

### Looking at Standards

Many states or regions have developed a framework of content standards. They are designed to help define the knowledge, concepts, and skills that students should acquire at each grade level. Students are very often tested on these standards during the school year, and the resulting scores indicate whether the school or teacher is succeeding. Understandably, many school administrators and teachers are very concerned about ensuring that the content standards are met.

Standards vary across states, regions, and most significantly, nations. Understanding your particular region's standards will help you make the case to your school community that the garden is a wonderful place to teach them.

Standards can often be easily researched on the internet, along with many different garden curricula, the amount and variety of which can be overwhelming. It might be easier to work backward by determining what the established curricular standards are for any given grade level, then finding a garden-based lesson that addresses that particular standard.

Look around to see what other school sites nearby may be doing. Gather advice and perspective from coordinators who have already undergone the process of developing a garden program. This way, you will save time and resources. Many coordinators have created their own lesson plans and are often willing to share them.

### Example of State Content Standards

Grade 1: Earth Sciences Standard 3

Weather can be observed, measured, and described. As a basis for understanding these concepts:

- Students know how to use simple tools (such as a thermometer or wind vane) to measure weather conditions and record changes from day to day and across the seasons.
- Students know that the weather changes from day to day but that trends in temperature of rain (or snow) tend to be predictable during a season.
- Students know that the sun warms the land, air, and water.



## Working With Classroom Teachers

At the beginning of the school year, the garden coordinator should meet with all teachers of the targeted grade level, and find out what units in their scope and sequence they would like to cover in the garden and when.

It is important to let teachers know that garden time will be instructional time and to encourage them to work with the garden coordinator to develop ideas of what curricula to explore in the classroom. Often a content standard will be introduced in the classroom, then echoed and underscored in the garden.

Keeping records of what lessons and standards are taught in the garden, and maintaining a lesson plan book to document the activities, will be useful for evaluations at the end of the school year. Evaluate what works and what doesn't, so that over time you can develop your own strategy for teaching in the garden.

## Beyond Curriculum: Making Space for Natural Phenomena

While it is important to find relevant curriculum to build your garden program, don't overlook the unanticipated opportunities any natural space provides to inspire awe and wonder. A garden is a wonderful place for students to begin to understand something real about their own habitat. Despite the most rigorous intention to keep to the lesson plan, when something is happening out there (and it almost always is), it is impossible not to direct our attention to it. Seize these moments in the garden where the natural world takes over the teaching.

## Journaling

Journaling strengthens writing and observation skills, and one can't help but be impressed by the progress a student will make over the course of a school year. Journals can be as simple as several folded sheets of paper stapled together. All students who come to the garden should have his or her own journal that travels to and from the garden with them.

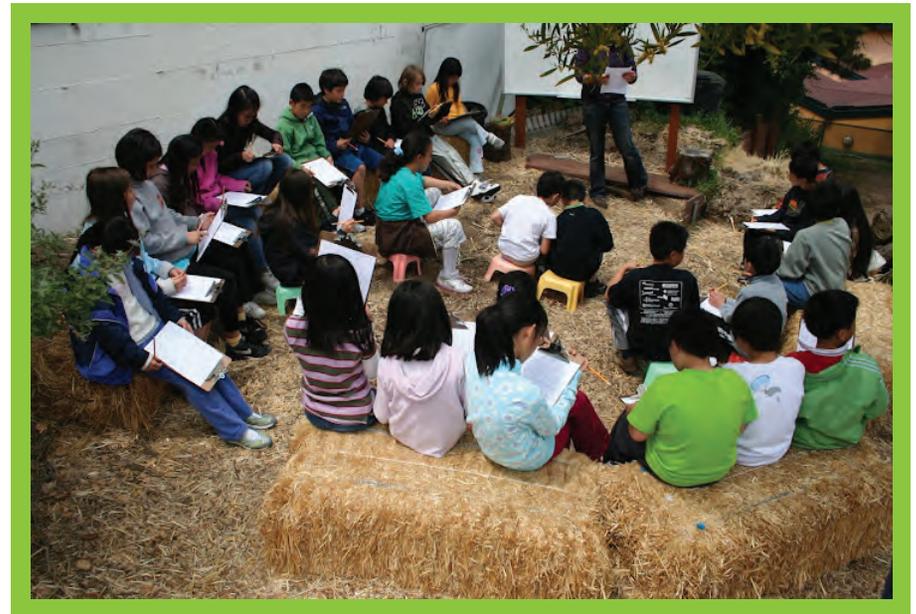
## Scope and Sequence

A teacher's "scope and sequence" refers to specific units of study and when they will be taught. Ask teachers for this yearly curriculum plan as it can help you roughly chart out the year's garden lessons according to what students are learning in the classroom. A typical scope and sequence for kindergarten science discovery, for example, can look like:

Fall: Myself and Others

Winter: Five Senses

Spring: Seeds and Weeds



# How can I manage an entire class in the garden?

## What are some handy classroom management techniques?

Young students are particularly excited about coming to the garden. Have them develop a habit of settling down a little bit before they come through the garden gate.

Remind students that even though they are outside, it is not recess time. Keeping young students (kindergarteners and first graders in particular) busy in the garden is important, so find parent volunteers to help out.

Have a menu of age-appropriate activities. It is important to establish how to “be” in the garden: calm, watchful, focused, attentive, and interested. These behaviors should be modeled and taught from the very first garden class and reinforced throughout the school year. As you move through the year and students get used to coming to the garden, it will become easier to focus their attention for longer periods of time.

Remind students that it is a privilege to be outside and that those students who cannot handle being there will be sent inside.

### Model a Positive Approach to Learning

Many students have never thought about the learning that goes on outside of the classroom. Of course they do it all the time. They are constantly soaking up information around them. Remind students that when they are doing a free-choice activity, such as looking for bugs, burning ants (they will eventually figure out how to do this with the hand lens), or picking a bouquet of flowers for the front office, that they are learning.

### Independent Tasks for Students

- ✓ Watering.
- ✓ Digging out weeds with forks.
- ✓ Picking up trash on the schoolyard.
- ✓ Mapping the garden.
- ✓ Going on scavenger hunts.
- ✓ Observing habitats.
- ✓ Digging in a designated area.
- ✓ Sketching.
- ✓ Journaling.



*Digging in a designated area is a great independent garden task.*

## Be Prepared

There are some garden activities that you will be able to do on a whim, like weeding or watering. Others, such as harvesting or planting, demand a little prep time. And lessons require thoughtful planning. Take the time for these preparations, as they will save you panic and headache during class time.

## Divide and Conquer

Most class sizes range between twenty and thirty students. Commanding their collective attention in the garden for a detailed task is a tall order. Dividing the class is a helpful technique. Always introduce any new volunteers or other adults who will be helping with the class.

Working with a smaller group of students will allow you to offer more individual attention and the freedom to explore more complex activities in depth. We have found that the ideal group size is eight students.

Before splitting up, it is useful to address the whole group with the plan for the session, and then regroup again at the end of the class to reflect.

## Appoint Student Leaders

Appoint a student leader in each garden class. Not only will this be a position that students clamor for, it will also help spread garden ownership (and shorten your prep time!).

## Attach Lanyards to Hand Lenses and Magnifying Glasses

Small things inevitably get lost in the garden. Attach lanyards to tiny hand lenses and magnifying glasses so that students can wear them around their necks while exploring the finer details of the garden. Return them to the shed in their own container with the number of lenses marked on the side. String and shoelaces are not recommended as their invariably get tangled together and it is time consuming to pass them out.

## Signals

Establish a system for signaling that it is time to switch jobs or start to clean up (cow bell, bird call, etc.).

## A Sample Station Rotation Schedule

TIME	GROUP A	GROUP B
1:00-1:05	Whole Group Introduction: Parts of the Plant	
1:05-1:20	Plant Dissection with Garden Coordinator	Plant Scavenger Hunt with Teacher
1:20-1:35	Plant Scavenger Hunt with Teacher	Plant Dissection with Garden Coordinator
1:35-1:40	Whole Group Wrap-up	

## Establish a Routine

Over time, build a culture around an opening circle, active hands-on stations versus worksheet or quiet reflection areas, and closing rituals. Student ownership over the process will allow the class to succeed and allow you to go deeper into the lessons.

## Create Expectations and Rules Together

Encourage your students to come up with a set of rules for being in the outdoor classroom. Write them together and display them in a prominent place.

## Utilize Whiteboards

For more visual learners, it is always handy to have the theme of the opening/closing circles written on a whiteboard or an easel, along with the garden jobs for the day.

### Find Your School's Rhythm

The principles that guide a school's scheduling practices are developed over time. Key considerations have gone into the development of your school's master schedule, such as teacher availability, child development, academic priorities, and room availability. These limitations and considerations produce a daily rhythm unique to every school. Getting a sense for your school's rhythm is an essential first step in developing your garden class schedule.

When is lunch hour and recess? Do physical education classes take place only in the afternoon? How long does roll call and settling in take in the morning routine? Are there bells? By asking teachers and staff members questions like these, you will get a sense of the school day's general progression and begin to identify time periods when garden class could fit logically within the larger schedule framework.

### Finding the Right Schedule

Once you have talked to teachers and staff and identified the limitations on your scheduling options, decide on a rotation scheme that would integrate well within the larger master schedule. In our experience, the most popular models are weekly rotations and block scheduling.

### The Weekly Schedule

At many schools, students have garden class once a week, usually for short sessions of roughly 30 to 45 minutes. Garden class becomes a fixture in the class's weekly schedule, and students get to watch a series of seasonal cycles in the garden throughout the school year. We suggest scheduling one grade level per day in this model, as this will help you focus on one set of standards at a time. It is hard to switch immediately from teaching kindergarteners to fifth graders.

When drawing up a weekly schedule, keep in mind that Mondays and Fridays are days of the week more likely to disappear due to holidays, vacations, field trips, and special events. As you get to know your school community better, try to schedule flexible, communicative teachers who can adapt to rescheduled classes for these days of the week. We have also found it helpful to have regular make-up time available on a weekly basis so that any rescheduled classes have a natural place to go.

### A Sample Weekly Garden Schedule

Day of the Week	First Group	Second Group	Third Group	Lunch in the Garden!
Monday 2nd Grade	1:00-1:30 Jessie Brown Room 203	2:00-2:45 Susie Lam Room 202	3:15-3:45 Katherine Jones Room 201	3rd Graders 12:00-12:30
Tuesday 3rd Grade	1:00-1:45 Mervin Wong Room 306	2:15-2:45 Susanna Peters Room 307	3:15-3:45 Josh Berger Room 207	1st Graders 12:00-12:30
Wednesday Kindergarten	12:45-1:15 Raymond Ng Room 101	1:45-2:15 Sabrina Maline Room 104	2:15-2:45 Gina Smith Room 103	4th and 5th Graders 12:00-12:30
Thursday 1st Grade	1:00-1:45 Amy Greenspan Room 105	2:15-2:45 Belinda Travers Room 206	3:00-3:45 Calvin King Room 102	2nd Graders 12:10-12:45
Friday 4th & 5th Grade	1:15-2:00 Lila Joffery, Room 305 Kelly Nis, Room 301 (alternating weeks)		3:00-3:30 Elle Mack, Room 302 May Chu, Room 303 (alternating weeks)	Kindergarten 12:10-12:40

## A Sample Block Garden Schedule

SEMESTER WEEK	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
GARDEN CLASS	Kinder- garten (5 weeks)					Grade 1 (5 weeks)					Grade 2 (5 weeks)					Grade 3 (5 weeks)					Grade 4 (5 weeks)					Grade 5 (5 weeks)										

### The Block Schedule

At some schools, a blocking system might be the best way to schedule garden class. In a block schedule, you can organize the school year into blocks of time for a group of grade levels. In this model, kindergarteners and first graders might visit the garden for class once a week for five or six weeks during the fall, second and third graders for five or six weeks in the winter, and fourth and fifth graders for five or six weeks in the spring. The block schedule model allows you to focus in intensely on certain grades and standards for a sustained period of time.

There are some important factors to keep in mind while developing a block schedule. In between block rotations, leave days for flex. These extra days might be used to make up missed classes or allow you to prep before shifting to another set of grades and standards. Seasonal weather is also an issue. In the garden, there will probably be fewer tasks during the winter, while the temperate fall and spring months will usually be more active. Make sure that the students signed up for the winter block one year rotate into the spring or fall session the next year. Over the course of their time at the school, students should have the opportunity to observe the garden throughout all seasons.

### Divide and Conquer

In either scheduling model, we have found that dividing classes is a helpful technique. Most class sizes range between 20 or 30 students. Commanding their collective attention in the garden for a detailed task is a tall order. Parent volunteers or the class teacher can lead half of the students in an activity at one station, while you work with the other half. Or, at some schools, half of the class will stay indoors with the teacher for a lesson one week during garden time, and switch the following week. Working with a smaller group of students will allow you to offer more individual attention and the freedom to explore more complex activities in depth.

### Making it Consistent

Now that you have decided on a rotation model that will work for your garden, present a garden class schedule to teachers and staff. We have found that offering up an organized, formal schedule for the garden works better than asking teachers to show up whenever is most convenient for them.

By establishing designated time slots for every class, you begin to create an organized structure that teachers and staff will appreciate. Publish the schedule early. We have found that a public online calendar, such as a Google calendar with different colors for every grade, is enormously helpful for communicating your schedule to teachers. Another advantage of a publicly accessible calendar is the opportunity for teachers to switch time slots with another teacher of the same grade level one week if need be. Electronic schedules are also easier to keep up to date, but some school cultures will favor the paper print-out in the teachers' boxes.

A clear, hard-and-fast schedule will also make it easier for you to recruit routine parent volunteers. Parents will also know when to remind their kids to wear their gardening clothes and students will begin to look forward to their garden time. A consistent, organized garden class schedule is an essential step in making the garden part of your school's culture.

### Leave Some You Time

It might seem possible to lead five classes back-to-back in a given day, but you won't want to. When designing your schedule, be sure to leave flex time. You will need enough time to clean up, prep, and set up for your next class. Equally important, you will need time to download after a lesson. Be sure to take time to sit down and take notes on what worked and what didn't in a certain lesson, and write down your reflections. These will be valuable reminders down the line.

## A Sample Station Rotation Schedule

TIME	GROUP A	GROUP B
1:00-1:05	Whole Group Introduction: Parts of the Plant	
1:05-1:20	Plant Dissection With Garden Coordinator	Plant Scavenger Hunt With Teacher
1:20-1:35	Plant Scavenger Hunt With Teacher	Plant Dissection With Garden Coordinator
1:35-1:40	Whole Group Wrap-up	