



# what to do: **A School Garden Calendar**

The purpose of this calendar is to provide a guide to help you manage and maintain your school garden. It is divided into administrative, community-based, curriculum-based and gardening tasks.

## september

### Administrative:

- Schedule Garden Council meetings for the year (consider assigning classes to beds).
- Create calendar (e.g. Google Calendar) to determine who will be assigned which garden chore and when.
- Capture garden observations in your record keeping system: What grew well? What didn't?

### Community-based:

- Schedule and plan a harvest festival for the fall and invite the community.

**Curriculum-based:** The fruit/seed stage of the lifecycle in its prime state.

- Plant seeds and pull weeds to explore the different plant parts. Have students identify the plant parts of many plants in the garden to see a diversity of roots, stems, and leaves.
- Assign different gardening tasks to students to show how working together is beneficial to achieving school garden tasks.
- Have students create their own journals to use in the garden to keep track of what they plant. This is a great resource for tracking numbers, and for writing observational notes. At the end of each garden unit have students gather and record the data in one place.

### Gardening:

- Early September is your last chance to plant cool season crops such as kale, spinach, radishes, lettuce, mustard and asian greens, and cover crops. You can replace finished summer plants with these crops.
- Start saving seeds for next year.



### just so you know

**Seed saving** is an ancient practice where farmers and gardeners choose the best of their crops to save seed for the next growing season. This makes a great in-garden activity, as well as a history or math lesson! Some seeds, like peppers can be dried right on the plant. For others, like tomatoes and cucumbers, the seeds are removed from the flesh of the fruit, and then washed, dried, and stored.



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## october

### Curriculum-based:

- Observe seasonal changes in plants (and insects) in the garden; fruit trees and flowering herbs will work great for this lesson.
- Explore garden invertebrates, including worms, soil insects, and bees.
- Observe invertebrates that feed upon plants and help plants (e.g. bees). Have the students draw pictures of the animals they see in the garden.
- While in the garden, explore different things that are solids (soil), liquids (water), and gases (air). Combine into a lesson about the needs of plants.

### Gardening:

- Begin to harvest cool season crops.
- Check the weather for frost (average first frost date is around November 30). Construct a hoop house/place your cold frame for season extension.
- Plant cover crop such as winter rye (<http://www.johnnyseeds.com/>) in empty beds. See below for more details.
- Divide overgrown perennials and replant for better spacing and ease of plant management. Add compost around the transplants.



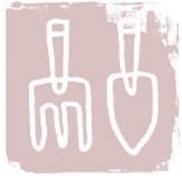
### just so you know

**Cover crops**, also known as green manures, are a way to provide rest and rejuvenation for your soil. Organic farmers have used them for years; community gardeners can also reap the benefits. Cover crops usually fall into two categories: legume and non-legume.

Cover crops provide many benefits; they can:

- **Increase the organic matter in the soil.** Both the roots and top growth contribute to the organic matter of the soil after the crop is tilled in.
- **Increase microorganisms.** Organic matter and the roots of cover crops stimulate microorganisms.
- **Help control pests and diseases.** Organic matter feeds the microorganisms that help in disease suppression.
- **Stabilize and add nutrients.** The roots of cover crops catch nutrients that would otherwise leach away. They take up excess nitrogen and return it to the soil when turned under.
- **Prevent erosion.** Cover crops help stabilize the garden soil and prevent runoff.
- **Improve soil structure and aeration.** Root action improves soil structure.
- **Suppress weeds.** Some cover crops grow so densely that they out-compete weeds; others have an allelopathic effect – they exude compounds that suppress the germination of weed seeds.





# what to do: **A School Garden Calendar**

## november

### Administrative:

- ❑ Make notes in your garden observation notebook.

### Community-based:

- ❑ Organize a community workday (parents, teachers, students) to clean the garden, plant cover crops and bulbs.

### Curriculum-based:

- ❑ Visually determine how many bulbs you need and then using verbal counting sequence, match, and count 1-10.
- ❑ Use algebraic symbols to help determine how many plants or seeds you will use for your garden bed.
- ❑ Look for patterns in the garden and describe how they repeat. Create plant patterns by planting different bulbs in the garden.
- ❑ Use an exploration of seasonality to discuss the larger concept of why seasonality occurs.

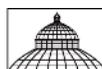
### Gardening:

- ❑ (Early November) Plant garlic and ornamental bulbs such as daffodils, tulips, and hyacinths.
- ❑ Continue to harvest cool season crops.
- ❑ Prepare beds for winter: Plant more cover crop or add 2 inches of compost on top of beds for the winter; mulch remaining areas.
- ❑ Mulch perennial areas, trees, and shrubs.
- ❑ Prune perennials. (You may also wait until March to cut back perennials).
- ❑ Disconnect your rainwater harvesting system (clean and repair if necessary).



### just so you know

***It's bulb planting time!*** Fall is a time to plant spring-flowering bulbs, like tulip, daffodil and hyacinth, plus garlic.



# what to do: **A School Garden Calendar**

## december

### Administrative:

- Capture the full season in your record-keeping system.
- Develop budget(s).
- Plan your crop rotation for next year.
- Order your seed catalogues.  
[www.johnnyseeds.com](http://www.johnnyseeds.com); 877-564-6697  
[www.highmowingseeds.com](http://www.highmowingseeds.com); 802-472-6174  
[www.fedcoseeds.com](http://www.fedcoseeds.com); 207-873-7333  
[www.jungseed.com](http://www.jungseed.com); 800-297-3123  
[www.selectseeds.com](http://www.selectseeds.com); 800-684-0395  
[www.seedlibrary.org](http://www.seedlibrary.org)  
[www.seedsavers.org](http://www.seedsavers.org); 382-5990  
[www.gurneys.com](http://www.gurneys.com); 513-354-1491

### Curriculum-based:

- Explain how important it is to care for the needs of the plants in the garden just as families care for each others' needs.
- Discuss reasons for neighborhoods to have community gardens. What activities take place there? How does it help us relate to, befriend and better understand our neighbors?
- Locate your community on a map. Use this discussion to introduce looking at or making a map of the garden.
- The ability to grow food has long been a reason people chose to move from place to place. Discuss different climates and which are beneficial for growing food (e.g. desert area vs. forest).
- Start a discussion about how your class/school has shaped the development of the garden. What did it take? People, tools, land etc. Compare that to key players in your neighborhood's community.

- Research the common crops people plant in different countries. See if you can find some seeds from the country/community you study to plant in the garden.

### Gardening:

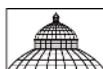
- Mulch your street trees. Protect your trees from winter road salts by adding a fresh layer of mulch. Discard and replace this mulch in spring.
- Use aspects of the garden for traditional holiday celebrations.

### just so you know

**Mulch is important!** 'Mulch' is a protective layer of material that is spread 3-6 inches deep on top of exposed soil between plants. Mulch is by far the best way to preserve the water in your soil and can be a very effective way of feeding your soil and regulating growing temperatures. Mulch can be almost anything: straw, grass clippings, corn cobs, river stones, pea gravel, chipped bricks, bark chips, leaves, peat moss, seaweed, wood ashes, sawdust and so on.

Mulch helps preserve water and regulate the temperature in your soil but it also prevents the growth of weeds, protects soil from compaction, cuts down on erosion and, if organic, feeds your soil. As the mulch decomposes, it provides that vital organic matter to your soil, encourage microbe growth and shelter earthworms. All that organic matter keeps your soil loose so that it can retain moisture and promote root growth.

– from the [www.gardenchannel.com](http://www.gardenchannel.com)





# what to do: **A School Garden Calendar**

## january

### Administrative:

- Order seeds. See December for details.
- Plan your garden for the year. Think about:
  - Including vegetables, herbs, flowers, including flowers that attract beneficial insects.
  - Crop rotation. Planting vegetables from the same family in the same spot every year can wear out the soil. Check your notes from last year. What and where did you plant? Plan to rotate each area to a different family every season. Here is a list of the plant families:

**Beet Family:** beets, spinach, chard

**Parsley Family:** carrots, celery, parsnips, parsley, fennel, cilantro, anise, dill, cumin

**Sunflower Family:** lettuces, salad greens, sunflowers

**Onion Family:** garlic, onions, chives, leeks, shallots, cipollini

**Grass Family:** corn

**Nightshade Family:** tomatoes, potatoes, peppers, eggplant

**Pea Family:** beans, peas

**Squash Family:** cucumbers, gourds, melons, squashes, pumpkins

**Brassica Family:** broccoli, cabbage, kale, cauliflower, collards, radishes, rutabaga, turnips, mustard, kohlrabi, brussels sprouts

**Mint Family:** basil, mint, rosemary, sage, savory, marjoram, oregano, thyme, lavender

**Morning Glory Family:** sweet potatoes

**Mallow Family:** okra

### Curriculum-based:

- Use basic math skills to decide how many seeds and what kinds of seeds to plant in a given bed. Assign children to different groups to sort and count seed.
- Use algebraic symbols to help determine how many plants or seeds you will use for your garden bed.
- Allow children to design a garden plan using geometrical shapes. Pay careful attention to how shapes fit together and where people would walk through the garden.



# what to do: **A School Garden Calendar**

## february

### Curriculum-based:

- ❑ Attend NYBG's Professional Development Institute during President's Week
- ❑ Visually determine how many seeds, plants, bulbs, etc., and then using verbal counting sequence, match and count 1-10.
- ❑ Grow plants, of the same species, to observe similarities between parent and offspring as well as between individuals. Discuss inherited traits, such as leaf shape, flower shape, and color.
- ❑ Use basic math skills to decide how many seeds and what kinds of seeds to plant in a given bed. Assign children to different groups to sort and count seed.
- ❑ Use algebraic symbols to help determine how many plants or seeds you will use for your garden bed.
- ❑ Begin to use measurement tools such as rulers in the garden. Measure garden beds and lengths of pathways. Invite a discussion about volume by asking about which containers hold more (i.e. bucket, wheel barrow, garden bed).

### Gardening:

- ❑ Winter prune hardy fruit trees (apples, pears, plums, figs, cherries), grapevines and shrubs.
- ❑ Maintain your garden tools. Clean and sharpen pruners, remove rust from shovels and rakes.
- ❑ Start seeds indoors for cool-season crops like broccoli, kale, cilantro, collards, and chard.





# what to do: **A School Garden Calendar**

## march

### Administrative:

- Make notes in your garden observation notebook.

### Community-based:

- Organize a community workday in the garden.

### Curriculum-based:

- To view how organisms compete for resources: Try an experiment by planting seeds the recommended space apart, and by planting seeds very close together. Record results over several weeks.
- When planting new beds count seeds and use addition and subtraction to figure out how many seeds belong in each bed.
- Observe the color, texture, materials, and capacity to retain water of various garden soils (e.g. compost, potting soil, peat moss)
- Use basic math skills to decide how many seeds and what kinds of seeds to plant in a given bed. Assign children to different groups to sort and count seed.
- Choose several plants, especially of different forms, and study their growth cycle over several weeks. Explore how seeds, bulbs, perennials, and trees grow from March through June.
- Begin indoor transplants under growlights; early March (broccoli, kohlrabi, kale, lettuces); late March (tomatoes, peppers, eggplants)



# what to do: **A School Garden Calendar**

## april

### Administrative:

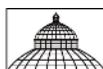
- Make notes in your garden observation notebook: Which indoor seeds are germinating? Which plants are doing well outdoors?

### Curriculum-based:

- Use standard tools to measure the length of garden beds, the size of the garden, the temperature of soil, the weight of a plant, and amt of water.
- Do a soil investigation to discuss texture, color, hardness, and odor. Describe the size and shape of raised beds. Discuss mass/weight and volume of water in buckets.
- Use several trips to the garden to observe growth, discuss soil nutrients and fertilizer and explore the lifecycle of a plant.
- Explore several types of plants (and animals) to look for and discuss adaptations, such as deep roots, broad leaves, insect-pollination, quick growth, etc.
- Discuss basic process of photosynthesis with the students. Conduct several experiments in the garden to test the effects of these factors on plants health (e.g. deprive plants of light, water, minerals).
- Discuss how water flows through the garden, from watering, to percolation through soil, to absorption by plants and evaporation.
- Explore how factors such as wind, humidity, and watering affect the evaporation of water off the soil, plants or a plate of water.
- Set up a weather station in the garden and visit it frequently. Use the outdoors to study the different aspects of weather with senses and instruments.

### Gardening:

- Prepare your garden beds around the first week in April: Add compost and turn soil when thawed.
- Sow spring seeds (peas, spinach, beets, radishes, lettuce) outdoors, and plant seedlings (kale, chard, collards, etc.).
- Check the weather for frost. (Average last frost date in NYC is May 15.) Protect new plants from frost with plastic sheeting or row cover cloth.
- Connect rainwater harvesting system (clean and repair if necessary).
- Uncover cool season crops (if any overwintered under cover/cloche), but remain wary of low nighttime temperatures until last frost.
- Refill woodchips: Call a tree trimming company to refill woodchips in pathways, play areas, and gathering areas of gardens.
- Care for garden perennials: Compost and mulch your plants.



# what to do: **A School Garden Calendar**

## may

### Administrative:

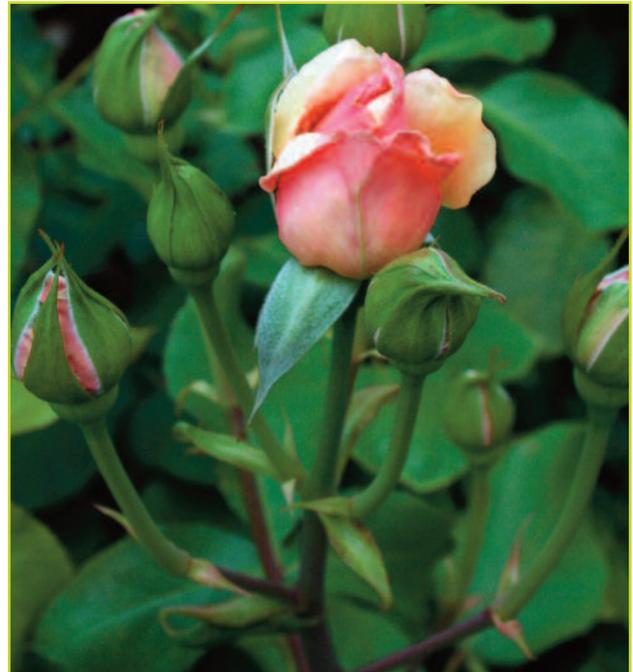
- Make notes in your garden observation notebook (especially take note of your crop rotation – What is planted? Where is it planted compared to the last several years?)
- Develop plan for how to care for garden once school is closed.

### Curriculum-based:

- Discuss basic process of photosynthesis with the students. Conduct several experiments in the garden to test the effects of these factors on plants health (e.g. deprive plants of light, water, minerals).
- Explore the different aspects of weather maps, including pressure concentration, cold/warm fronts, and isobar lines. Relate the aspects of pressure and heat to the current and future weather conditions. Make kids pretend they are meteorologist and report the next day's weather from a weather map.
- Lead the students on a scavenger hunt around the garden to look for producers, consumers, and decomposers. Construct a food web/chain that shows how energy flows through the garden system and the agricultural system in the United States.
- Study plants throughout the garden to explore both sexual reproduction and vegetative "reproduction" in garden plants. How do gardens use both of these methods to grow crops?

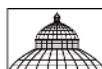
### Gardening:

- Harvest cool season crops.
- Sow summer seeds and transplant summer seedlings, then fertilize transplants (fish emulsion, compost tea, etc.).



### just so you know

***Beekeeping and Pollinators!*** Beekeeping and pollinators are two other topics to explore in the classroom and out in the garden. Activities might include storytelling or indentifying the parts of a bee.





# what to do: **A School Garden Calendar**

## june

### Administrative:

- Make notes in your garden observation notebook.
- Confirm plan for how garden will be taken care of over the summer (especially weeding and watering may need to be done daily).

### Community-based:

- Celebrate the garden with a Harvest Day before the end of school.

### Curriculum-based:

- Have students make a list of all the activities they have done in the garden. Have them survey other classes and make a master list. Are these activities promoting good health? Why? How could the food created promote good health?
- Have students research the role of diversity in crops. What are the effects of having a diversity of crops vs. a monoculture. Discuss positive and negative aspects of the agricultural system.
- Explore the effects of garden work on the human body. What effects does the work have on the respiratory, circulatory, skeletal systems? Explore how the human body repairs itself if someone cuts themselves or gets a bruise. How are the plants from the garden processed by the digestive and excretory systems? How will organic crops affect your body differently from fast food?

### Gardening:

- Inter-sow a low growing summer cover crop (like crimson clover).
- Begin to harvest garlic from last fall.
- Sow late summer crops (bush beans, collards, carrots, etc.) for late summer harvest.
- Again fertilize summer crops (fish emulsion, compost tea, compost top-dressing, etc.).
- Continue to sow salad greens.



### just so you know

#### ***Frames give plants the space they need.***

Use these frames so young children know exactly where to plant. The smaller grid allows for proper spacing of seeds, while the larger frame provides good spacing for transplants. The frames are also fun and easy to make.



# what to do: **A School Garden Calendar**

## July

### Administrative:

- Make notes in your garden observation notebook.
- Community-based: Consider canning with a group; make some pickles or jams! Celebrate the garden with a community party or potluck.

### Curriculum-based:

- Have students explore habitat destruction throughout the NYC area. What have these changes meant for native plants, wildlife, and humans?
- Explore common pesticides and herbicides that gardeners use. What is their effect on the target? What side-effects do these chemicals have on the environment?
- Explore the possible pollutants that exist in and around the school garden. Test the ground around the school for possible contaminants!

**Gardening:** the garden is a great place for summer school kids to connect with learning.

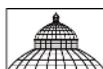
- Harvest!
- Keep on top of weeds!
- Be water-wise: Water well during cooler parts of the day – morning and evening.
- Summer prune fruit trees and fertilize well with compost.
- Sow fall crops: Start fall seeds in flats.



### try this!

#### *Use Your Senses: Smell, Touch, Taste, Hear, and finally, See – An Activity*

Directions: Your partner will have a mystery object. Close your eyes and explore the object with your senses (except sight). Think of adjectives that describe this object and guess what the object does in nature. Your partner will help by writing down your responses. When you are ready, open your eyes, but don't look at the object. Your partner will describe the object to help you draw it. What adjectives describe this object? Use these adjectives to guess what this object does in nature. As your partner describes the object, draw it based on his or her verbal description. How did the real object compare with your description and drawing?



# what to do: **A School Garden Calendar**

## august

### Administrative:

- ❑ Make notes in your garden observation notebook.

### Curriculum-based:

- ❑ Discuss reasons for neighborhoods to have community gardens. What activities take place there? How does it help us relate to, befriend, and better understand our neighbors? Visit a local community garden or farmer's market.

### Gardening:

- ❑ Harvest!
- ❑ Keep on top of weeds!
- ❑ Transplant fall seedlings and fertilize (fish emulsion, compost tea, compost top-dressing, etc.).
- ❑ Continue transplanting cool season crops.

### try this!

#### ***Herb gardens are great to grow!***

Herb gardens can serve many purposes in the school garden: a history lesson about traditional medicine, a cooking class, or a science lab, as flowering herbs attract a wealth of pollinators.

