

Let's Ask the Gardener

Fourth graders explore their environment and how to care for it

International School SEK Santa Isabel
Madrid, Spain

Isabela Garcia Senent
Carmen Sanchez Ovcharov
Daniel Gray Wilson

"Wow, look at how many worms!" exclaims Tomas, lifting a leaf so his other four friends can see. He reminds them about the other worm they saw earlier on the path. "Maybe this is his home?"

Juan kneels to get a closer look. "I think those are poisonous," he points out and warns. "The hairs have poison that can cause an allergic reaction."

"No, those are centipedes and that other one is a caterpillar," Eva chimes in over their shoulder. They are all leaning forward, looking more closely at the many insects wiggling in the soil.

"I think they're eating the leaves. Is that bad?" questions Tomas. The five students begin a lively discussion, wondering the differences between the insects they see and if they are good or bad for the flowers and plants. They decide to ask their teacher, Eamonn "Or let's ask the gardener," suggests Ivan, "I bet he would know."

On a cool November morning, a class of thirty 4th graders are exploring a vegetable garden near their school, the International School SEK Santa Isabel, in downtown Madrid. The school of 350 students is situated in the densely populated and historic Barrio de los Letras district in central Madrid. Since the pandemic, the teachers have been designing "learning paths" in which students develop competencies by exploring and connecting with their neighbourhoods and nature. "Noelia, Deborah and I want our students to be aware of their natural environment and know how to take care of it," shares their teacher, Eamonn. Deborah and Noelia are teaching tutors for the grade. "So we created this path to investigate the air and sound quality in our neighbourhood but also explore the insects, birds, plants and other systems we need to take care of." During the two-hour walk



outside of school, the students traversed the busy streets to measure pollution along the way to the Huerto Retiro vegetable gardens.

On the Learning Path

With notebooks, pens, and data collection instruments in hand, the students step out of their school and onto the narrow, cobblestone streets of historic Madrid. Pairs and small groups form, creating a vibrant line of laughter and conversation as they slowly walk the narrow side streets. The small road soon opens up to a busy main street. The students notice how the noise is much louder here, from cars but also from construction and renovations happening on many of the nearby buildings. They head to a major intersection ahead and see the city's pollution haze hanging on the horizon. They notice the pleasant smell from a bakery shop and some unpleasant smells, too.

"Okay, let's stop at this intersection and take some measurements," Eamonn, Noelia and Deborah suggest. The students pull out their notebooks, to record the noise levels, air quality, temperature and other data.

"It's even louder here with all the motos," notes a girl as she compares the information to the data from outside their school. They notice a sign that says Low Emissions Zone and discuss what that might mean for the dozens of cars and buses that zip by.

After data is gathered, they cross the busy intersection and find themselves on a quieter street that has been blocked for vehicular traffic. Dozens of book seller stalls line this street, and a few owners are busily setting up for the day. A curious owner invites the students over, asking them what they are doing. Eamonn and the students tell him they are exploring the quality of air, sound and the environment of central Madrid. As they explain, several pedestrians stop to listen and nod in approval.

"It's much quieter here, can we take measurements here, too?" a student asks Eamonn and Noelia as they continue on their journey. They agree and pull the class together to take another series of measurements and compare them to their earlier recordings outside their school and at the busy intersection. Soon the class enters the gates to Parque Retiro, an expansive green space in



Madrid's center. Immediately they notice how they can hear and see birds in the dozens of towering trees that line their footpath.

"This park is the lungs for Madrid," Eamonn explains to the students walking alongside him.

"Why?" asks a young boy.

"Well," interjects his friend pointing up to trees, "it's because there are so many trees removing CO2 and we can breathe much better."

Similar conversations are happening in small groups as the students notice the vast differences in the sounds, smells and the air quality they are observing in these micro-environments. At last, they enter the park's vegetable gardens, marked by a sign that says, Huerto del Retiro.

"Observation, care, and respect for the environment are essential here," Eamonn reminds the group. "It's not just for the insects and plants—it's also for the people who work here."

A student, Noelia, points out the abundance of flowers in the garden. "Why are there so many flowers?" she asks.

"For the insects to gather pollen and pollinate the plants," one of the children explains, proudly.

The cobblestone path here is lined with dozens of garden beds and several small buildings. On the edges are many mysterious areas and objects that catch their eyes. Before they explore, Eamonn and Noelia summon the group to take another round of measurements here and compare them to what they gathered at the school, the busy intersection, and the book seller. After gathering data and some discussion, the students put their bags on various benches nearby and enjoy a brief snack.

Soon groups of students are exploring the various strange and interesting areas all around them. Several students step close to an insect hotel—a series of wooden logs and crevasses for bugs to live on a wall behind one of the garden beds. Others gather around a large scarecrow that is perched in a flowerbed. Another group spots several hand-made bird feeders, strangely shaped and decorated, hanging from a nearby tree noticing that the bird feeders would move while the birds eat and wondering how they can hold while eating. Thomas and his group of friends examine the rings from an old tree that fell. Each area invites students to closely observe details and wonder—What insects are here? What materials are used? Why is this here? What do birds eat? How old is the tree?



“Why are they destroying that tree?” Guillermo asks Eamonn as he points to a gardener cutting the limbs of a small tree nearby. Rather than answer, Eamonn invites Guillermo to ask the gardener. Guillermo and a friend do just that, asking him what he’s doing. The gardener tells them that he is pruning the tree and explains the tools he is using and why it helps the tree thrive. Delighted with their new knowledge, they run to tell others.

Meanwhile, Tomas and his friends discover a lone worm wiggling on the cobblestones. The questions come quickly: *Why is he alone? Where does he live? Why is he here? Should we help him? But how?* After much discussion they decide to leave the worm and explore a nearby vegetable bed, where they discover other worms, caterpillars, and centipedes. With many questions they run to a larger group of students who are gathering around one of the gardeners. He answers Tomas’ and other questions by explaining the ecosystem of this place emphasizing the importance of biodiversity and balance and the relationship between worms, birds, and the scarecrow.



“This is an organic garden,” he starts. “We don’t use chemical fertilizers. Instead, we make compost and create homes for insects and birds to keep the vegetables healthy.”

“So why are there hairy worms eating the broccoli?” asks Tomas.

“Well, have you seen there are a lot of birds, bird feeders and bird baths in the garden? We attract birds to control the plagues of worms.”

“But then, why do you have a scarecrow?” Julian asks.

“That is a great question! What do you think? Sometimes we need birds, but other times we need to keep them away, especially when we’re planting seeds. Did you see that we put tubes of tennis balls over the seeds? We keep it that way so the birds don’t eat the seeds so the vegetable can grow nicely. There is a whole ecosystem here!”

It is time to go so the students thank the gardeners and collect their things to begin the walk back to school. They retrace their steps, discussing what they learned and what new questions have emerged.

“I saw a lot of learning,” reflects Eamonn. “They did a great job collecting the measurements and looking for differences in the sound and air quality. But they also were noticing the trees, the sounds, the cars, the parrots, the plants in different parts of the city. They are asking a lot of good questions, too, about the insects or when they wondered about pruning the tree. By talking with the gardeners, they are learning about the environmental systems we live in and how to take care of them.” Eamonn is looking forward to coming back and he has some new ideas. “I learned from talking with the gardeners that it’s possible we could make bird feeders. I’d like to try building some things that would be useful here and we can visit them over time to see how they change.”

“I really liked going there,” Eva shares afterward. “I’m tired because we’ve walked a lot, but walking is good. We walk, asking things. I have learned that there are many people who come to work here in the garden, that there is a hotel and a buffet for insects, and that there are many flowers for pollination.”

