with the school (you can ask at the front office to confirm).
5. **Working With Students** - Always be in the presence of more than one student or be within visibility of another adult so that there can be multiple witnesses on your behalf if any child were to allege wrongdoing. Plus, it makes better use of your time to have multiple students present to learn and work.
6. **Bullying** - Learn how to report it. You can find a guide on school districts' websites.
7. **Mandated Reporting** - If you suspect child abuse you are responsible for reporting it. Take a mandated reporter training. This training will teach you:
- i. What the law requires of you as a mandated reporter
  - ii. How to spot indicators of possible child abuse or neglect
  - iii. How to talk to children about suspected abuse



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- iv. How to make a report
- v. What happens after a report is filed
- vi. Special issues related to child abuse reporting in the school environment

IF YOU HAVE A REASONABLE SUSPICION THAT A STUDENT IS A VICTIM OF ABUSE, whether physical, sexual, or neglect, you are legally obligated to report it. You should:

- b. Call Child Protective Services (CPS). (Note: Reasonable suspicion means that it is objectively reasonable for a person with your training and experience to entertain such a suspicion based on the facts, i.e., knowledge or observation, available to you.) The numbers for CHILD PROTECTIVE SERVICES are: San Luis Obispo County Child Welfare Services .....**805-781-1700** Emergency Response after hours and weekends.....**800-834-KIDS (5437)**
- c. Complete the Suspected Child Abuse Report Form and forward it to the appropriate agency within 36 hours. If possible, pictures of areas of injury shall be taken.
- d. Employees who work directly with students are considered mandated reporters; are immune from prosecution; and cannot be sued for reporting a suspicion of child abuse, even in the event that it later appears not to have taken place. Employees under this mandate can be found guilty of a misdemeanor and confined in the County Jail for failure to report suspected abuse.
- e. All employees should keep any reports made to CPS confidential, discussing the matter only with other employees who “need to know.”
- f. **In Case of Emergency** - Disasters come in many forms and can occur anywhere at any time. Knowing how to react and respond in times of crisis can go a long way to keeping you and your students out of harm’s way. Please find the Emergency Preparedness Plan in the garden from your principal.



## Lessons

The Earth Genius Curriculum was developed to support and enhance student learning in the garden. As Garden Educators, Teachers, and Earth Genius Parent Volunteers, you have access to this and a growing list of resources and curricula in our pipeline of development. We have created 27 lesson plans focused on the garden and tied to Next Generation Science Standards, all of which are free for your use. Our lessons are grouped in 'phenomenal series' to link related and/or sequential lessons. Lessons can be downloaded and used digitally, or printed (because our lessons contain links to supplemental resources, we strongly recommend using them digitally).

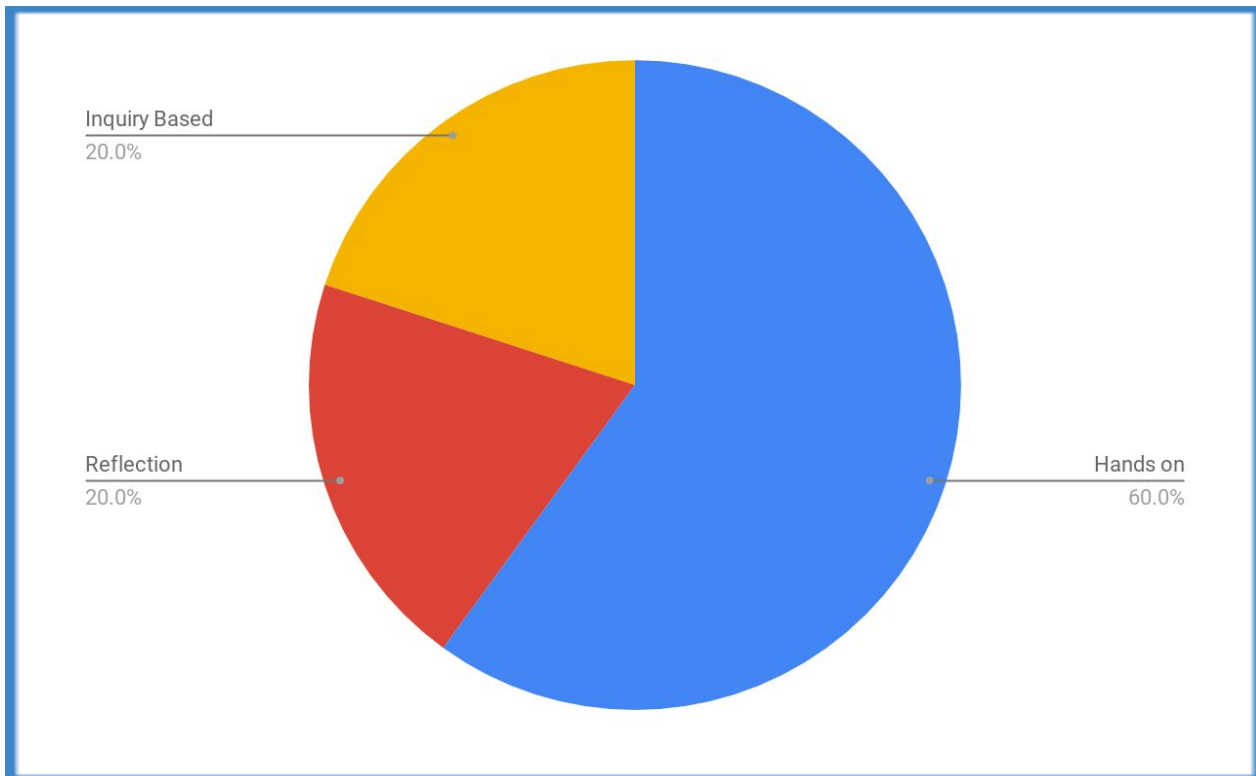




### Accessing Earth Genius Phenomenal Series Lessons

Visit our Website ([onecoolearth.org](http://onecoolearth.org)) and select the 'Resources' tab. Here you can choose to download any of our Phenomenal Series lessons and science frameworks as well as view our virtual learning program videos!

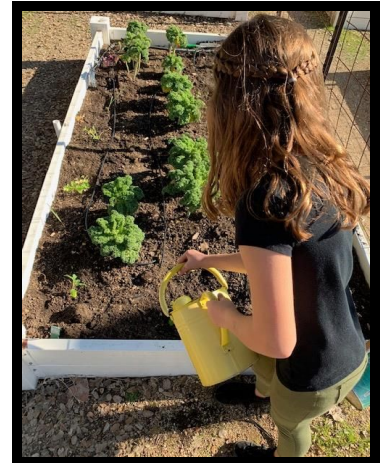
### Suggested Garden Lesson Time Breakdown





## Garden To Cafeteria Manual

This manual should be used as a guide for the integration of produce that students grow in their school gardens, directly into cafeteria meals. Furthermore, this process will enhance students' connection to the garden and help them to gain a greater appreciation for food origins.



### Goals of School Gardens

1. To extend students' access to fresh produce at school.
2. Expand knowledge of where food comes from and how fruits, herbs and vegetables are grown.
3. Provide students with hands-on opportunities to work within the garden.
4. Increase the time students spend and learn outdoors.
5. Cultivate an environment in which students are inquisitive and aware of their surroundings.
6. Gain a better understanding of complex and diverse biological ecosystems.

### Garden Agreements

1. Enjoy exploring, studying, and learning about all things in the garden
2. Respect the planted area, wildlife, and each other
3. Work safely without climbing, running, or shouting
4. Ask before picking or eating
5. Take care of the garden and equipment
6. Do not lift tools above your head
7. Stay on the path and stepping stones



## **School Contact Form**

Keep this as a quick guide for people to contact within your own school:

Food Service Director: _____
Phone number: _____
Email: _____

School Kitchen Manager: _____
Phone number: _____
Email: _____

Principal: _____
Phone number: _____
Email: _____

## **General Food Safety Tips**

- Avoid growing in locations that are near to potential contamination sources (garbage, septic systems, animals, utilities, flooding, etc.).
- Have soil and water tested to determine levels of chemical contamination. Such testing services can often be requested through your local Cooperative Extension Office.
- Install wildlife barriers (fencing, hoop houses, netting).
- Use only non-toxic, non-leaching materials to grow plants in or near. While up-cycling is a wonderful thing, growing in tires, pressure-treated wood beds, single-use plastics, etc. is not safe for consumption.

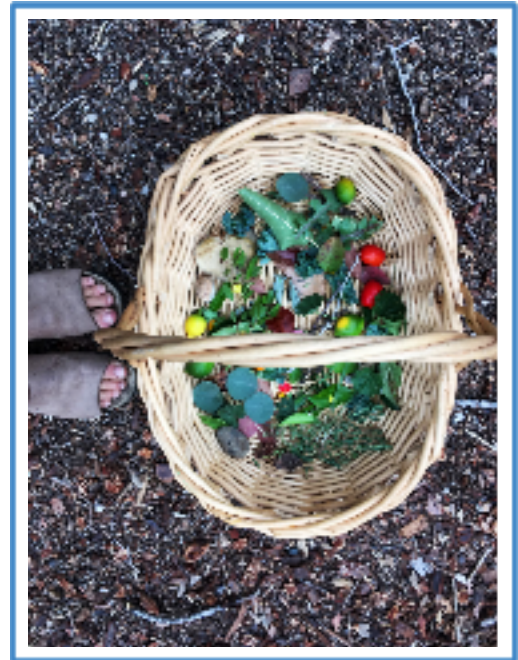


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- Do not use herbicides or pesticides as they can be harmful to children.
- Consider non-chemical methods first when dealing with pest control.
- If using fertilizer, make sure only adults are handling and clearly label containers.
- Avoid the use of raw manure as it may cause the spread of harmful pathogens.
- Do not use any produce that has been noticeably contaminated by animals or insects.
- Ensure that liability for a potential foodborne illness caused by garden produce is covered by the school district.
- Refrigerate garden produce immediately, and separate from other cafeteria food to ensure traceability.

### Materials Checklist

- Harvest Basket
  - a. Must be made with food-grade, hard plastic
  - b. Some examples of acceptable harvesting items are: plastic shopping baskets, Food-grade Lexan containers, plastic crates, etc.
  - c. Do not use straw baskets, wooden containers, or cloth bags
- Scale
  - d. Consult with your school kitchen/garden educator to determine appropriate scale weight
- Garden Harvest Recording Sheet (found at the end of the manual)
- Cutting boards
- Hand clippers
- Knives and peelers for produce
- Disposable Gloves



### Harvest Guidelines

#### Pre-harvest:

##### *Facilitator*

1. Coordinate with the kitchen staff to determine what should be harvested, how much should be harvested and a day and time for them to receive garden produce.
2. All harvest containers should be cleaned and ready to be used.
3. Have Garden Harvest Recording Sheets ready (Garden Harvest Sheets can be found at the end of this Manual).
4. Access to potable water in the garden area.
5. Make sure all students are in good health and have not been absent from school within the last two weeks due to illness.





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### Students

6. All students and staff participating in the harvest must wash their hands with soap and water at an indoor sink for at least 10 to 15 seconds. All open cuts or wounds on hands must be dressed before handling food.
7. Make sure that all students and staff are wearing closed-toed shoes to prevent injury.
8. Cover tool safety by demonstrating the proper handling of tools and go over the Garden Agreements.
9. Show students what will be harvested and demonstrate the correct procedure in taking from the plant without compromising the plant's health (if pruning).

### Post-harvest:

10. Potable water from the hose is used to wash the produce in the harvest baskets, removing large clumps/visible dirt.
11. Tools used for harvest are thoroughly washed with soap and potable water.
12. After all produce is washed, have 1-3 students help weigh and record the weights of produce and record the following on provided sheets:
  - a. Date/ Time of Harvest
  - b. Names of students and Leader that helped harvest the produce
  - c. Type of produce that was harvested and weight of each item
13. Bring the produce to the Kitchen and have the Kitchen manager sign the sheet to acknowledge that the produce was received.
14. Clean the harvest baskets and put all supplies away.



## Handling Garden Produce in the Cafeteria Kitchen

Once the Kitchen Manager has received the produce, they need to wash and refrigerate it below 41°F prior to serving:

1. Foodservice handler should run the produce under cold running water in a clean and sanitized colander and prep sink.
2. Thick skinned produce should be scrubbed with a produce cleaning brush, then re-rinsed and strained in a clean colander. Fragile produce such as leafy greens, should be rinsed under low pressure, and softly agitated to dry.
3. The produce is placed in a separate, clean container and labeled "School Garden Produce" with the date it was harvested and cleaned.  
Produce should be stored in the refrigerator for at least 24 hours to reduce its temperature below 41°F.
4. Kitchen staff will integrate the produce into the menu they already have planned.
5. Produce from the garden will be labeled and advertised in the Cafeteria.



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### Produce on the Lunchline

1. If herbs or vegetables were used to make a dish, clearly label what produce from the garden was used.
2. Label the items added to the salad line from the garden.
  - One good way to do this is by making a board with velcro that displays laminated signs highlighting the produce used each day.
3. Consider running a student survey to determine if they 'liked it, loved it, or tried it'

### Example Garden Harvest Recording Sheet

Date + Time	Produce Item	Weight	Garden Leader	Students	Cafeteria Manager



## Planting Calendar

### Brassicaceae Family







Brassicaceae are herbaceous plants that include most of the world's cultivated vegetables. They likely originated in mediterranean regions, but are now cultivated for production worldwide. This family grows best with full sun but will tolerate partial shade. Brassicaceae are also frost tolerant cool weather crops.

**Seedlings look like this:**












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	Planting Outdoors	Ready for Harvest
<p><b>Broccoli</b>  Recommended starting method:  <i>transplant.</i>  50- 80 days from seed to maturation.  Min. spacing: 12 in  <i>Recommended for school gardens</i></p>	<p><b>North County Inland:</b>  Mid April - Late April  Early Aug. - Early Sept.  <b>South County Inland:</b>  Early April - Late May  Late July - Mid Sept.  <b>Coastal:</b>  Mid March - Mid Sept.</p> 	<p>Heads will be firm and tight. If yellow flowers are beginning to form, harvest immediately. Best time to harvest is early in the morning, and at least 6 inches of the stem should be taken with the head.</p> 
<p><b>Kale</b>  Recommended starting method:  <i>transplant.</i>  50- 70 days from seed to maturation.  Min. spacing: 12 in  <i>Recommended for school gardens</i></p>	<p><b>North County Inland:</b>  Mid April - Early May  Early Aug. - Early Sept.  <b>South County Inland:</b>  Early April - Late May  Late July - Mid Sept.  <b>Coastal:</b>  Mid March - Mid Sept</p> 	<p>Kale is ready to harvest when the leaves are about the size of your hand. Avoid picking the terminal bud (found at the top center of the plant) as this will help to keep the plant productive.</p> 
<p><b>Cauliflower</b>  Recommended starting method:  <i>transplant.</i>  60- 100 days from seed to maturation.  Min. spacing: 18 in  <i>Not recommended for school gardens</i></p>	<p><b>North County Inland:</b>  Mid April - Late April  Mid Aug. - Late Aug.  <b>South County Inland:</b>  Early April - Late May  Late July - Mid Sept.  <b>Coastal:</b>  Mid March- Mid Sept.</p> 	<p>The head will be approx. 6-12 inches in diameter and is full and tight.</p> 





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<p><b>Brussel Sprouts</b>            Recommended starting method:  <i>transplant.</i>            90- 120 days from seed to maturation.            Min. spacing: 18 in  <i>Not recommended for school gardens</i></p>	<p><b>North County Inland:</b>            Mid April - Late April            Early Aug. - Mid Aug.  <b>South County Inland:</b>            Early April - Early May            Late July - Early Sept.  <b>Coastal:</b>            Mid March - Mid Sept.</p> 	<p>Ready to harvest when the heads are firm, green, and 1 to 2 inches in diameter. Twist heads until they break away from the plant. As you remove the lower sprouts, you can also remove yellowing leaves to encourage upward growth.</p> 
<p><b>Turnips</b>            Recommended starting method:  <i>Direct seed.</i>            50- 70 days from seed to maturation.            Min. spacing: 4 in  <i>Recommended for school gardens</i></p>	<p><b>North County Inland:</b>            Mid April - Early May            Mid Aug. - Mid Sept.  <b>South County Inland:</b>            Early April- Mid May            Mid Aug. - Late Sept.  <b>Coastal:</b>            Late March- Early Oct.</p>	<p>The root will show above the soil and measure approx 1 inch in diameter.</p> 
<p><b>Radish</b>            Recommended starting method:  <i>Direct seed.</i>            50- 70 days from seed to maturation.            Min. spacing: 4 in  <i>Recommended for school gardens</i></p>	<p><b>North County Inland:</b>            Mid April - Late May            Mid Sept. - Early Oct.  <b>South County Inland:</b>            Early April- Late May            Early Sept. - Mid Oct.  <b>Coastal:</b>            Late March- Late Oct.</p> 	<p>The revealed root is approx. 1 inch in diameter</p> 
<p><b>Cabbage</b>            Recommended starting method:  <i>Transplant.</i>            70-100 days from seed to maturation.            Min. spacing: 18 in  <i>Not recommended for school gardens</i></p>	<p><b>North County Inland:</b>            Mid April -Late April            Mid Aug. - Late Aug.  <b>South County Inland:</b>            Early April- Late May            Late July. - Mid Sept.  <b>Coastal:</b>            Mid March- Mid Sept.</p> 	<p>Firm all of the way through when squeezed</p> 



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<p><b>Arugula</b>  Recommended starting method:  <i>Direct seed</i>  40-60 days from seed to maturation.  Min. spacing: 2 in  <i>Recommended for school gardens</i></p>	<p><b>North County Inland:</b>  Mid April - Early May  Early Sept. - Early Oct.  <b>South County Inland:</b>  Early April- Mid May  Late Aug. - Early Oct.  <b>Coastal:</b>  Late March- Early Oct.</p> 	<p>Harvest leaves one at a time or cut the entire head at once. Harvest before stalks get thick and flowers form.</p> 
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## The Nightshade Family (Solanaceae)

This family includes many warm weather crops that thrive in heat and full sun.







**Seedlings look like this:**



	<b>Planting Outdoors</b>	<b>Ready for Harvest</b>
<p><b>Potatoes</b>  Recommended starting method:  <i>Potatoes can be planted from either whole or cut seed tubers.</i>  70-110 days from planting to harvest.  If planting in rows, allow 12 inches in between each plant  <i>Recommended for school gardens</i></p>	<p><b>North County Inland</b>  Mid April - Late April  <b>South County Inland</b>  Early April - Mid May  <b>Coastal:</b>  Mid March - Mid June</p> 	<p>Wait until all the foliage of the plant has withered and died back before harvesting mature potatoes. After the foliage has died, dig up a potato from one or two plants and rub the skin of the potato with your fingers. The skin of a potato that is ready for harvest won't scrub off easily.</p> 



## One Cool Earth: School Garden Guide

<p><b>Tomatoes</b> Recommended planting method: <i>transplant</i> 60-85 days from seed to maturation Min spacing: 18 inches <i>Recommended for school gardens</i></p>	<p><b>North County Inland</b> Mid April - Late June <b>South County Inland</b> Early April - Mid May <b>Coastal:</b> Early April - Early May</p> 	<p>Firm and very red in color, regardless of the size, potentially with some yellow remaining around the stem.</p> 
<p><b>Peppers</b> Recommended planting method: <i>Transplant</i> 45-60 days from seed to maturation Min. spacing: 12 inches <i>Recommended for school gardens</i></p>	<p><b>North County Inland</b> Mid April - Mid July <b>South County Inland</b> Early April - Mid July <b>Coastal:</b> Early April - Early July</p> 	<p>Fruit will turn the final color and will be firm</p> 
<p><b>Eggplants</b> Recommended planting method: <i>Transplant</i> 50-70 days from seed to maturation Min spacing: 18 inches <i>Recommended for school gardens</i></p>	<p><b>North County Inland</b> Mid April- Mid June <b>South County Inland</b> Early April - Mid June <b>Coastal:</b> Early April - Early July</p> 	<p>When the inner flesh is cream colored, fruits are firm and before seeds are visible.</p> 







## The Legume Family (Fabaceae)

Nitrogen-fixing family that is incredibly important in crop rotation. Some members need full sun and warmth while others can tolerate some shade and cooler weather.

**Seedlings look like this:**



<p><b>Peas</b>          Recommended planting method:  <i>Direct seed</i>          40-60 days from seed to maturation          Min. spacing: 4 in.  <i>Recommended for school gardens</i></p>	<p><b>North County Inland</b>          Mid April - Early May          Early Sept. - Late Sept.  <b>South County Inland</b>          Early April - Early May          Late Aug. - Late Sept.  <b>Coastal:</b>          Mid March - Early Oct.</p> 	<p>About 3 weeks after flowers appear when pods have swelled and are nearly cylindrical in shape</p> 
<p><b>Beans</b>          Recommended planting method:  <i>Direct seed</i>          50-60 days from seed to maturation          Min. spacing: 6 in.  <i>Recommended for school gardens</i></p>	<p><b>North County Inland</b>          Late April - Late July  <b>South Co Inland</b>          Early May - Early Aug.  <b>Coastal</b>          Mid May - Early Sept.</p> 	<p>#1: After the beans inside pod have visibly developed, but before the shell dries          #2: Leave beans on the vine until pod and bean is dried hard- can be stored in a cool place</p> 







## One Cool Earth: School Garden Guide

### The Allium Genus

This group of vegetables can grow in all kinds of soil types from sand to clay. They do best in full sun but will tolerate shade.

**Seedlings look like this:**





	Planting Outdoors	Ready for Harvest
<p><b>Chives</b>            Recommended planting method:  <i>Transplant</i>            Perennial            Min. spacing: 6 in.  <i>Recommended for school gardens</i></p>	<p><b>A perennial that can be grown year round!</b></p> 	<p>There is no set chive plant harvest time but plants should be at least 6 inches tall. The plant will produce more abundantly in its second year. Direct seed in rows, thin as chives begin to sprout. Also serves as a pest prevention.</p> 
<p><b>Leeks</b>            Recommended planting method:  <i>Transplant</i>            70-110 days from seed to maturation            Min. spacing: 6 in.  <i>Recommended for school gardens</i></p>	<p><b>North County Inland</b>            Mid April - Mid May            Early Aug. - Late August  <b>South County Inland</b>            Mid April - Late Aug.  <b>Coastal:</b>            Late March - Early Sept.</p> 	<p>Begin the harvest when the stalks are about an inch in diameter.</p> 





## One Cool Earth: School Garden Guide

<p><b>Onions</b> Recommended planting method: <i>Transplant</i> 100- 120 days from seed to maturation Min. spacing: 6 in. <i>Recommended for school gardens</i></p>	<p><b>North County Inland</b> Early May - Early June <b>South County Inland</b> Mid April - Early June <b>Coastal:</b> Late March - Early June</p> 	<p>They are ready to harvest when the bulbs are big and the tops begin to turn yellow and fall over.</p> 
<p><b>Garlic</b> Recommended planting method: <i>Direct Seed</i> 190- 250 days from seed to maturation Min. spacing: 4 in. <i>Recommended for school gardens</i></p>	<p><b>North County Inland</b> Mid Oct. - Late Nov. <b>South County Inland</b> Mid Oct. - Late Nov. <b>Coastal:</b> Mid Oct. - Late Nov</p> 	<p>Wait until the leaves have started to wither and turn yellow, and then loosen the bulbs from the soil with a trowel.</p> 

## The Cucurbitaceae Family







Vining plants that thrive in warm weather and full sun.

**Seedlings look like this:**







## One Cool Earth: School Garden Guide

	Planting Outdoors	Ready for Harvest
<p><b>Winter Squash/Pumpkins</b>            Recommended planting method:  <i>Direct seed</i>            90- 110 days from seed to maturation            Min. spacing: 36 in.  <i>Not recommended for school gardens</i></p>	<p><b>North County Inland</b>            Late April - Early June  <b>South County Inland</b>            Late April - Early June  <b>Coastal:</b>            Late April - Early June</p> 	<p>Jab your fingernail against the outer skin, or rind - it should be strong enough to resist puncture. You can also test readiness by listening for a hollow sound when you thump on it.</p> 
<p><b>Summer Squash (Zucchini)</b>            Recommended planting method:  <i>Direct seed</i>            45 - 60 days from seed to maturation            Min. spacing: 24 in.  <i>Recommended for school gardens</i></p>	<p><b>North County Inland</b>            Late April - Early June  <b>South County Inland</b>            Late April - Late July  <b>Coastal:</b>            Late April - Late June</p> 	<p>About a week after your plant begins blooming. The early, small squash (about 6 in) are most tender and flavorful and picking frequently can lead to a larger crop.</p> 
<p><b>Cucumber</b>            Recommended planting method:  <i>Direct seed</i>            55 - 75 days from seed to maturation            Min. spacing: 24 in.  <i>Recommended for school gardens</i></p>	<p><b>North County Inland</b>            Late April - Late June  <b>South County Inland</b>            Late April - Early July  <b>Coastal:</b>            Late April - Mid June</p> 	<p>Fruit will be bright medium to dark green and firm. Avoid harvesting cucumber when yellow, puffy, have sunken areas or wrinkled tips.</p> 



## One Cool Earth: School Garden Guide



<p><b>Melons</b>          Recommended planting method:  <i>Direct seed</i>          70 - 100 days from seed to maturation          Min. spacing: 24 in.  <i>Recommended for school gardens</i></p>	<p><b>North County Inland</b>          Late April - Early June  <b>South County Inland</b>          Late April - Late May  <b>Coastal:</b>          Late April - Early May</p> 	<p>Rinds will begin to change from green to tan or yellow. Look for a crack in the stem where it attaches to the fruit and harvest when vines are dry.</p> 
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## The Amaranthaceae Family

The stems of these plants are often red in color due to betalain pigments. This family tends to thrive in cooler temperatures.





**Seedlings look like this:**



	Planting Outdoors	Ready for Harvest
<p><b>Beets</b>          Recommended planting method:  <i>Direct seed</i>          50 - 70 days from seed to maturation          Min. spacing: 4 in.  <i>Recommended for school gardens</i></p>	<p><b>North County Inland</b>          Mid April - Early May          Mid Aug. - Late Sept.  <b>South County Inland</b>          Early April - Early May          Early Aug. - Late Sept.  <b>Coastal:</b>          Mid March - Late Sept.</p> 	<p>When greens grow within 6 inches tall.</p> 



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<p><b>Chard</b> Recommended planting method: <i>Transplant</i> 45 - 60 days from seed to maturation Min. spacing: 12 <i>in.</i> <i>Recommended for school gardens</i></p>	<p><b>North County Inland</b> Mid April - Early May Mid Aug. - Mid Sept. <b>South County Inland</b> Early April - Mid May Early Aug. - Late Sept. <b>Coastal:</b> Mid March - Late Sept.</p> 	<p>Cut leaves individually at the base of the plant within 2 inches of the soil.</p> 
<p><b>Spinach</b> Recommended planting method: <i>Direct Seed</i> 40 - 55 days from seed to maturation Min. spacing: 4 <i>in.</i> <i>Recommended for school gardens</i></p>	<p><b>North County Inland</b> Mid April - Early June Late Aug. - Mid Sept. <b>South County Inland</b> Early April - Mid Sept. <b>Coastal:</b> Mid March - Late Sept.</p> 	<p>There are at least 5 or 6 leaves. Remove leaves before they get yellow and within a week of full leaf formation.</p> 







**Miscellaneous**

	<b>Planting Outdoors</b>	<b>Ready for Harvest</b>
<p><b>Carrots</b>  Recommended planting method:  <i>Direct Seed</i>  55-90 days from seed to maturation  Min. spacing: 2 in.  <i>Recommended for school gardens</i></p>	<p><b>North County Inland</b>  Mid April - Mid May  Mid Aug. - Mid Sept.  <b>South County Inland</b>  Early April - Mid Sept.  <b>Coastal:</b>  Late March - Late Sept.</p> 	<p>When the shoulders are 1/2 to 3/4 inch in diameter (but depends on the variation of carrot)</p> 
<p><b>Celery</b>  Recommended planting method:  <i>Transplant</i>  130 - 140 days from seed to maturation  Min. spacing: 12 in.  <i>Not recommended for school gardens</i></p>	<p><b>Can be grown year round</b></p> 	<p>The lower stalks are at least 6 inches long, from ground level to the first node. The stalks should be close together, forming a compact cone.</p> 
<p><b>Corn</b>  Recommended planting method:  <i>Direct Seed</i>  60 - 80 days from seed to maturation  Min. spacing: 6 in.  <i>Recommended for school gardens</i></p>	<p><b>North County Inland</b>  Early May- Early July  <b>South County Inland</b>  Early May - Late June  <b>Coastal:</b>  Early May - Mid June</p> 	<p>The ear is rounded or blunt rather than pointed. The silks will also be dried up.</p> 




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<p><b>Lettuce</b>  Recommended planting method:  <i>Transplant</i>  45 - 70 days from seed to maturation  Min. spacing: 6 in.  <i>Recommended for school gardens</i></p>	<p><b>North County Inland</b>  Mid April - Mid May  Late August - Early Oct.  <b>South County Inland</b>  Early April - Mid May  Mid Aug. - Early Oct.  <b>Coastal:</b>  Late March - Mid Oct.</p> 	<p>Leaves are about 4 inches long - cut outer leaves first and avoid cutting into the crown.</p> 
<p><b>Strawberries</b>  Recommended planting method:  <i>Transplant</i>  Perennial  Min. spacing: 12 in.  <i>Recommended for school gardens</i></p>	<p><b>Perennial - can be grown year round!</b></p> 	<p>Entire fruit is deep red and soft. Plant in dry soil.</p> 






## California Native Plant Guide

Name	About	Regeneration	Benefits of having in the garden
<p><b>California Fuchsia</b></p>  <p><i>Epilobium canum</i></p>	<p>Low-ish growing shrub with pale green foliage and covered in red flowers.</p>	<p>Sow seeds in springtime on the surface of soil where you want them permanently. They are best started outdoors in sun or partial sun areas.</p>	<p>Pollinators love it.   Lovely crimson colored flowers are perfect for arrangements.</p>






## One Cool Earth: School Garden Guide

<p><b>California Sagebrush</b></p>  <p><i>Artemisia californica</i></p>	<p>Flowers in the spring, summer and fall</p> <p>Grows 1-6ft tall and up to 4 ft wide</p> <p>Extremely drought tolerant, prefers full sun</p> <p>Fast growing</p>	<p>Collect seeds and plant shallowly.</p>	<p>Attracts native birds and beneficial insects</p> <p>Aromatic- great for herb bundles and bouquets.</p> <p>Medicinal-may ease toothaches and mitigate asthma</p>
<p><b>Chaparral Currant</b></p>  <p><i>Ribes malvaceum</i></p>	<p>Bush grows to 5' and has a profusion of pink flowers in the springtime.</p>	<p>Try starting from cuttings of the plant, as common practice with succulents.</p>	<p>A pollinator favorite!</p> <p>It is an edible fruit!</p> <p>Birds love it!</p>
<p><b>California Buckwheat</b></p>  <p><i>Eriogonum fasciculatum</i></p>	<p>Low growing shrub covered in flowers and attractive pink- to reddish- seed pods for most of the year</p>	<p>Gather seeds in summer when heads have fully dried out. Press gently into the soil. Water with a light mist. *They require light to germinate.</p>	<p>Bees love buckwheat.</p> <p>Makes great long-lasting flowers and seed pods for arrangements.</p>




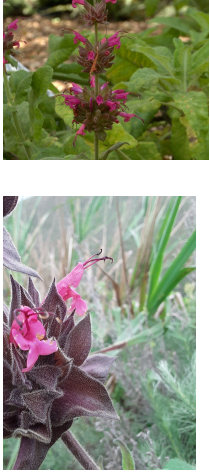
## One Cool Earth: School Garden Guide





<p><b>Ceanothus</b> (Various)</p> 	<p>Flowers in spring.</p> <p>Low-growing varieties make good ground covers.</p> <p>Larger varieties can grow up to 6 meters tall!</p>	<p>Ceanothus propels its seeds when ready to plant by the pods bursting open and dispersing. If you sit quietly in a ceanothus grove you can hear them raining down.</p> <p>In order to collect seeds, lay a sheet or newspaper when you see them starting to burst and then gather.</p>	<p>Attracts pollinators.</p> <p>Blossoms will sud up when rubbed and with water can be used like soap!</p>
<p><b>Coffee Berry</b></p>  <p><i>Frangula californica</i></p>	<p>Large shrub with deep green, oval leaves and grape-sized berries. Berries go through a range of colors changing from yellow, to pink, to purple and black!</p>	<p>Pick fruit when fully ripe and the berries easily come off the plant. This is when seeds are mature and ready for planting.</p>	<p>Creates a good screen for fences and borders.</p> <p>Berries are toxic to humans but birds love them!</p> <p>Creates good habitat for birds!</p>
<p><b>Black Sage</b></p>  <p><i>Salvia mellifera</i></p>	<p>Shrubs up to about 3 feet high produce lots of oval leaves and make beautiful white flowers in the springtime.</p>	<p>Can be started from cuttings.</p> <p>Seeds can also be collected when heads form in summertime.</p>	<p>Bees love it!</p> <p>A lovely addition to herb bundles and potpourri.</p> <p>Good for loose or bundled incense.</p> <p>Makes a relaxing tea.</p>





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<p><b>Flannel bush</b></p>  <p><i>Freemontidenron californicum</i></p>	<p>5' bush with beautiful yellow flowers.</p>	<p>Propagate from hardwood cuttings. It may be difficult to get roots settled. We recommend using a tried and true rooting hormone.</p>	<p>Good for bouquets, especially when paired with wooly blue curls!</p>
<p><b>Hummingbird Sage</b></p>  <p><i>Salvia spathacea</i></p>	<p>Medium size plants can grow up to 2'. They have magenta blossoms in the spring/summer, and are slightly sticky to touch.</p> <p>The arrow shaped leaves come out in a roset like shape at the base of the plants, and then the plant sends up a flowering stock from the center.</p>	<p>Save seeds from dried heads in summertime for planting.</p> <p>It also volunteers easily and clumps can be separated in early springtime.</p>	<p>Attracts hummingbirds.</p> <p>Floral-flavored, slightly fruity leaves make good sun tea.</p> <p>Scarlet blossoms are delicious! At the base where the flower attaches to the calyx, there is sometimes a reservoir of sweet nectar to suckle! Nice for herb bundles and bouquets!</p> <p>Leaves can stick to the shirt for decoration.</p>

<p><b>Mexican Elderberry</b></p>  <p><i>Sambucus mexicana</i></p> <p><b>WARNING: Leaves, Stems, and unripe berries are toxic!</b></p>	<p>Grows into large tree covered in light yellow blossoms in the spring, and in blue-grey berries in the summer.</p>	<p>Propagate by collecting softwood cuttings and placing them in a soil mix, watered with rooting hormones.</p>	<p>Blossoms may be used for: flavoring homemade probiotic “soda”, flavoring desserts, making a great antiviral tea or tincture.</p> <p>Berries are delicious in jams/jellies, pies, or fresh when fully ripe. Also delicious when dried into “raisins.”</p> <p>Dried straight stems also make a great dowel-alternative for projects and can be hollowed out for flutes/whistles.</p>
<p><b>Manzanita</b> (various)</p>  	<p>Smaller varieties make good ground cover.</p> <p>Produces evergreen leaves.</p> <p>Reddish bark peels in the autumn.</p>	<p>Manzanita is hard to propagate from seed and often requires fire for germination. Starting from cuttings is recommended, though certain varieties are easier than others. Take a 4” long cutting of semi-ripe wood from the current year’s growth. Dip in rooting hormone and set in pots or flats of soil mix. Keep well-watered and cross your fingers.</p>	<p>Berries can be made into jelly when they are beginning to blush ripe (a yellow-orange color) or made into a lemonade-like beverage.</p> <p>Blossoms are edible and tasty! Flowers can also be made into jelly and beverages.</p> <p>Bees love them!</p>
<p><b>Milkweed</b></p> 	<p>There are two native varieties commonly found in California.</p> <p>One is narrow leafed with bright green leaves.</p> <p>The other is broad leafed with fuzzy, gray-green leaves. Both varieties make umbles of pink flowers in late spring.</p>	<p>When seed pods dry they will open and send out little seeds with cotton-like sails. Gather these.</p> <p>Stratify your seeds by placing in a moist paper towel and refrigerating for 30 days.</p> <p>Cover with ¼” inch soil in pots. Can be started</p>	<p>All milkweeds are good monarch butterfly habitats!</p> <p>The dead stems of narrow-leaf milkweed can be used to make cordage/string by twisting in opposite directions.</p> <p>Milkweed is good for pollinators but <b>toxic if</b></p>








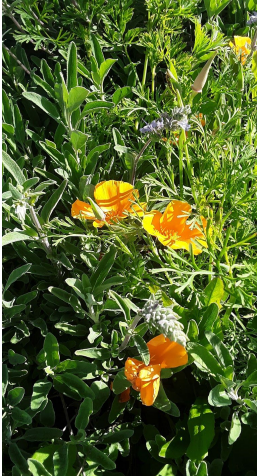


## One Cool Earth: School Garden Guide

 <p><i>Asclepias fascicularis</i></p>		<p>indoors for planting. They are ready to be moved outside once plants reach 3" tall.</p> <p>Be patient, milkweed can take up to 15 days once planted to sprout!</p>	<p><b>eaten.</b></p> <p>The broad-leafed variety makes beautiful boat-shaped pods, fun for playing with or making into garden art.</p>
<p><b>Mule Fat</b> <i>aka Seep Willow</i></p>  <p><i>Baccharis salisifolia</i></p>	<p>Grows straight willow like rods in clumps.</p> <p>Often found growing wild in arroyos and creeks.</p>	<p>Info for propagating unavailable.</p> <p>Try from a cutting!</p>	<p>Can be used for friction fire, making a spindle (good on cottonwood fire board).</p> <p>Great natural alternative to store-bought wooden dowels.</p> <p>Great for making garden fairy wands, the handles to bubble-wands, etc.</p>
<p><b>Squaw bush</b></p>  <p><i>Rhus trilobata</i></p>	<p>A clumping shrub getting to about 3 feet in height.</p> <p>Has three lobed leaves which causes it to be easily mistaken with poison oak at some stages.</p>	<p>Propagation info is unavailable.</p> <p>Try starting from seed following the guidelines for toyon.</p>	<p>Bendy branches are great for making into baskets and wreaths.</p> <p>Sour berries can be used for lemonade-like drink</p> <p><b>Caution: a poison oak look- alike. Buy from a reputable nursery.</b></p>
<p><b>Sticky Monkey Flower</b></p>  <p><i>Diplacus aurantiacus</i></p>	<p>Grows in a small bush or clump with creamy, orange flowers. The name comes from the monkey face that can be seen in the flower and the sticky residue on the leaves.</p>	<p>Find seeds in dried seed pods and save for replanting.</p>	<p>A beautiful addition in rock gardens.</p> <p>Pollinators like it.</p> <p>Edible flowers can be added to garden salads.</p>





## One Cool Earth: School Garden Guide

<p><b>Toyon</b></p>  <p><i>Heteromeles arbutifolia</i></p>	<p>A large bush growing up to 10 feet tall. It has about 3"-4" leaves with a serrated edge like holly. Produces bright red berries from November-January.</p>	<p>Collect berries in winter and place in a plastic baggy with warm water to break up pulp. Use your fingers to separate the fruit from the seed. When ready to plant (the sooner the better to ensure spring rains), bury just enough to cover the seed.</p>	<p>Berries attract cedar waxwings and other birds.</p> <p>Beautiful holly-like foliage for wreaths and holiday arrangements.</p> <p><b>Caution: Under-ripe berries have a high cyanide content.</b></p>
<p><b>Pearly Everlasting</b></p>  <p><i>Anaphalis margaritacea</i></p>	<p>A plant with light green, slightly fuzzy leaves that sends up one stalk with umbels of white flowers that resemble pearls before they open.</p> <p>Can be gathered at any stage for drying.</p>	<p>Save seeds in late summer/early fall and plant from seed in early spring.</p>	<p>When dry it smells like maple syrup!</p> <p>A great everlasting flower for arrangements and wreaths!</p> <p>Makes soothing tea for an upset tummy.</p>
<p><b>White Sage</b></p>  <p><i>Salvia apiana</i></p>	<p>A shrub that typically grows up to around 5 feet tall with beautiful light grey foliage that produces white flowers in springtime.</p>	<p>Can be started from a cutting!</p> <p>Seeds can also be saved in late summer.</p>	<p>Bees like it.</p> <p>Adds nice foliage in bouquets.</p> <p>Great for incense bundles.</p>
<p><b>Wooly Blue Curls</b></p>  <p><i>Trichostema lanatum</i></p>	<p>A medium size shrub.</p> <p>It grows similar to english lavender in size, and has beautiful blue-purple whorls.</p>	<p>You can buy plants from <a href="#">Las Pilitas Nursery</a>.</p>	<p>Eye-popping addition to bouquets.</p> <p>Pollinator attractor.</p> <p>Makes a gentle stomach-soothing tea with a slightly fruity flavor.</p>

<p><b>Bush Poppy</b></p>  <p><i>Dendromecon rigida</i></p>	<p>An evergreen shrub, usually about 6 ft tall.</p> <p>Very hardy and is happiest under full sun, in well draining soil.</p>	<p>Collect seeds, or propagate from cuttings in late summer when temperatures are warmest.</p>	<p>Can handle almost any garden type.</p> <p>This native wildflower is great for attracting beneficial insects.</p>
<p><b>California Poppy</b></p>  <p><i>Eschscholzia californica</i></p>	<p>As the California state flower, this native can be found all over!</p> <p>The poppy can handle all kinds of soil and climate, sometimes blooming the majority of the year when temperatures permit.</p> <p>The color may vary from yellow to deep orange.</p>	<p>Very easy to collect seeds from the pods.</p> <p>Seeds can be saved indoors to be planted out in the spring. Or plant them before winter and let them germinate on their own throughout the seasons!</p> <p>Once established in a garden they will come back year around.</p>	<p>As said in <i>The Wizard of Oz</i>, poppies will make you sleep!</p> <p>The petals can be dried and used in tea.</p> <p>Great for attracting native bees and butterflies!</p>
<p><b>Lupine</b></p>  <p><i>lupinus</i></p>	<p>Many different varieties of lupine (lupinus) can be found throughout California in a multitude of hues.</p> <p>Can tolerate sun and shade, prefers well draining soil.</p>	<p>Seeds can be from the dry pods for planting next year around.</p> 	<p>Adds a wonderful texture to the garden and has a very strong fragrant scent.</p> <p>Great for attracting native bees and honey bees</p>



## One Cool Earth: School Garden Guide

<p><b>California Silktassel</b></p>  <p><i>Garrya elliptica</i></p>	<p>Evergreen, wind pollinated shrub growing 3-16 ft tall!</p>	<p>Prefers shaded/ sheltered spots in the garden in well draining soil</p> <p>Seeds can be collected, however pretreatment for a successful germination is necessary. It can take 30-60 days before seeds germinate.</p>	<p>A wonderful medicinal plant used to stop asthma attacks, and some other spasmodic related ailments. Stems and leaves are typically dried and used for making tinctures.</p> <p>This plant has a life span of 150 years!</p>
<p><b>Pipestem Clematis</b></p>  <p><i>Clematis lasiantha</i></p>	<p>Deciduous vine growing 8-20 feet</p> <p>Flowers March-August</p> <p>Can tolerate sunny or shady environments.</p>	<p>You can buy plants from <a href="#">Las Pilitas Nursery</a>.</p>	<p>Great for attracting native bees and hummingbirds.</p> <p>Produces beautiful, showy flowers. A real eye catcher for your garden!</p>



## Seed Savers How To

### Keep it simple & grow what you love!

Seed saving is a wonderful way to connect with your garden and observe a plant's life from start to finish. Beans, peas, squash, peppers, melons, lettuce, sunflower, calendula, or zinnias are examples of some of the easiest annual seeds to save. When choosing which plants to collect seeds from, try to stick with heirloom varieties that way you can ensure next year's batch will be true to type, meaning the offspring will be identical to the parent plant.





## One Cool Earth: School Garden Guide

### Plan it out & know your varieties.

Taking the extra time to plan out what you'd like to see in your garden is a great way to stay organized and track what's going on. Especially in the heat and excitement of an abundant summer garden, it's impossible to remember all of the exciting things you may have seeded earlier in the year. Researching plant compatibility can also be very beneficial for the success of individual plants. Knowing where each specimen will be growing and their close neighbor can help attract beneficial insects, fight off the bad bugs or diseases and keep the soil healthy.

- Knowing the specific variety and name of each plant is also important. Planting one variety at a time will help mitigate the risk of cross pollination. Although creating one of a kind frankenstein-like veggies can be fun, the offspring might not be as delicious or productive the next year.

### When will your seeds be ready?

For the most part, it's pretty easy to spot when seeds are ready just by watching as a plant flowers, fruits, and finally develops seeds. However, not all seeds are ready to be planted right away. For example, sugar snap peas- the sweet delicious green pods are the plant developing young seeds. These, however, are not mature enough to be planted. You will have to wait till the end of the season for the plant to begin to brown and dry. The pods of these plants will often pop open, and the once scrumptious summer snacks will have hardened into dry wrinkly seeds. At that point they are ready to be collected and saved for next year's planting. With other crops such as melons, squash or cucumbers, the fruit must be fully mature to harvest seeds. Typically we harvest while the fruit is still young and yummy, but it is important to be patient and let a few of the plant's fruit stay on the vine the entire season to fully size up. Knowing the difference between a market-mature fruit or vegetable and a seed-mature one will ensure your seeds are viable.

### Drying and storing tips:

To start, choose seeds from plants that are the largest and healthiest throughout the season. Most lettuces, beans, and flowers can be dropped directly into a paper bag. However, if the seed has a membrane, like most squash and pumpkins, simply rinse and set out to dry. Air dry your seeds with a fine screen away from direct sunlight. Store your seeds in a cool dark environment in some kind of container that will limit moisture. Lastly, don't forget to label what you collected! That way, in the next season you can truly enjoy the fruits of your labor.



*\*Not only does seed saving illustrate life cycles and seasonality, it also teaches about abundance, stewardship, and a sense of place (Occidental Arts & Ecology Center)*



## Integrated Pest Management





### Cultural methods

The best way to suppress pest problems is by growing strong plants that are well adapted for your area. This requires paying attention to the plants' water and sunlight requirements, proper growing season, and proximity to other plants. Strong plants resist disease!

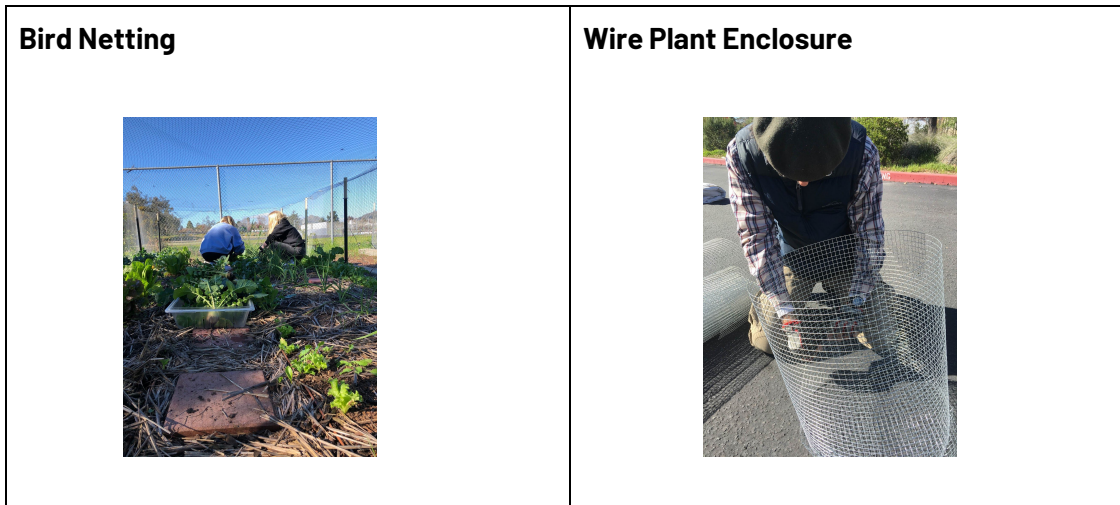
### Physical methods

Prevent pest access by using fencing, netting, traps, vacuuming, sound devices, etc. If you do happen to find pests beginning to take over the plant, physically remove insects from the leaves or flowers.

#### Some types of pest barriers:

<p><b>Hoop Houses</b></p> 	<p><b>Gopher lining</b></p> 
<p><b>Sound repellent</b></p> 	<p><b>Fencing</b></p> 





### Biological methods

Pest populations can be suppressed by introducing other predatory species and or diseases that are not harmful to the plant itself. Use of predators and parasites as biocontrol for pests can be done in these ways:

- Encourage the biological success of naturally occurring species that are native to your area. These native plants and animal species have co-evolved with one another, and are therefore less likely to experience disease/fatality when paired.
- Introduce new biocontrol species that will not be harmful to the area, but are targeted to combat specific pests without becoming a pest itself.

### Chemical methods

Some pesticides are more toxic than others. It is important to read labels before using insecticides in a school garden. These are just a few of the ingredients found in insecticides/pesticides that are especially harmful when ingested: hydrogen cyanide, naphthalene, nicotine, and methyl bromide. If you find yourself needing to use some sort of chemical agent, we recommend using organic or natural solutions such as Neem Oil.

Examples of Homemade Insecticides:

1. Vegetable oil mixed with mild castile soap such as Dr. Bronners natural soap: mix 1 cup of vegetable oil with 1 tablespoon of soap (cover and shake thoroughly), and then when ready to apply, add 2 teaspoons of the oil spray mix with 1 quart of water, shake thoroughly, and spray directly on the surfaces of the plants which are being affected by the insect pests.
2. Garlic spray: take 2 whole bulbs (not just 2 cloves) and puree them in a blender or food processor with a small amount of water. Let the mixture sit overnight, then strain it into a quart jar, adding 1/2 cup of vegetable oil (optional), 1 teaspoon of mild



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liquid soap, and enough water to fill the jar. To use this homemade insecticide, use 1 cup of mixture with 1 quart of water and spray liberally on infested plants.

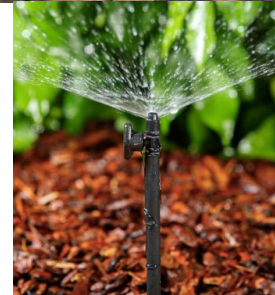
3. **Chile spray:** Mix 1 tablespoon of chile powder with 1 quart of water and several drops of mild liquid soap. This mixture can be used full-strength on the leaves of affected plants. To make chile spray from fresh chile peppers, blend or puree 1/2 cup of peppers with 1 cup of water, then add 1 quart of water and bring to a boil. Let sit until cooled, then strain out the chile material, add several drops of liquid soap to it and spray as desired.



## A Quick Guide to Irrigation

Irrigation may seem like a daunting thing, especially to the inexperienced eye. But once you have the few major pieces in place, it can begin to feel like a Leggo project! Here are the main things you will need:

1. **A source.** This could be anything from a main line buried underground to a spigot extending from a building. We recommend asking for the help of a district facilities personnel to install the diversion from an underground line. This may require a backflow preventer if the water from the line is potable. Have a professional help you determine the pressure and size of line needed for the size of your garden.
2. **Selecting your Irrigation Method:** Once you have your source secured and main lines connected to your planting space, you are ready for the fun part. Determine which type of irrigation method best serves your space. Here are just a few of many options:
  - *Drip:* Used as either a line or tape, this is our favorite method of watering as it delivers straight to the source (the roots) with minimal chances of evaporation; this is the best technique for conserving water. You can find drip line with holes staggered at all different increments (3inch, 6 inch, 1ft). You will choose accordingly to the types of plants you will be growing.
  - *Sprinklers:* This can be a great option if you are attempting to water an area with seeds scattered about. Sprinklers offer great coverage (sometimes too much coverage, you might find yourself watering the pavement) and are very easy to install and move around. Only downside is that much of the water can be lost to wind or evaporation; not the most efficient in conserving water.





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- **Emitters:** Emitters are most often used for larger, more established plants such as trees or shrubs. They direct water to the roots, similarly to drip line, and the pressure of water released can be adjusted at the emitter itself.



The good news is that you can do a combination of irrigation methods. You may want to use emitters on your food forest, sprinklers on your freshly seeded beds and drip on your row crop area!

### 3. **Setting your timer:** Below is a recommended chart for watering times in a mediteranean climate in the **summer months (June-Sept.)**

Seeds	Make sure the soil doesn't dry out. 15 min in the morning and 15 min in the evening everyday
Adolescent plants (approx 6 inch tall)	40 min every other day
Established crops	40 min twice per week
Trees and shrubs	1 hr once per week

Winter watering times will depend on the amount of rainfall, but ideally the amount of irrigation should be cut in half from the summer schedule.

4. **Watch your water.** Automatic irrigation is great, until it fails. Water turns off unexpectedly, hoses break, drippers plug, valve wires are eaten by gophers. Every week spend time manually turning on the irrigation system, and checking and adjusting all emitters. You may be able to avoid this step if everything looks healthy (no drooping leaves) and soil moisture is good (test with your finger, sticking it at least 4 inches into the soil. Soil often appears wet on top, but always check for saturation deep down. Water barrels by hand if needed--cherish and use your water key.



## Composting How-To

Composting is a great way to close the loop in the garden (seed to plant, plant to plate, plate soil, soil to seed). Not only that, it can be introduced as a great educational opportunity when teaching about microbes, decomposition, carbon, nitrogen, soil health etc. You can also save money when amending soil, as healthy soil can be created right on site! There are 100 ways to set up a composting system, but here are some methods of composting that tend to work well in a school garden.



### Traditional Composting:

This method requires carbon material (browns), nitrogen materials (greens), water, and sunlight. This type of composting requires an aerobic process, which means that air has to be able to enter the pile via turning or mixing.

Tips:

1. Types of containers: Bins that have holes for aeration such as grape crates used at wineries, pallet containments, chicken wire rings, etc.)
2. Ideal carbon to nitrogen ratio: 30:1
3. Do not continually add new materials to a balanced pile. For this reason, it can be best to have a two or three part composting system. Pile #1: Working. This is where you are continually adding organic waste, keeping the carbon to nitrogen ratio in mind. When the pile is large enough and ratio is what it should be, it should then be designated as Pile #2 Resting. This is the pile where no additional organic waste is added and the pile temperatures are encouraged to rise.
4. Ideal pile temperature: 140 deg. C
5. When to turn your compost pile: Every 4-7 days. Turn with pitchfork much like you would toss a salad
6. Keep your pile moist but do not saturate
7. How to know when your compost is ready for the garden: There should be no large or identifiable pieces of organic matter (ex. Orange peels, branches, egg shells, etc.)
8. Items that should go in the compost:
  - a) Greens: grass clippings, natural food waste
  - b) Browns: coffee grounds, dried leaves, paper shreds, straw

\* Do not add meat, bones, breads, weeds, invasives grasses with roots, or large woody plants that take a long time to break down

### Vermicomposting:

Vermicompost is the process of worms eating food scraps and breaking them down to create worm castings, an enriching compost source that helps provide nutrients to our gardens. Fruit and vegetable scraps, along with newspaper, dried leaves, and other carbon materials are provided to the worms to create both a happy home and a constant food supply for the worms to thrive in. Vermicompost systems are created by stacking multiple bins that the worms are able to move through. The advantage of the multi-bin system is that you can easily separate the finished compost from the worms once the vermicompost is finished decomposing. As fresh food waste and bedding is added to upper layers, the worms migrate upwards toward the fresh bin, leaving the bin with finished compost ready to use in the garden!

Pre-made vermicompost systems can be purchased, but they can also be made fairly easily by stacking plastic tubs and drilling holes for the worms to move through each section.



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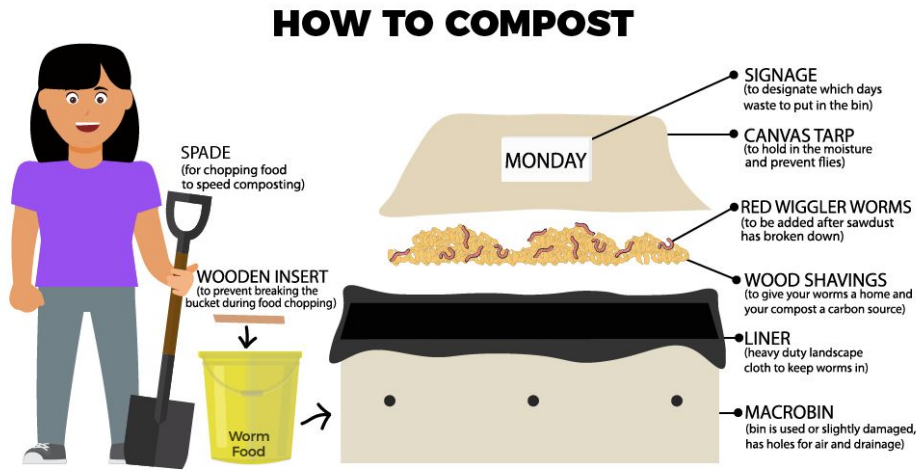
### Steps for creating a DIY Vermicompost System:

1. Acquire 3 plastic tubs that stack easily. The size of the tub should be determined by the amount of food waste you expect to intake, but be aware that the larger of a vermicompost system you create, the sturdier you will need the plastic bins to be.
2. Drill a pattern of  $\frac{1}{4}$  inch holes around the base and upper edge of the 2 composting bins to create spaces for worms to crawl in and out, as well as providing air holes for the worms.
3. If you plan on adding a spout to drain compost tea, you can add a  $\frac{3}{8}$  barrel tap, fitted into a small hole drilled underneath the bottom bin. To create easy compost tea harvesting, elevate the entire vermicompost system on bricks so that the tap is easily accessible.
4. Create or repurpose "packers" to help maintain space between the bins. Wood blocks or jars of the same height work well for this and should be placed between each bin to create a few centimeters of space between the bin and the material beneath it.
5. Once you have stacked and assembled all of the bins, you begin to prepare your top bin with moist bedding (shredded paper, dried leaves, coconut coir, etc) as well as a few handfuls of compost and moist soil. Next, add food scraps to the top bed, and cover the scraps with an additional layer of bedding.
6. After the system has been active for a while, the worms will multiply and the compost will start to decompose. Once most of the material in the main bin has decomposed and the compost has a dark, rich color and texture, the bins can be rotated to help move worms out of the finished worm castings. To do so, swap the empty bin in the middle to the top layer and fill it with fresh bedding and food scraps. Over time, the worms will begin to migrate upwards towards the fresh bin, leaving the fully decomposed material to be used in your very own garden!
7. Keep repeating the process by rotating the top two bins and draining the bottom for compost tea.

### Tips for Creating a Vermicompost system:

1. Red wigglers (*Eisenia foetida*) are the best variety of worms to use for vermicompost because they eat their weight in food and green scraps everyday.
2. Make sure to keep your vermicompost system damp and well drained at all times to create an environment where the worms will thrive.
3. Set up your vermicompost system in a shady, cool area to help maintain a constantly moist environment for the worms.
4. Fruit and vegetable scraps, coffee, egg shells, tea bags, and unbleached paper are all great things to add to worm bins. Avoid adding any onion, garlic, citrus, oil or dairy products- which are more difficult for worms to process and could potentially be harmful to your worm population.
5. Smaller sized items are easier for worms to break down, so it may be beneficial to cut fruit and veggie scraps into smaller, more manageable pieces for our little worm friends to eat.

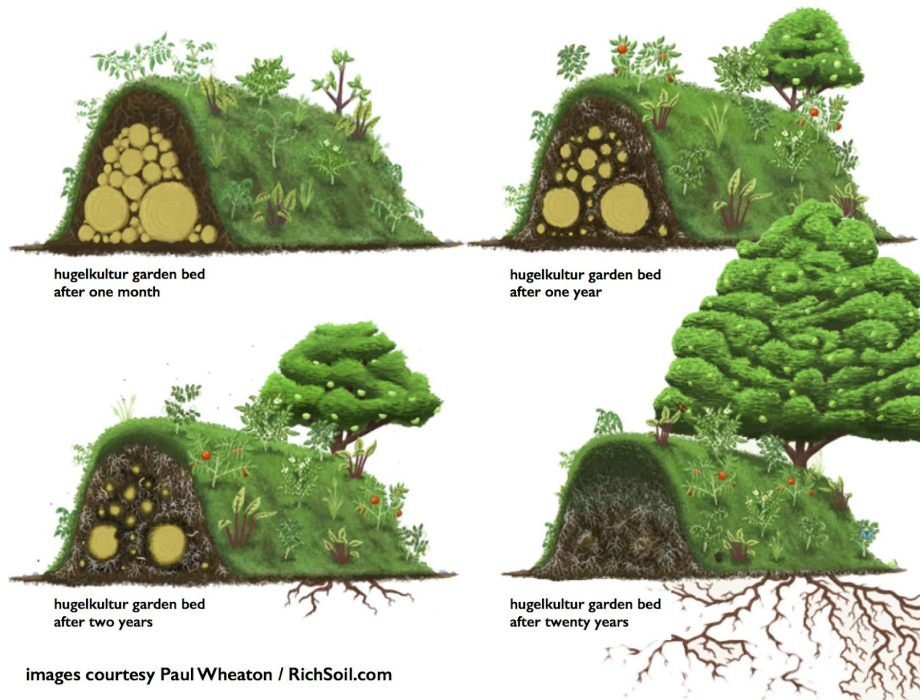
6. Since worms have no teeth, adding egg shells or some other type of “grit” can help worms break down food particles.



To learn more about Vermicomposting, check out our 'Resources' page on our website!

### Hugelkultur:

Hugelkultur is a method of composting that comes traditionally from Germany and is translated to “hill culture”. This method of composting is done by creating a mound of rotting wood, logs, and debris to create a hill or mound, then covering it with soil. The benefit to this method is that organic matter is constantly being added to the soil as the wood and debris continuously decompose under the surface of the bed. The organic matter that is added to the soil from broken down green waste will assist in the soil retaining water, as well as adding vital nutrients to the soil that help create a thriving garden.





Hugelkultur can also be used in raised beds by simply creating a layer of logs and rotting wood at the bottom of your raised garden bed, and then covering the wood pile with at least 10 inches of soil.



**Tips for creating your own Hugelkultur bed:**

1. Hardwoods break down slower, so it is ideal to fill the bottom of your Hugelkultur bed with hardwood, and then layering softwood and twigs on top
2. The top layer of soil should be at least as deep as your layer of wood and debris
3. Add nitrogen over time as the wood continues to decompose to maintain a healthy C:N ratio



## Tree Pruning Guide

**Tree planting season:**

The best time to plant trees in SLO county is in January and February before trees have leafed out and when the soil is still moist. Bare root trees are a great way to go as they are usually less expensive and you won't risk them having gotten rootbound in a pot at a nursery before they came to you.

**Spacing your trees:**

Different sizes of trees will need to be spaced differently. See the chart below to determine how far apart your trees will need to be planted:

	<b>Dwarf varieties</b>	<b>Semi-Dwarf varieties</b>	<b>Standard varieties</b>
<b>Feet to plant apart</b>	8-10'	12-15'	over 18'

**Planting/Depth:**

Trees do best when planted in a hole dug 3ft deep and 3ft wide. When placing soil around the tree do not cover the trunk with

soil as it can lead to rot, only put soil high enough to cover the roots. If possible have the soil in the hole level with the



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surrounding soil to avoid erosion and runoff filling in around the tree trunk.

### Pollination:

Some varieties of fruit trees are self-pollinated, meaning they will produce fruit without having to cross-pollinate with another tree. If your trees require cross-pollination you will have to plant a male and a female variety of each tree. Often even self-pollinated trees will produce better if they are planted among other trees of the same variety. Employees at nurseries that sell bare root fruit trees will be able to help you pick a good pollinator for whatever fruit tree(s) you are planning on planting!

**Protecting your trees:** Our area has many different predators that can negatively impact (and even kill) trees. The main ones to worry about are gophers, deer, birds, and voles/mice.

The first step to ensuring your trees are set up for a good life is to make sure that their roots are protected! To do this you can put together a wire mesh basket 2.5ft - 3 ft wide and 4ft deep out of ¼” hardware cloth. It is


important to use only ¼” hardware cloth as baby gophers have been known to squeeze through spaces larger than this and wreak havoc on fruit trees.

Once your basket is ready, you will need to dig a hole 3’ deep to bury it, leaving a foot of the hardware cloth above the soil to make sure there is a good barrier around the tree above ground level, as well as below. This offers protection against mice and other small rodents which can nibble off the cambium layers of trees, resulting in tree death.

Once your basket is in the hole and you’ve filled it in with soil, dig out an area to place your fruit tree in. Make sure the trunk is sticking up straight, and position the tree in a way you find aesthetically pleasing while pushing soil around it to hold it in place.

Later in spring/summer, when your tree has leafed out and/or produced fruit, you may look into additional protection from birds and deer. Below is a table with different options.




### PROTECTING FROM DEER AND BIRDS

METHOD	PRO'S	CON'S
Plastic netting 	Fully covers the tree.  Keeps birds from eating fruit.  Prevents deer from nibbling leaves.	Netting tears fairly easily and gets tangled in tree branches.  Birds and lizards sometimes get trapped within the loops and die.  Can be time consuming to construct and take down.





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<p>Reflective objects like CD's and metallic streamers</p> 	<p>Can deter birds!</p> <p>A good way to repurpose now-obsolete CDs.</p>	<p>Can look junky (or funky!) depending on your tastes.</p> <p>Birds can get smart and realize there is no real threat.</p>
<p>Deer fence and "t" posts.</p> 	<p>A permanent solution for Deer.</p> <p>Can be used to surround individual trees or whole orchards.</p> <p>Fencing can double as a trellis for nitrogen-fixing peas.</p>	<p>Does not help with birds.</p> <p>Expensive and labor intensive.</p>
<p>Automatic motion-sensing sprinkler</p> 	<p>A hightech way to deter deer from an area without closing-in the area with fencing!</p>	<p>Expensive.</p> <p>If not turned off, it will spray you when you are in the orchard!</p> <p>Deer and other animals can eventually get smart and realize that there is no real threat.</p>

### Mulch/Soil:

When you first plant a tree it is best to just use the soil you already have. Though it may seem intuitive to use good, rich garden soil, this will not help your tree develop hardiness to your local soil, and may also risk burning the roots with too much nitrogen. However, if the local soil is extremely infertile or hard, adding in some soil mix would make sense.

Once your trees have been planted, it is a good idea to mulch them every springtime by adding a thick "doughnut" of wood chips around the base. The wood chips contain fungi and bacteria that will help your trees grow!

Living mulch is another great way to get nutrients to your trees! To do this, plant a cover crop of fava beans, bellbeans, vetch, clover, and/or buckwheat at the base of



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your trees. You can later chop and drop these plants to help them decompose over time into the soil.

### **Water:**

In our dry climate artificial irrigation is necessary to get trees established. Trees need deep waterings, less frequently than your annual garden crops. As their roots grow out from the base, it is best to water in a ring around the trees and not close to the trunk which can cause rot, and won't be absorbed as easily by the tree's roots. A ring of irrigation tubing and emitters can do this. Sprinklers are another option for orchards.

While trees are getting established (for the first 2-3 years), it is best to have waterings scheduled for at least 3 days a week for an hour each time during the dry months. In winter and spring, (unless we are in an abnormally hot or dry period), no additional waterings are required. However, when experiencing drought-like conditions, it is a good idea to do supplemental watering once a week during fall and spring.

### **Sun damage:**

Tree bark can get sun-damaged. Ways to prevent this include painting the trunks in light-cool colors such as white or pastel blues and greens. Use exterior acrylic house paint for this. DIY milk paint is a natural alternative to store bought paint. Other options include wrapping the trunks in burlap.

### **Pruning:**

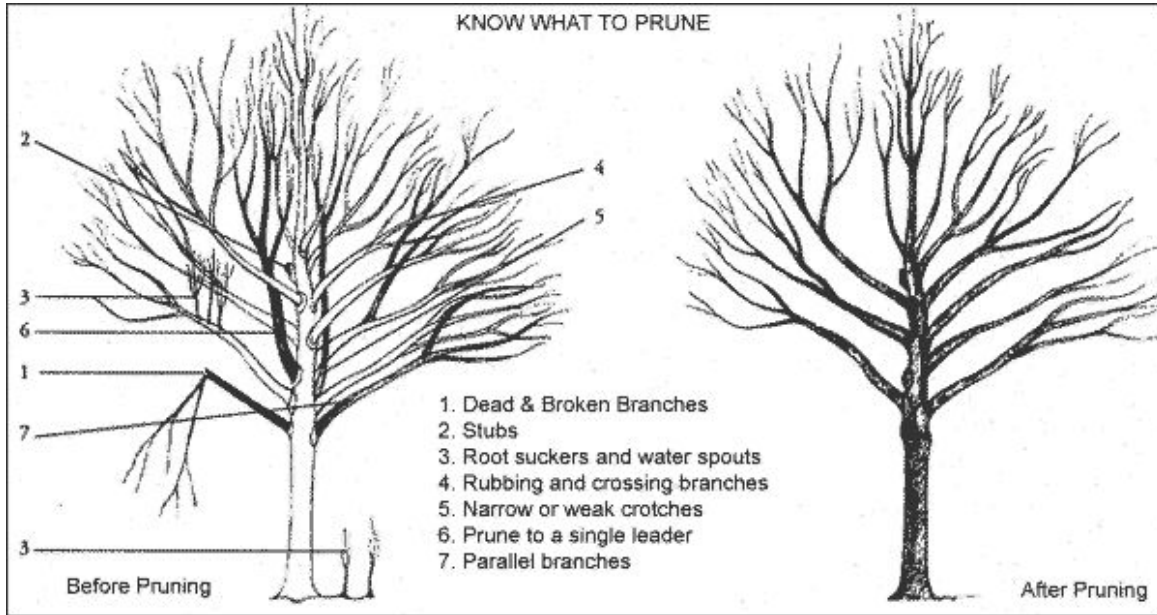
Once your tree has been in the ground for 1-2 years it can be pruned every winter. Pruning helps in several ways. 1) It

encourages good fruit production. 2) It creates a healthier tree with the weight evenly distributed among its branches to prevent snapping. 3) It creates a more aesthetic tree suited to your uses. For example, a tree can be shaped in a way that makes it easier to walk beneath or to harvest fruit from.

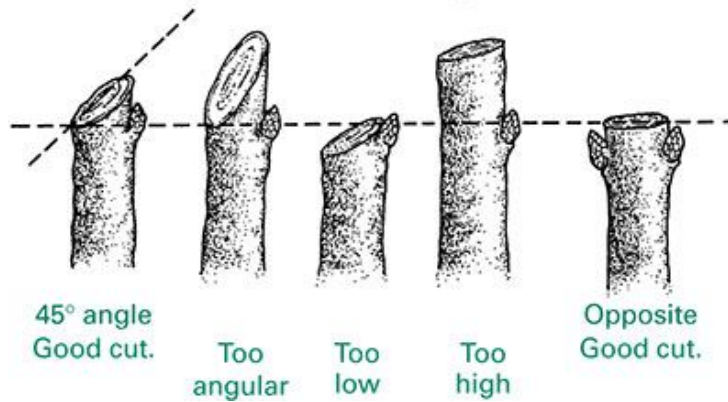
When pruning, there are a number of different branches you will want to lop off. These include dead or broken branches, suckers (tall straight branches coming up from the rootstock), water spouts (tall, straight branches coming up from other branches), branches that are growing down toward the ground, and branches that are growing up into other branches. Your goal is to have an open, airy tree, in which branches do not touch or rub against one another in the wind. This helps make your tree less susceptible to humidity-loving diseases and it also makes for easier harvesting. See the diagrams below for a visual guide.

Apart from *what* to prune, you need to know *how* to make your cuts. Typically a 45-degree-angle cut starting at about ¼" above a bud is good. This slight slant will help water run off the cut, rather than accumulating there which could lead to rot! See the diagrams below for a visual guide.

To be able to prune your tree you will need at least two different tools. A pair of loppers enable you to clip off branches up to 2 1/2" round. A pruning saw will help you tackle anything larger than that. Once your tree gets to full height, you might also need a pole pruner to be able to prune higher branches.



**Pruning cuts in relationship to stem buds**



**What Trees to plant:**

The following page has a table with trees you might want to plant in your school garden. All of them will produce fruit during the school year. Many are drought tolerant as well. It is important to consider where to plant your trees. If they have thorns you won't want them in a place easily accessible by the students. If they have messy fruit you will want them to drop it in somewhere out of the way that won't stain sidewalks and cause more work for your school custodian!



**BEST FRUIT TREES FOR SLO COUNTY SCHOOL GARDENS**

Type of Tree	No. Co. Inland Varieties	So. Co. Inland Varieties	Coastal Varieties	Low-water	Messy fruit	Fruiting time	Notes:
Almond	Butte Mission	Butte Mission	Neplus Ultra Garden Prince Dwarf			Aug-Sept	
Apple	Fuji Gala Pink Lady	Fuji Gala Pink Lady	Anna Tropical Beauty		✓	July-Nov	
Asian Pear	Shinko Kikusui	Shinko Kikusui			✓	Aug-Sep	
Avocado		Stewart Duke Jim	Hass		✓		
Feijoa	Coolidge	Coolidge	Coolidge			Winter	Fruity, edible blossoms too!
Fig	Black Mission Brown Turkey Kadota	Black Mission Brown Turkey Kadota	Adriatic Osborn White Genoa	✓	✓	Jun-Nov	Easy to preserve by drying!
Jujube	Lin Lang	Lin Lang		✓		Sept/Oct	Has thorns.
Lemon		Meyer Lisbon	Eureka				Has thorns.
Loquat	Early Red Tanaka Big Jim	Early Red Tanaka Big Jim				Jan-may	
Mulberry	White			✓	✓	Summer	Provides deep shade
Orange		Valencia Navel	Valencia Navel				Has thorns.
Persimmon	Fuyu	Fuyu	Fuyu			Oct-Nov	
Pomegranate	Wonderful Ambrosia Granada	Wonderful Ambrosia Granada	Eversweet	✓		Oct-Nov	Has thorns.



## Managing a Successful Green Team

### What's a Green Team?

A Green Team is a group of students who are committed to helping build a greener school environment by volunteering during lunch and recess to help other kids sort their lunch waste. They also bring that waste to their school's worm bins to be composted. The green team works with the principal, teachers, custodians, other students, and GEMs to help reduce the amount of food waste that goes into the landfill, and works to inspire other students to use sustainable practices.

### Getting Started:

The first step to getting a Green Team going for a particular school year is to connect with the school's principal. If the school does not yet have a Green Team, you can share some of the benefits of starting a Green Team: it teaches kids about composting, reduces waste at the school, and gives students an opportunity for leadership and environmental stewardship. An added benefit to the school is that a successful Green Team will help a school to become a Green Ribbon School. If a principal is interested the next step is to make sure all infrastructure is in place.



### Infrastructure

Does your school have a worm bin for each school day?\* Old plastic wine grape crates work well for this. Your school will also need a source of water directed to the worm bin area via hose and at least 4 plastic buckets to collect food scraps at the different lunches. 1 flat-headed spade (small enough to easily fit in and out of your bucket) is also needed, and 4 circles of ½" thick plywood cut to fit into the bottom of your bucket. Some schools might like to provide uniforms to distinguish green team members. These can be as simple as a green lanyard with a clear plastic card sleeve in which you can insert a card that reads 'GREEN TEAM'. Sometimes yard duties also have extra yellow-neon vests that they can loan to Green Team members during their shifts.

### Green Team Shifts:

If your school already has an established Green Team, contact your principal to find out whether there is an established system in place for when students are on Green Team duty. If not, discuss the different options and pick what seems best for the school. Different options include having Green Team members assigned for one week of the month, or for one/multiple days of every week.



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Note: on a given day, you may have kids from 5th and 4th grade classrooms assigned to Green Team duties. Some schools like to always have some 4th and 5th grade students on the Green Team at the same time so the younger kids can have guidance from the older ones.

*\*Note that some schools will prefer to just allot one day of the week as the Green Team day such as 'Worm Wednesdays.' In this case you will only need one working worm bin at your school.*

### Selecting Students:

Send out an email to all 4th and 5th grade teachers requesting them to select the green team students with 5 being a maximum number of students per class who can participate on a given day. This will make scheduling easier. Having teachers in charge of selecting students helps ensure the students chosen for the Green Team will have shown

themselves to be responsible and committed in the classroom. Ensuring this will lead to less headaches for everyone later on down the road. However, a prerequisite for Green Team membership should be a desire to participate in that way!

**Tip:** *It is helpful to start a green team with classes and students who have recently taken the "Pollution & Our Waste" Phenomenal series. That way students are more likely to understand the importance of their volunteerism.*

### Training:

A great time for training Green Team members and initiating a Green Team for a given school year is at your waste audit. Try to set a slot aside for Green Team training, ideally this will be during one of the school lunches or snack periods so that you can show students what to do.

- Training is also a good time to go over agreements for how to conduct oneself when on Green Team duty. It is also an opportunity for students to discuss sustainability goals they have for their school.
- While you are training your Green Team, you also need to train the student-body to understand what the Green Team is! If you can, join in on every grade's lunch to make a quick announcement about the Green Team. Ask your school if you may borrow a microphone to better get everyone's attention.





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### Announcement about Green Team:

Try and keep it short and to the point for kids. Below is possible wording you may use or adapt for your announcement.

*Hi everyone. I am your garden educator, \_\_\_\_\_. Today I am announcing the Green Team. The Green Team will be here at every school lunch to help you sort your waste into the right bins! Check it out. We have a bin for trash, a bin for recycling, a bin for liquid waste, and a bin for worm food! Who knows what worms eat? That's right, your leftover fruits and veggies! Just remember to take your food out of plastic bags before putting it in the worm bin bucket. Also, there is one type of fruit worms won't eat-- Oranges and Tangerines. But any other fruit or veggie goes in the worm food bucket. By donating your leftovers, you help feed the worms and help your school garden!*

### Tips for Maintaining a Green Team:

Green Team is hard. It involves bad smells, giving up a valuable recess, and sometimes dealing with yellow jackets that are attracted to the food. To keep up regular attendance and commitment among your green team try the following:

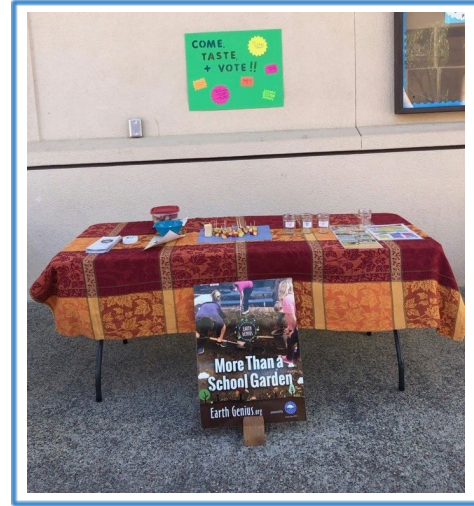
- Participate alongside the Green Team on the days you are on campus to help them with the whole process.
- Creating fun activities to do afterward, such as a fun activity in the garden.
- Track the compost over time: write notes or take photos of how the compost looks to see how it decomposes over time. Have the green team help you harvest compost to put into the garden once it has decomposed! Engaging students in the whole process of decomposition gives them a better understanding of how food breaks down and what it looks like in compost form.
- Creating something that unifies them: a green team "badge" they can make & wear during green team or green team t-shirt.
- See if you can participate in a school awards ceremony to publicly acknowledge green team members.
- Host an end of the year Green Team party! "Mud" pudding cups with gummy worms might be a fitting treat.

Find **EVEN MORE** information about the benefits of a Green Team on our website:

<https://www.onecoolearth.org/zero-waste.html>



## Garden Taste Tests and Recipes



*Taste tests create excitement and encourage kids to taste new healthy foods or recipes*

### Key Considerations

- **Timing:** When are you leading the taste test?
  - Usually lunch works best but check with administrative staff. The cafeteria lead and custodian are usually key players.
- **Numbers:** How many students/staff are you planning to engage?
  - Ideally the whole school! Use the recipe conversion sheet to adjust recipes and play with serving sizes to make procurement realistic!
- **Logistics:** Who will prepare the food, run the taste test, and clean up?
  - During the taste test: are you at a table, utilizing a rolling cart? Refer to your cafeteria rules and establish a set-up that can be implemented and established as routine throughout the year.
  - You will be the lead. Typically, food service staff are busy with prep for the day. Once a Green Team is established, taste tests can be a great way to delegate and empower students to teach others.
  - Engage volunteers!
- **Recipe selection:** Does your cafeteria have harvest of the month? Highlight foods being used in the cafeteria or harvested from the garden. If your taste test is focusing on foods other than cafeteria ingredients or garden produce, consider the following:
  - Seasonal
  - Local





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- Accessible and affordable
- Culturally relevant
- Feasibility: Do you have the time, money, and equipment?
- **Recipe Scaling:**
  - Divide the desired new yield by the existing recipe yield.
  - New yield/old yield = conversion factor
  - Multiply each ingredient quantity by the conversion factor: Old quantity x conversion factor = new quantity
    - Example: You have a recipe for 10 portions of broccoli casserole with cheese sauce, requiring 3 pounds of broccoli and 2.5 cups cheese sauce. You want to convert to 15 portions.
    - $15 \text{ (new yield)} / 10 \text{ (old yield)} = 1.5$  conversion factor
    - So- Broccoli: 3 lbs. X 1.5 = 4.5 lbs. Sauce: 2.5 cups x 1.5 = 3.75 cups
  - Note: For seasonings, some recipe conversions may overstate the new quantity. Use your best judgement and don't be afraid to taste, adhering to sanitary standards.
- **Preparing Food:** Where will you prepare the food?
  - If possible, try and find a spot on campus. I.E. the lounge, home ec room, or the cafeteria if possible. Be respectful of shared spaces and leave the area cleaner than you found it!
- **Supplies:** What supplies will you need?
  - If you need to borrow large mixing bowls or industrial-sized equipment, ask the cafeteria lead during one of his/her prep times (not during service!). They may or may not be able to accommodate but it never hurts to ask!
  - Serving materials: portion cups, tooth picks, napkins, plates, gloves, tongs, sanitizer wipes, trash can, etc. Consider set-up, flow during taste test, and clean-up.
- **Build interest:** How will you advertise?
  - Posters, announcements, fliers/newsletters, etc.
  - Identify where the food comes from! The school garden, a local farm, tells the story!
- **Share input:** Have the participants vote on whether they "tried it, liked it, or loved it". You can do this with a bean drop into labeled jars, dot voting, stamping, tally charts, or ballots. How will you share results?
  - Bulletin board, announcements, etc.
- **Consider avoiding common food allergies** (source: American Academy of Pediatrics).
  - Many schools are not allowed to serve peanuts, for example.
  - Other common allergies in children: cow milk, eggs, peanuts, soy, wheat, tree nuts (walnuts, pistachios, pecans, cashews), fish (tuna, salmon, cod), shellfish (shrimp, lobster)



## Garden Recipes

### **Crunchy Carrot Slaw**

#### **Ingredients:**

SALAD

2 cups shredded carrots (about 4 medium carrots)

1/4 cup fine chopped green or red bell pepper

1/4 cup raisins or craisins

1/4 cup unsalted cashews or sunflower seeds

DRESSING

1/4 cup orange juice (juice from 1/2 orange)

1 Tablespoon vegetable oil or olive oil

1 Tablespoon low sodium soy sauce (I used liquid aminos)

1/8 teaspoon ground ginger

1/8 teaspoon garlic powder

1 teaspoon honey or sugar

#### **Directions**

Combine carrots, peppers, raisins and sunflower seeds in a bowl.

Combine orange juice, vegetable oil, soy sauce, ground ginger, garlic powder and honey or sugar in a jar. Cover and shake to blend.

Add the oriental salad dressing or your favorite salad dressing. Stir to blend.

Refrigerate for a few hours to blend flavors.

Refrigerate leftovers within 2 hours.



### **Garden-greens Pesto**

#### **Ingredients:**

1.5-2 cups of herbs or greens (fava bean leaves, arugula, parsley, leek leaves, chard, basil, mint, are all options!)

Juice from 1 lemon

1-2 cloves garlic

1/4 cup nuts or seeds (sunflower seeds is a cheap allergy-sensitive choice)

2 tbsp cup olive oil

2 tbsp cup nutritional yeast or grated parmesan cheese

A pinch of Salt (opt.)

**Directions:** Put ingredients in a food processor and blend until smooth.

Serve spread on crackers, bread, pasta, or spiralized zucchini noodles ("zoodles")



**Arugula Hummus and carrots**

**Ingredients:**

- 1 cup packed arugula
- 1 can rinsed and drained garbanzo beans
- 2 TS tahini
- 2 TS olive oil
- 2 cloves garlic (or 2 teaspoons dried granules)
- Salt and pepper to taste
- Lemon juice

**Directions:**

Put all ingredients in a blender/food processor and blend until smooth! Depending on what consistency you like you may want to add more olive oil or tahini, this will make the hummus more creamy. Chopp up your carrots and voila.



**Roasted Zucchini Squash with Marinated Cherry Tomatoes**

**Ingredients:**

- 2 large zucchini
- ½ yellow onion
- 2 cloves garlic (or 2 teaspoons dried granules)
- Salt and pepper to taste
- Olive oil
- Basket of cherry or pear tomatoes
- Balsamic vinegar to taste
- Wooden toothpicks

**Directions:**

Preheat the oven to 400 degrees. Cut squash into ¾ -inch squares. Cut onion into even ¼-squares. Mince garlic. Liberally pour olive oil into a large roasting pan, add the zucchini, onion, garlic, salt and pepper and stir well to coat.

(Do not overcrowd the roasting pan! For best results roast a single layer of the vegetable mixture, otherwise the result could be more like steamed squash than roasted.) Lower oven temperature to 375 degrees. Roast for 15 to 20 minutes until tender, turning and stirring as needed for even browning. Remove from the oven and set aside to cool.

Wash and dry tomatoes. Cut in half (lengthwise if oblong) and place in a glass bowl. Drizzle with enough olive oil to coat and add balsamic vinegar and ground pepper to taste. Marinate in the refrigerator for at least one hour. Skewer a cube of the roasted zucchini and then one of the tomato halves. Place into a serving cup. May be served chilled or at room temperature.

*Note: Although delicious to adults, the onion and garlic flavors may be too strong for very young pallets. Roasting with just oil, salt and pepper may be more to their liking.*





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### Garden Salad

**Ingredients:**

Harvest as many different greens as possible like lettuce, kale, chard, spinach, dandelion greens, sorrel etc.

1-2 local sweet apples

Purple or green cabbage

Green onions

Carrots

Edible flowers such as calendula, manzanita (when in bloom), daisies, nasturtium, or sunflowers!

Mixed herbs : thyme, rosemary, oregano & mint

**Directions:** Harvest, Chop, Mix, Enjoy!

Simple salad dressing- Equal parts olive oil to balsamic vinegar, add salt, pepper & lemon to taste.



### Rainbow Smoothie

**Ingredients:**

1 large red beet (boiled)

2 peeled whole oranges

2 bananas (best if frozen before hand)

1 cup raw spinach

1/2 cup kale

1/2 blueberries

Grape juice ( or any other juice desired)

Ice

**Directions:** blend all ingredients, add enough liquid and ice for desired coldness & consistency



### Wild Herb Bread

This recipe is fun because it is all up to the baker to experiment and decide what ingredients they'd like to add to their bread for flavor.

*Here are some Ingredients that we have had success with:*

hummingbird sage, black sage, nettles, oregano, rosemary, thyme, marjoram and chives.

**Directions:**

chop about 3-4 tablespoons worth and add it to my bread mix.

Below is a link to a super simple bread recipe:

<https://butterwithasideofbread.com/homemade-bread/>





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### Chimichurri Sauce

#### Ingredients:

- 1 bunch worth parsley leaves (some stems ok)
- 1 bunch worth cilantro leaves (some stems ok)
- $\frac{3}{4}$  cup olive oil
- $\frac{1}{4}$  cup red wine vinegar
- 3 cloves of garlic
- 1 teaspoon red pepper flakes
- $\frac{1}{2}$  teaspoon salt
- $\frac{1}{2}$  teaspoon pepper

**Directions:** Combine all ingredients in a food processor. Pulse for 30-60 seconds until combined. Serve on raw or cooked vegetables. Keep in an airtight container or pint mason jar refrigerated for 2 weeks.



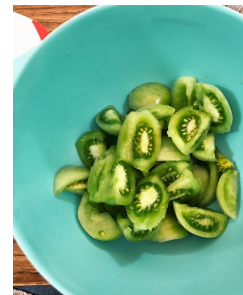
### Green Tomato Salsa

#### Ingredients:

- 1 lb. green tomatoes
- $\frac{1}{2}$  white onion, diced
- $\frac{1}{2}$  tsp. salt
- $\frac{1}{2}$  cup chopped fresh cilantro
- 1 tbsp. lime juice
- Optional: 1 or 2 diced peppers (we recommend serrano)

#### Directions:

1. Cut the green tomatoes in half and cut out the interior section around the stem. Cut the tomato in half again to make quarters. Lay the slices on a baking sheet lined with foil.
2. Turn on your oven's broiler and broil for 5 minutes or until lightly browned. If you do not have a broiler, use the hottest temperature your oven can reach and roast for 10 minutes or until lightly browned.
3. Add the broiled tomatoes to a food processor and pulse to break them into pieces. Add onion, salt, cilantro, lime juice, and peppers. Pulse a few more times until the desired texture is reached. Serve immediately or set in the fridge for an hour for the flavors to come together.



### Sweet and Salty Pumpkin Seeds

#### Ingredients:

- 1.5 cups pumpkin seeds
- 3 tbsp. olive oil
- 1.5 tbsp. sugar
- $\frac{3}{4}$  tsp. cinnamon
- $\frac{1}{4}$  tsp. salt

#### Directions:





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Preheat the oven to 350 degrees. Clean and dry pumpkin seeds. Toss with oil, sugar, cinnamon, and salt. Spread in a single layer across a cookie sheet. Roast 20-30 minutes, flipping halfway through. Store in an airtight container.

### Easy Kale Chips

#### Ingredients:

- 1 (10 oz) bag cut kale, or 1 bunch kale, de-stemmed and cut into 3-inch pieces
- 1 tbsp olive oil
- ½ tsp. salt

#### Directions:

Preheat the oven to 350° degrees. Wash and dry kale. Drizzle olive oil over kale and mix/massage with your hands until all kale leaves are lightly coated with oil. Sprinkle with salt. Place kale chips evenly in a single layer on a baking sheet. Bake for 10-15 minutes until kale is crisped, stirring as needed. Place on a paper towel to soak up any excess oil. Store in an airtight container for up to 1 week.

#### Notes:

Instead of roasting the kale, you can leave it as a raw massaged kale salad. Squeeze some lemon juice on it for some added flavor!



## How to Organize a Family Cook Night



*Is there anything more fun than eating your art project? Cooking creates a sense of ownership. When kids help in the kitchen there are fewer meal-time battles and willingness to try new healthy foods. Cooking also reinforces skills like math, teamwork and following instructions that help kids succeed. Our goal for Family Cook Nights is to encourage families to adopt cooking and eating together, even if for one night out of the week. Cooking at home equips children with the skills to cook for themselves as adults and*



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*empowers them to take into consideration their portions and nutritional content of meals. It also provides time for families to hang out together, and imparts psychological and health benefits. Family Cook Nights are our way of promoting healthy lifestyles outside of school walls.*

### Pre-Event Planning Considerations

- Meet with school site point person (principal, guidance specialist) to review the Family Cook Night events, set dates and location. Aim for at least 8 weeks before the event.
  - Host Family Cook Night in the school cafeteria on a weeknight. Mondays are shown to be the most successful day at starting a new healthy habit and are more likely to be continued throughout the week.
  - Delegating tasks: Who will.... Fill out facilities use form, send out take home flier sign up, collect take home flier sign up, confirm with families (through a second take home flier or automated phone call home - necessary step!), translate (both documents if needed and in person at the class)
  - Set max number of attendees based on budget
- Connect a volunteer group or school site families to help with setup and cleanup of the event.
- Make take home fliers (at least one month before event)
  - Place in the teacher lounge, front office, garden, etc.
- Put info in newsletter
- Create both an electronic sign up sheet and a printout to be posted in the school office
- School to put on website/social media
- Select recipe and translate
- Procure ingredients and materials
- Confirm with signed up families one week in advance: second take home flier, automated phone call home, PTA, facebook announcements.

### Methods for Holding a Large Cooking Class

- Choose 1, no more than 2, dishes to make. Choosing “one pot meals” that are well rounded is a great way to encourage families to cook together during a school night.
- Create one large dish together eg. casserole, pasta, soup, etc. Families help to prepare the ingredients through cutting, measuring, mixing, etc. and you prepare the dish “cooking show style” for the group.
  - Allow for recipe variations





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- Families can either each have a task (tomato dicers, etc.) or with a little pre-planning and math you can have each family/table prepare every ingredient to follow the prep from start to finish.
- Pick a recipe (many great options above) that participants make personal sizes of! This could be a tostada, pizza, etc.
  - Allows for participants to follow a recipe from start to finish
  - Personalization and ownership is key

### Event Agenda

#### 1. Set Up (1 hour)

- Sign in table: email sign up, aprons, and chef hats that can be decorated.
- Cooking tables: lay out ingredients, pick flowers for bouquets, etc.
- Cooking cart: where you have things like ingredients to pass out, 1 recipe to review, cooking tools for demonstration, family conversation starters, etc.
- Microphone and amp (playing background music is a nice touch!)

#### 2. Welcome Guests and Settle In

- Crayons to color paper chef hats
- Beverages
- Family conversation starter cards

#### 3. Introduction and Housekeeping

- Who you are and your role
- Location of bathrooms, where to get water
- Ice breaker: Fun fact, like a fruit or vegetable that starts with the same letter as their name.
- Review educational objectives of the activity

#### 4. Value of Cooking Together as a Family

- Engage the audience by asking kids to share if they help cook at home. How do they help? What is their favorite thing to make?
- Share why it is important to cook with kids.
  - Exposure to scratch cooking helps kids develop a mature palate.
  - Kids are much more likely to eat what they make.
  - Meals prepared from scratch usually contain more nutrients.
  - Cooking together provides a natural way to discuss nutrition.







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- The earlier they learn how to cook, the sooner they will learn an essential life skill.
- Spending time in the kitchen gives them confidence.
- Preparing meals together means quality time as a family.
- Our purpose of holding the class: to encourage families to cook and eat together (even if only for one night per week!), and to equip families with basic cooking tasks that kids can be involved in.

### 5. Review the Recipe

- Begin with the title. Based on the title, what types of ingredients will we be using today?
- Hold up each ingredient, discuss the health benefits of the ingredients and allow kids to touch and smell.
- Review steps: which are kid friendly tasks, who will be preparing what?

### 6. Hygiene and Safety

- How to wash our hands; make a game out of it and have families guess how long it is recommended to wash for (20 seconds! Sing happy birthday). Have everyone wash hands.
- Knife safety: the claw and saw

### 7. Make the Recipe

- During prep, walk around and assist families. Converse about the health benefits of the meal, cooking experiences, etc.
- While baking or simmering, have children pull a family conversation starter card. Encourage family conversation and have children share their discussion to the group!

### 8. Eat and Enjoy!

- Encourage students to share with each other about how they made their own dish.
- Reinforce positive messages about eating veggies! Compliment the young chefs on a job well done.
- Encourage kids not to “yuck someone’s yum” only use positive words to describe the dish. If someone is not a fan of the dish, recommend positive language to describe what they think should be done next time to make the recipe better.

### 9. Wrap Up

- How was it?
- What was your favorite part of the class?
- Will you make this recipe again?
- Is there something you would do differently?

### 10. Clean Up

- Trash and compost sorting station
- Where to put their dishes
- Leftovers to take home
- Have volunteers clean tables, wash dishes, and sweep floors



# How to Organize and Lead a Garden Workday

*Workdays are crucial for staying on top of garden maintenance. They are great for getting large projects completed such as building beds, wood chipping, mulching, etc. Not only that, they are also a great way to build community relationships and get the school community excited about the garden space!*



## Before

1. **Collaborate with your school principal to decide on a day and time for the work party.**

### *Tips:*

- *Saturday and Sunday mornings tend to receive the best attendance, usually from about 9-11 am. We have also had success on weekdays immediately after school for about an hour and a half.*
  - *We do not recommend exceeding 2 hrs for the workday as volunteers tend to wear out.*
  - *It may not be a bad idea to confirm a couple backup dates just in case.*
  - *The longer ahead you can plan, the better (at least one month).*
2. **If the workday is taking place on a weekend, fill out a Site Facilities Form found either online on the district website, or in the school's front office. This must be completed as soon as possible- as it must go through a review process before approval.**
  3. **Recruit the Group!**  
*A selection of volunteer groups:*
    - *Large businesses that factor in paid community service days for their employees*
    - *The school community*
    - *Religious organizations*
    - *University clubs/Greek life*
    - *Master Gardeners*
    - *Boy Scouts/Girl Scouts*



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- *Local philanthropic organizations- Rotaries, Kiwanis, etc.*
  - *High school community service clubs*
  - *Local gardening groups*
4. **Market your Garden Workday to the school and larger community**
    - *Create flyers to post around campus, as well as a digital flyer to be sent home in the school newsletter*
    - *Ask your principal to make a morning and afternoon announcement*
    - *Share on social media*
    - *Leave a signup sheet in the front office with a space for contact information*
  5. **Send a sign up confirmation email to your individuals or volunteer group letting them know the activity, the date and the time, and what to bring (sunscreen, hat, reusable water bottle and closed-toed shoes).**

### Day Of:

1. **Make sure to have water and a first aid kit available within the garden for volunteers. Volunteers also tend to appreciate a provided snack!**
2. **Set out a sign in sheet and/or waiver**
3. **Make a list of tasks to be completed- include many more than you can ever imagine getting completed!**
4. **Welcome and directions** – call volunteers together as a group if you can, ask them to pass on the welcome information to late arrivals.
  - Did everyone sign in?
  - A little about you, your organization, and the garden.
  - Describe the task and impact this task will have
  - Location of bathrooms
  - Expectations of them + tool safety
  - Sincere thank you for attending

### End: (5-10 minutes)

- Make sure that everyone signed in
- Acknowledge what's been accomplished and ask volunteers to share about what they enjoyed from the day
- Talk about future volunteer opportunities

### After:

1. Send a 'Thank You for Attending' email or letter and provide contact info so that they can reach out about future opportunities.



## Local Suppliers

(San Luis & Santa Barbara Counties)

School gardens are in need of supplies every year. Always mention to suppliers that you are working with a school garden- you'd be surprised what donations or discounts you can get! Check with local nurseries as they typically love to support getting kids into gardens. Below are a few organizations we have enjoyed working with over the years.

### Soil Suppliers

Engel & Gray, Mier Brothers Landscape Supply, San Luis Landscape Supply, SiteOne Landscape, Kritz Trucking, North County Compost Supply.

### Garden Infrastructure

Farm Supply, Miner's Ace, The Home Depot, Lowe's, Outdoor Supply Hardware.

### Plants & Seeds

Bay Laurel Nursery, Gather Urban Agriculture, Las Palitas Nursery

Online Seed Suppliers- These companies supply more than just seeds but often are generous with seed donations! Look out for their seed packets when shopping in garden supply stores. Botanical Interests, Baker Creek Heirloom Seed Company, Seed Savers Exchange, Grow Organic, Johnny's Selected Seeds.



## Garden Songs, Poems, & Jokes....

*Weaving creative-expression and the arts into your Earth Genius lessons will help appeal to children's learning differences, and introduce concepts in fun and exciting ways!*

### Songs

Songs are a fun way for students to learn a concept. They also help unify a group and foster a sense of belonging!

<p><b><u>My Roots Go Down</u></b> By Sara Pritil <i>My roots go down, down to the earth. My roots go down, down to the earth. My roots go down, down to the earth.</i></p>	<p><b>The Gardener Song</b> To the tune of Monty Python's "I'm a Lumberjack" <i>I'm a gardener and I'm OK I sleep all night and I plant all day! I dress in grubby clothing, and hang around with slugs.</i></p>
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<p>My roots go down.</p> <p>Note: you can make up your own additional verses such as " My birds fly out, out in the sky"</p>	<p>Oh I'm happy in the garden With dirt and plants and bugs . . .</p>
<p><b>Scat Rap</b></p> <p>It starts with an 'S' and ends with a 'T' It comes out of you and it comes out of me I know what your thinking don't call it that, let's be scientific and call it scat.</p> <p>Note: Kids will enjoy this even more if they can help make a beat.</p>	

### Stories

Stories are a great way to hook student's interests. Studies have even shown that people learn better when information is transmitted through a story. Interactive stories, like the ones found below, are especially great for keeping younger children engaged.

#### **The Gnome's Garden An Interactive story**

You've heard about garden gnomes right? Little magical people that are said to live in the garden and help the plants grow? Well this is a story about one such gnome, and two children who were about as old as you are. They wanted to plant a garden, but they didn't have any seeds. "We can't grow a garden without seeds!" Exclaimed one of the children. "You're jumping ahead" Said the other child, "The first thing to do is dig!"

So they got out their shovels and began digging, but as soon as they slid their shovels into the soil they heard a little voice from under the ground cry out "Stop! Stop! What are you doing! This is my house!" And what should appear but a little gnome stomping about angrily.

"We're sorry. We just wanted to grow a garden." The children said.

"A garden you say? Well I like gardens...hmmm" he thought to himself, "but I also like riddles. Oooh I like riddles very much." He clapped his hands, "If you can guess my riddle I will let you garden here."

"What's the riddle?" they asked.

The gnome replied:

**"I appear dead when really I'm alive  
Although I am small, I can have a tree inside  
Water and food, I can live without.  
I can survive hundreds of years of fire and drought!  
I can swim in the sea and can fly through the sky.  
What am I?"**

Can you help the children answer the gnome's riddle? (have children raise their hands to guess.)

That's right the answer is seeds! When the children told the gnome he got very happy. "You guessed my riddle, and for that I will present you with a bag of seeds." (At this point you can show the kids a bag of seeds you have.) The children were delighted! They would get to the garden after all! And they even had seeds to plant!

#### **Extension activity:**

Now lets see what seeds the gnome gave the children (Pass out a few seeds to each child and discuss how those gnomes riddle was right. Do seeds really move in the sea? What about in the sky? How can they survive fire and drought? (Their seed coats). This can lead into dissecting the seeds or planting them in the garden!



## One Cool Earth: School Garden Guide

### The Broken Rainbow An interactive story

You've seen a rainbow before haven't you? Well, a rainbow is made up of many colors: Red, Orange, Yellow, Green, Blue, Purple and most of the time all the colors live happily together in the sky waiting for the rain to bring them out. But one day, they started to fight.

Red said that he was the most important color. "If it weren't for me there'd be no strawberries, or apples, or roses!" "Well now," said Orange, "if it weren't for me there'd be no oranges, or poppies, or carrots!" "Hey," said Yellow, "I'm actually the most important color because I am the color of sunshine!" "Hmm," Said Green, "I'm not so sure about that. I am the color of grass, leaves and trees!" "Oh really" said Blue, "You think you're so important but did you know from space our planet looks blue? And the sky is blue, so there!"

"Hey guys" whispered purple. "We're all important. Guys?" But no one could hear purple because they were all shouting too loud and then they began to push and shove until they lost their balance and fell from the sky! Red, and Orange, and Green, And Blue, and Purple all fell down!

Pretty soon, when each of the colors were alone and by themselves, they felt really silly. They missed the other colors and wanted to be back together again. What's more, they no longer felt that one of them was more important than the other!

Can you help find the colors and bring them back together again? (Break the class into different "color teams" to find their colors in the garden. Have them bring back petals, leaves, rocks, feathers, fruits, and other nature objects to create a rainbow!)

### Rhymes and Ditties

The rhymes and ditties you will find below are easy to learn and teach with motions. They are great for kindergarteners and first graders to get their wiggles out before or in the middle of a lesson.

<p style="text-align: center;"><b>Seed</b></p> <p style="text-align: center;"><u>I'm a little seed</u> (crouch on the ground)</p> <p style="text-align: center;"><u>I grow in the ground</u> (Wiggle fingers above the soil)</p> <p style="text-align: center;"><u>Turn into a tree</u> (Stand up with arms outstretched)</p> <p style="text-align: center;">Blow all around (Sway from side to side)</p>	<p style="text-align: center;"><b>Leaves</b></p> <p style="text-align: center;">I'm a little tree Covered in leaves When the win</p>
<p style="text-align: center;"><b>Cloud</b></p> <p style="text-align: center;"><u>I'm a little cloud</u> (Put hands over head to form a big 'O')</p> <p style="text-align: center;"><u>I rain down</u> (Wiggle fingers down to the ground)</p> <p style="text-align: center;"><u>Soak into the ground</u> (pat the ground with both hands)</p> <p style="text-align: center;"><u>and the sun brings me up again,</u> (Stand up arms outstretched)</p>	<p style="text-align: center;"><b>Gratitude</b></p> <p style="text-align: center;"><u>Thank you for the blossoms</u> (Open hands together to make a flower shape)</p> <p style="text-align: center;"><u>Thank you for the root</u> (Wiggle fingers like roots)</p> <p style="text-align: center;"><u>Thanks for the leaves and stem</u> (Wave hands back and forth)</p> <p style="text-align: center;"><u>Thank you for the fruit</u> (Clap hands together)</p>

### Jokes

Everyone loves a good joke. It's a great way to engage children at the beginning of a lesson or when you start to notice fidgeting. Choosing jokes that fit with a lesson can even be educational.



## One Cool Earth: School Garden Guide

Why did the garden educator ask the students to bring their pencil's to the garden?	<i>So they could weed and write!</i>
Why did the mushrooms invite the mold to his party?	<i>Because he knew mold was also a fun guy.</i>
What did the bee say when it came back to its hive?	<i>Honey, I'm home!</i>
What did the student say after the garden educator told the bee joke?	<i>Insect jokes really bug me.</i>
What sometimes happens when gardeners get nervous?	<i>They wet their plants.</i>
What did the traveler say after taking a trip to Mesopotamia?	<i>It was lovely, some of the fertile river valleys (like the Euphrates and Tigris) are absolutely gorges.</i>
What happened when the plant took a math class?	<i>It grew square roots!</i>
What did the alien dandelion say to the earth dandelion?	<i>Take me to your weeder!</i>
Why is a radish called a radish?	<i>Because it's rad but not that rad.</i>
A crow flies down into a garden, goes up to the scarecrow and asks, "Why do you look so funny?"	<i>Scarecrow says, "Hay, it's in my jeans!"</i>
I refuse to work with compost. It's degrading	
Why do potatoes make good detectives?	<i>Because they keep their eyes peeled.</i>
What did one knife say to the other?	<i>You look Sharp!</i>
Why did the student eat his homework?	<i>His teacher told him it was a piece of cake!</i>
I always knock on the fridge before I open it. Just in case there's a salad dressing.	
It remains to be seen how this salad is going to turn out.	
What is half the diameter of a radish?	<i>A radiu-ish</i>



For more information about our organization, please visit [onecoolearth.org](http://onecoolearth.org)



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