In the East Village, children planted garlic bulbs and harvested Swiss chard before Thanksgiving. On the other side of town, in Greenwich Village, they learned about storm water runoff, solar energy and wind turbines. And in Queens, students and teachers cultivated flowers that attract butterflies and pollinators.

Across New York City, gardens and miniature farms — whether on rooftops or at ground level — are joining smart boards and digital darkrooms as must-have teaching tools. They are being used in subjects as varied as science, art, mathematics and social studies. In the past two years, the number of school-based gardens registered with the city jumped to 232, from 40, according to GreenThumb, a division of the parks department that provides schools with technical support.

But few of them come with the credential of the 2,400-square-foot garden at Avenue B and Fifth Street in the East Village, on top of a red-brick building that houses three public schools: the Earth School, Public School 64 and Tompkins Square Middle School. Michael Arad, the architect who designed the National September 11 Memorial in Lower Manhattan, was a driving force behind the garden, called the Fifth Street Farm.

The idea took shape four years ago among parents and teachers, when Mr. Arad’s son was still a student at the Earth School. The family has since moved from the neighborhood to Queens, but Mr. Arad, president of a nonprofit corporation that oversaw the garden, stayed on. The farm, with dozens of plants ranging from leeks to lemon balm, opened Oct. 19. Already, students have learned about bulbs and tubers, soil science and nutrition, while the cafeteria has cooked up fresh kale and spinach for lunch.

Mr. Arad said a conversation with his two children during an apple-picking trip spurred his interest in the farm. “They said, ‘What? Apples grow on trees?’ ” he recalled. “A lot of kids don’t get to go upstate. This is 365 days a year. It gives them an immediate, visceral connection to nature.”

Think about what this farm is like. Use these questions as a guide.
1) Describe this farm.
2) What do they grow?
3) What is it like to work on this farm?
We have two gardens; one in a fertile creek bottom, and one on a terraced, south-facing hillside. For optimum plant health and nutrition we focus on feeding the soil vs. feeding the plants. This is done through applications of compost, mulch, rock minerals, and use of green manures. These gardens grow the vegetables for our family and our customers.

The laying flock at Rora Valley Farms is composed of three to four hundred mixed breed hens including Rhode Island Red, Barred Rock, Gold Nugget, and Black Australorp. In order to mimic the way birds live in creation, the hens are kept outdoors and rotated around the farm so they can forage in the pasture and woods. They are also fed a natural grain ration mixed locally by Frank McEwen of Coosa Valley Milling. A recycled cotton wagon is used for a portable roosting shelter and nesting house and is rotated with the chickens. In order to protect them from numerous ground predators (including coyote, raccoon, opossum, and dogs) the flock is surrounded by a portable electrified netting that is powered by a solar energizer. The netting encloses around one quarter of an acre at a time. Geese are kept with the flock as well to provide hawk protection.

On a southern facing hillside above our pond sits the orchard. Still too young to be producing much, we look forward to blueberries, figs, blackberries, muscadines, and more. We purposely chose fruits that would grow well in our climate without the use of chemical sprays. Thousands of bees labor happily during the growing season to pollinate our crops and provide themselves (and us!) with honey. We use no medication in their hives and are trying to learn more how to pattern our care of them after their natural life cycles.

Built in 2007, our pond covers around two and a half acres. It provides us with a beautiful view from the house, recreational boating and swimming (including a treehouse in the middle of the pond!), and fish for the table. It is stocked with bass and bluegill. The pond is also above the Valley Garden and offers backup irrigation.

Rora Valley Farms consists of a diverse collection of 103 acres of rolling foothills in the Piedmont area of Alabama. We are working to incorporate water, forest, pasture, cropland, and brush to create a beautiful, productive, and sustainable polyculture.

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I left Los Angeles at 4 in the morning, long before first light, and made it to Bakersfield — the land of oil derricks, lowriders and truck stops with Punjabi food — by 6. Ten minutes later, I was in the land of carrots.

You know that huge pile of cello-wrapped carrots in your supermarket? Now imagine that the pile filled the entire supermarket. That’s how many carrots I saw upon my arrival at Bolthouse Farms. Something like 50 industrial trucks were filled to the top with carrots, all ready for processing. Bolthouse, along with another large producer, supplies an estimated 85 percent of the carrots eaten by Americans. There are many ways to put this in perspective, and they’re all pretty mind-blowing: Bolthouse processes six million pounds of carrots a day. If you took its yield from one week and stacked each carrot from end to end, you could circle the earth. If you took all the carrots the company grows in a year, they would double the weight of the Empire State Building.

At Bolthouse’s complex, carrots whirl around on conveyor belts at up to 50 miles an hour en route to their future as juliennes, coins and stubs, or baby carrots, which the company popularized and which aren’t babies. Other carrots become freezer fare, concentrate, salad dressings and beverages. Fiber is separated for tomato sauce and hot dogs. Whatever’s left becomes cattle feed.

Bolthouse is just one of the many massive operations of California’s expansive Central Valley, which is really two valleys: the San Joaquin to the south and Sacramento to the north. All told, the Central Valley is about 450 miles long, from Bakersfield up to Redding, and is 60 miles at its widest, between the Sierra Nevada to the east and the Coast Ranges to the west. It’s larger than nine different states, but size is only one of its defining characteristics: the valley is the world’s largest patch of Class 1 soil, the best there is. The 25-degree (or so) temperature swing from day to night is an ideal growing range for plants. The sun shines nearly 300 days a year. The eastern half of the valley (and the western, to some extent) uses ice melt from the Sierra as its water source, which means it doesn’t have the same drought and flood problems as the Midwest. The winters are cool, which offers a whole different growing season for plants that cannot take the summer heat. There’s no snow.

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