



# Bella Mente Montessori Academy

California Department of Education Green Ribbon Schools Green Achiever



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California Department of Education
School Facilities and Transportation Services Division
Green Ribbon Schools Award Program
January 2025

### PART II - SUMMARY OF ACHIEVEMENTS

### Bella Mente Montessori Academy, Vista, California

School Leads with Garden-to-Table Education, Energy Efficiency, and Global Environmental Stewardship

Bella Mente Montessori Academy (Bella Mente) has demonstrated a strong commitment to sustainability through its comprehensive energy conservation, health and wellness, and ecological literacy efforts. The school's Energy Action Plan, developed following a 2018 energy audit, promotes energy efficiency through student-led projects like the "Energy Guardians" and infrastructure upgrades such as solar panels, Light-Emitting Diode (LED) lighting, and advanced Heating, Ventilation, And Air Conditioning (HVAC) systems. Bella Mente has achieved notable reductions in greenhouse gas emissions and energy costs. Water conservation efforts, including xeriscaping, low-flow fixtures, and stormwater management, have significantly reduced indoor and outdoor water use. Waste management practices focus on recycling, composting, and minimizing single-use materials, supported by student-driven initiatives. Transportation improvements like bike racks, carpool incentives, and a no-idling policy promote eco-friendly commuting. Bella Mente utilizes environmentally friendly cleaning products and fosters a safe indoor environment with features like High-Efficiency Particulate Air (HEPA) filters and natural lighting. The garden-to-table program, native landscaping, and wellness initiatives like Fit Fridays promote physical and mental health. Environmental literacy is emphasized through garden education, project-based learning, and STEM-focused activities like hydroponics and waste reduction, aligning with the Next Generation Science Standards (NGSS). Bella Mente's partnerships with local organizations support environmental stewardship, fostering civic responsibility and preparing students to address global environmental challenges.

# PART III – DOCUMENTATION OF STATE EVALUATION OF DISTRICT NOMINEE

### Pillar I: Reduce Environmental Impact and Costs

Element IA: Energy

- Bella Mente Montessori Academy (Bella Mente) developed an Energy Action Plan to manage and reduce energy consumption, aiming to meet all goals by 2025. This plan arose from an energy audit the school conducted in 2018, providing a structured approach to energy conservation through realistic, multi-year goals. The Energy Action Plan incorporates educational components for students, practical deliverables for the facilities team, and recognition milestones to celebrate achievements in energy efficiency.
- Students in the school's "Energy Guardians" project promote energy conservation by
  creating personalized guidelines for responsible use at school and home. Each student
  develops a tailored energy-saving plan, tracks monthly efforts, documents savings, and
  shares guidelines with the community. This hands-on project highlights the impact of
  individual actions on the environment and expenses while integrating practical steps and
  education to reinforce Bella Mente's commitment to sustainability practices.
- In 2024, Bella Mente started monitoring its energy and water usage through the EPA's ENERGY STAR Portfolio Manager. The school recorded an impressive score of 100 for its energy baseline in August 2023 and its energy performance in March 2024.

- Throughout this period, Bella Mente reduced its greenhouse gas (GHG) emissions per capita by 26%.
- In the 2020 2021 school year, the school initiated a collaboration with the Conservation Corps Energy Program to install LED lighting on the property's interior and exterior, replacing all remaining fluorescent, sodium, mercury, and incandescent bulbs. The school purchased the fixtures or retrofit kits, and the Conservation Corps completed the installation at no cost.
- The school installed 246 solar panel modules during the summer of the 2018 2019 school year. By generating solar energy, it saved approximately \$22,877.68 in the 2020 2021 school year. According to the solar monitoring software SolarEdge, the school reduced its CO2 emissions by 672,065 pounds, equivalent to planting 5,078 trees since installation.
- Bella Mente purchases all non-solar energy from San Diego Gas and Electric (SDG&E), which provides roughly 40% of its energy from renewable sources.
- Over the past ten years, Bella Mente has redesigned its campus to improve energy
  efficiency. The school installed solar panels, sun-darkening shades, heat-reflecting
  windows, and motion-activated LED lighting. Some of the classrooms that were unable
  to install windows received Solatubes to bring in natural light and decrease the need for
  electric lighting usage in the classrooms on sunny days.
- In the Summer of 2024, the school renovated the roof of its oldest building with a white 60-mil Thermoplastic Polyolefin (TPO) membrane system, advanced Rhino Bond induction welds, and 2-inch rigid insulation. The roof provides effective thermal insulation and significantly enhances energy efficiency. The reflective property of the white membrane reduces heat absorption, leading to lower cooling costs.
- In the Fall of 2024, Bella Mente installed a new energy-efficient HVAC system, replacing aging heat pump condensing and air-handling units. The system modifies ductwork with insulated supply and return plenums, ensuring improved performance, reduced energy consumption, and lower utility costs.
- In 2022, Bella Mente replaced aging rooftop air conditioning units with energy-efficient models. In 2023, it installed a Pelican Commercial Climate Management system with carbon dioxide sensors to optimize HVAC performance, reduce energy demand, and maintain comfortable conditions in occupied spaces.
- Bella Mente combats the heat island effect by planting 35 strategically located fruit trees, installing permanent and movable shade structures, and adding drought-resistant plants and trees to the parking lot islands. The school transformed extra asphalt parking spaces into a garden with raised beds and a chicken coop. Additionally, the school added multiple shade structures over the kindergarten playgrounds and student gathering areas.

#### Element IB: Water and Grounds

- From 2016 to 2019, the school reduced indoor water use by 32.5% and outdoor water use by 26.4%.
- Staff monitor utility bills for unexpected increases, allowing quick investigations into
  equipment issues or usage errors. The school also reduced water consumption by
  switching to waterless urinals and installing low-flow faucets that dispense water for a
  set time. Bella Menta enhances indoor water efficiency with waterless urinals and lowflush toilets in student restrooms.

- Bella Mente promotes sustainable landscaping by xeriscaping entrances with drought-tolerant plants like succulents and cacti, using moderately permeable Class "C" rocks for ground cover, and turning off irrigation to conserve water. The school replaced non-native plants with native species, creating a certified wildlife habitat that supports pollinators and local biodiversity. Students water only their planted garden beds, mostly with drip systems, while staff hand-water fruit trees and garden boxes without drip irrigation.
- The school has stormwater basins around the building to capture runoff for nearby irrigation. Impermeable surfaces around the campus are designed to drain into vegetated areas by the parking lot, preventing runoff and enhancing groundwater recharge.
- In the summer of 2024, the school installed 30 drought-resistant plants and Desert Gold stabilized decomposed granite and basalt crushed rock for adequate water drainage. This reduced the need for irrigation and conserved water. In addition, the decomposed granite replaced mulch, decreasing surface temperatures.
- Bella Mente's campus spans approximately 3.5 acres, with up to 25% designated as gardens and 25% allocated as outdoor classroom space. The National Wildlife Federation has certified the school as a wildlife habitat since 2015. The landscaping features only native and water-conservation plants.

#### Element IC: Waste

- Bella Mente records a 20% diversion rate from recycling, waste diversion through sorting, and composting. Waste disposal is monitored by the daily number of buckets brought to the compost pile and the amount placed in the disposal cans. All recycling, including cans and bottles, is tallied at the end of each month when it is taken to the recycling center for reimbursement. Paper recycling, which includes meal trays, is placed in the school recycling bin and picked up once a week. Students check the contents of the bin the afternoon before pickup. They are responsible for composting, recycling, and completing tracking efforts.
- Bella Mente's waste sorting system uses color-coded containers throughout the school
  and clear signage to help students identify the correct container for disposing of their
  waste. Compost is used as a nutrient in the school gardens, where students learn to
  grow various types of vegetables.
- The school utilizes the diverted compost waste by incorporating vermicomposting (worm bins) and multiple stacked bins for hot composting to collect food scraps. A student-led Green Team assists in separating the food scraps during lunch. Additionally, the school composts vegetation cut from landscaping in a designated garden section specifically for this purpose.
- Bella Mente sources materials from a local agriculture company, which donates mulch to
  the school. This mulch helps suppress weeds, reduces green waste, and decreases the
  watering needs around the school's landscape. The school also obtains certified organic
  compost from another local source to amend planting areas for edibles and non-edibles.
- The school repurposes old paint for campus projects, avoiding hazardous waste generation. In the middle school science lab, chemicals are inventoried and disposed of annually according to local regulations, with collaboration from the facilities coordinator and waste management company for responsible disposal.

- Bella Mente requires all paper products used on campus to be Green Seal Certified and requests that all paper donations be Green Seal Certified.
- Bella Mente supports sustainability by encouraging students to use reusable water bottles and providing filtered drinking fountains and hydration stations throughout campus. This ensures easy access to safe, filtered water while reducing plastic waste.

#### Element ID: Alternative Transportation

- In a 2023 family survey, respondents revealed the following transportation patterns:
  - 57% Carpool with 2+ students per vehicle
  - o 26% Walk
  - o 9% Roll (i.e., bicycle, scooter, or skateboard)
  - 8% Other public transportation
- Bella Mente provides secure bike racks for students who bike or skateboard, ensuring a safe location to store their equipment on campus.
- The school promotes active transportation and environmental awareness through events like Bike and Walk to School Day. It has also established designated safe pedestrian routes, which are shared with families annually via email, and has deployed crossing guards at key entrances to guide students safely across the street lanes.
- In partnership with the American Automobile Association (AAA), Bella Mente distributes bookmarks, stickers, and safety posters to encourage safe walking and biking practices.
- The school received an \$800 Clean Air Microgrant from the Coalition for Clean Air, celebrating Walk, Bike, Ride, or Roll to School Day, which reduced car traffic and educated students on the environmental benefits of active transportation.
- Bella Mente has established a no-idling policy on campus. The school has signage
  asking families to turn off their engines to reduce emissions in line with California's
  Airborne Toxic Control Measure for school sites. Additionally, the school has staggered
  drop-off and pick-up times to minimize vehicle idling.
- Vehicle loading and unloading areas are located at least 25 feet away from building intakes, doors, and windows to minimize exposure to emissions. The drive lane is designed to ensure smooth traffic flow, with a designated yellow loading zone far from the building.
- Bella Mente encourages carpooling by providing dedicated parking stalls for staff and families sharing rides. The school is also installing an electric vehicle charging station to promote the use of eco-friendly vehicles.

## Pillar II: Improve the Health and Wellness of Students and Staff

#### Element IIA: Environmental Health

- Bella Mente adheres to the guidelines of the California Healthy Schools Act for Integrated Pest Management (IPM) and provides annual training for staff to foster a healthier learning environment, minimize pesticide use, and prevent pests from entering the building. Staff receive instruction on keeping food out of classrooms, emptying trash cans with food items daily, and removing attractants to deter pest activity. Monthly inspections and monitoring ensure ongoing control efforts.
- The school posts its annual IPM report on its website and communicates any pesticide use in advance, in compliance with California guidelines. To minimize reliance on

- chemical pesticides, the school also uses natural insect repellents in the garden, such as basil, fennel, sage, and citronella.
- When Bella Mente moved to its current campus in 2013, it conducted a comprehensive site assessment that confirmed the absence of asbestos and other hazardous materials. The school also complies with the Asbestos Hazard Emergency Response Act (AHERA) and maintains an asbestos management plan.
- Bella Mente prohibits fuel-burning combustion appliances on campus to eliminate carbon monoxide risks. The school operates a warming kitchen that uses only electric appliances. Additionally, builders constructed the campus with radon-resistant features, and tests have confirmed safe indoor radon levels.
- Bella Mente requires annual chemical safety training for all staff through Vector Solutions. This training educates staff on the safe use, storage, and disposal of chemicals, ensuring they understand best practices before starting. It also guides product selection, proper application techniques, and safe disposal methods. To minimize exposure risks, staff should use specific cleaning products only when faculty and students are off campus, especially during extended summer breaks.
- Administrative and custodial staff securely store chemicals in locked janitorial closets, limiting access to trained individuals and preventing untrained people from handling these materials. This practice maintains a safe and controlled environment.
- Bella Mente uses environmentally friendly cleaning products with low or no volatile organic compounds (VOCs) to promote a healthier campus. These products minimize the release of harmful chemicals, enhance indoor air quality, and protect the well-being of students and staff. The school uses Bioesque, a natural cleaning solution containing thymol derived from thyme oil. Thymol is non-toxic, non-irritating, and non-corrosive. Additionally, the school employs thymol-based products in floor machines and cleaning equipment to ensure consistent eco-friendly practices throughout its custodial operations tasks.
- Custodial staff use asthma-safe cleaning products that avoid bleach and other
  respiratory irritants. Whenever possible, the school opts for fragrance-free,
  environmentally friendly cleaning agents, ensuring that any cleaning takes place at least
  one and a half hours before staff and students arrive to allow odors to dissipate. If a
  cleaning product is identified as a potential asthma trigger, it is only used during
  extended breaks when students are off campus.
- Before introducing classroom pets, the school asks parents to disclose any asthma or
  pet allergy concerns. Parents must sign a permission slip acknowledging the presence
  of pets. In classrooms where allergies are present, fish tanks are utilized.
- High-quality air filtration systems are installed throughout classrooms and common areas to improve indoor air quality. HVAC systems are maintained with HEPA filters, reducing dust, pollen, and other pollutants that can trigger asthma symptoms. The school maintains eco-friendly landscaping with native, drought-resistant plants to minimize pollen exposure.
- Bella Mente's building designs incorporate sliding glass doors in transitional kindergarten classrooms and other classrooms that lead to outdoor garden spaces. These areas provide fresh air, natural light, and views of nature. Classrooms without outdoor views are equipped with Solatubes and indoor plants to enhance natural lighting and ambiance. High-quality dimmable LED lighting is installed throughout classrooms, and light sensors in newer classrooms adjust brightness based on daylight availability, improving energy efficiency and comfort.

- Bella Mente maintains humidity levels within the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) standard of 30-60%, creating a comfortable learning environment and minimizing issues related to excess humidity. The school maximizes the intake of fresh outdoor air through its HVAC units. Additionally, each classroom features its own dedicated air purification unit equipped with ultraviolet (UV) light to enhance indoor air quality.
- Bella Mente ensures a healthy indoor environment by contracting a third-party ventilation specialist for quarterly maintenance, including filter replacements, coil cleaning, and condensation monitoring. This optimizes humidity control and prevents mold growth. The school also conducts regular inspections of building structures, plumbing, and roofing to detect and address leaks or signs of moisture, preventing water intrusion.
- The school strictly prohibits the use of lead-containing materials in all repairs, renovations, and construction. The facilities manager reviews materials and vendors to ensure compliance and conducts routine inspections to identify potential hazards.
- The school's municipal water supply provides clean drinking water and is regularly tested to meet safety standards. A comprehensive water quality test conducted by Eurofins Eaton Analytical LLC on May 8, 2019, confirmed the absence of contaminants such as lead.
- Bella Mente adheres to Environmental Protection Agency (EPA) guidelines during maintenance and construction. To maintain a healthy environment, the school implements containment, dust control, and lead-safe practices and regularly trains staff on lead safety.

#### Element IIB: Nutrition and Fitness

- Bella Mente promotes healthy eating by implementing innovative programs and forming partnerships. For its commitment to nutrition education and community outreach, the school was recognized by The Alliance for a Healthier Generation in 2019, 2020, 2022, 2023, and 2024.
- Bella Mente's Local School Wellness Plan emphasizes healthy eating by encouraging staff to model nutritious habits and providing families with a list of approved snack options for birthdays and special occasions, such as veggie snacks, air-popped popcorn, and fruit, minimizing sugary treats.
- The school's lunch vendor, Top Notch, operates on a farm-to-table principle by sourcing ingredients from local farms in San Diego County. This commitment to fresh, local food aligns with the school's partnership with +Box, which provides weekly food boxes filled with locally sourced, organic produce to families in need. Together, these efforts address food insecurity while educating students on the importance of fresh, sustainable food.
- Bella Mente participates in the California Department of Food and Agriculture's Farm to School and California Thursdays programs. These programs provide healthy, freshly prepared school meals made from California-grown food. The school also serves locally grown produce and hosts events like Farm to Summer Celebration Week to educate students about the origins and benefits of fresh foods.
- Bella Mente integrates exercise and nutrition education for younger students through "Fit Fridays," where transitional kindergarten and kindergarten students sample fresh seasonal fruits like pears and bananas from a produce cart as well as participate in physical activities, fostering healthy habits.

- Bella Mente converted 28 parking spaces and 3,600 square feet of asphalt into a vibrant school garden featuring fruit trees, a community food forest, and a weatherproof outdoor classroom. The garden provides fresh snacks for students, incorporates passion fruit vines for shade and screening, and includes pollinator-friendly plants near the entrance that attract butterflies and support pollination while connecting to real-life science curricula. In 2024, Bella Mente expanded the garden with a Budding Botanist grant, adding five raised-bed native pollinator gardens on asphalt and concrete to supply fruit for neighbors and the community.
- Bella Mente implements a hands-on garden program across all grade levels, transforming the campus into an immersive "school as a garden" experience. Serving as a living laboratory, the program teaches ecological responsibility and sustainable practices while enhancing garden spaces around the Middle School and TK-sixth grade lunch area. In this program, students engage with nature, learning important lessons that foster environmental stewardship and community involvement.
- Bella Mente's Garden and Nutrition program, managed by a full-time teacher, engages
  middle school students five times a week and TK through sixth-grade students for 50minute weekly sessions. It aligns with California's NGSS, CCSS, The Edible Schoolyard
  Project, and Harvest of the Month curriculum. Students experience the entire gardening
  cycle—from planting to seed saving—while growing vegetables and herbs and caring for
  the school's chicken coop. They also tend to garden beds during recess, promoting
  hands-on outdoor learning and sustainability.
- The school incorporates composting into its garden program, teaching students how to recycle food scraps into nutrient-rich compost that sustains the gardens, fostering environmental stewardship and waste reduction.
- In the school's on-site nutritional science lab, students learn to cook through hands-on classes and nutrition education. They prepare vegetable stir-fries and salads using produce harvested from the garden. During monthly "Cooking it Up" family sessions, participants learn to prepare simple, plant-based recipes with fresh ingredients. These sessions promote healthy eating habits and community involvement. Additionally, digital recipes encourage families to prepare healthy, plant-based meals at home.
- Bella Mente partners with Lean and Green Kids, local farms, and grocery stores to
  provide plant-based recipes, nutrition education, and fresh produce tastings. These
  initiatives promote healthier eating habits, foster an appreciation for fresh fruits and
  vegetables, and support the physical and mental well-being of the entire school
  community.
- Bella Mente students enjoy at least 120 minutes of supervised Physical Education (PE) and wellness classes each week, primarily outdoors on a 9,000-square-foot turf field, basketball court, play structure, and blacktop area. Bella Mente has added an athletic director to enhance PE, expand competitive sports and inter-school competitions, and nurture teamwork, resilience, and school spirit. Students in fourth through sixth grades also participate in a dance program during PE, promoting creative movement and fitness expression.
- Bella Mente encourages physical activity beyond required PE classes through initiatives like The Walking Club, where students track their mileage using lanyards and barcodes and earn recognition for reaching distance milestones. Extracurricular opportunities, such as the Morning Mile running club and after-school programs like volleyball, wall ball, soccer, basketball, dance, lacrosse, and cheerleading, provide students with wellrounded, active lifestyles that promote fitness and social development.

- In the 2024 2025 school year, Bella Mente partnered with the San Diego Association
  of Governments (SANDAG) to promote sustainable and safe transportation. SANDAG
  educates parents, staff, and students on safe biking, walking to school, carpooling, and
  public transportation through workshops and assemblies. The partnership also provides
  transportation vouchers, increasing access to eco-friendly commuting options.
- Bella Mente has a wellness committee that meets bimonthly, in person and virtually, to increase parent participation and support community involvement in wellness initiatives.
- Bella Mente promotes staff wellness through weekly after-school sessions led by the
  physical education teacher, featuring team sports, group exercises, and monthly "Boot
  Camps" to reduce stress and enhance physical well-being. Staff are encouraged to join
  the "Morning Mile" running club alongside students and families, fostering community
  and fitness. Monthly newsletters provide nutrition, self-care, and mental health tips, while
  staff events offer healthier options, including flavored water and fresh fruits and
  vegetables.
- Bella Mente empowers students to make healthy life choices through the "Leader in Me" program, which fosters decision-making skills and confidence. The school also partners with Live Well San Diego to connect students and staff with community health and wellness resources.
- The school addresses food insecurity by partnering with community organizations like Vista Teen Outreach and Got Your Back San Diego to ensure consistent student nutrition, including weekend meals.
- The school offers comprehensive health support with two on-site nurse assistants and a
  full-time registered consulting nurse off-site. The nurse conducts health consultations,
  oversees screenings, and creates individualized care plans for students with specific
  health needs, including those with Individualized Education Programs (IEPs) or 504
  plans.
- Bella Mente delivers mental health support by allowing students to request counseling services through the Social-Emotional and Behavioral Support webpage, collaborating with Palomar Family Counseling to bring an additional counselor on campus multiple times a week, and providing group counseling sessions to address common challenges.
- As a Kindness Certified School, Bella Mente promotes a supportive school environment.
  The assistant principal and counselor facilitate restorative circles to address conflicts,
  lead student leadership training, and provide group counseling to support emotional
  development. Teachers have the option to arrange class-specific sessions with the
  school psychologist. The school also enhances safety and mental health oversight
  through Securely 24, an Al risk detection service, and STOPit, an anonymous reporting
  platform.
- Bella Mente is a Franklin Covey Leader in Me School that emphasizes whole-child development by empowering students and staff with the Five Core Paradigms: Everyone can be a leader. Everyone has genius. Change starts with me. Educators empower students to lead their own learning. Develop the whole person.
- Each October, Bella Mente observes Bullying Prevention Month and Kindness Week. To reinforce a culture of kindness and engagement, the school encourages students and staff to wear orange, share positive messages, and participate in after-school clubs focused on community service.
- Bella Mente partners with Vista Community Clinic to provide free dental screenings and healthcare resources to families in need and collaborates with the local Sheriff's

Department to deliver essential safety training on bike safety, internet safety, and antibullying strategies.

# Pillar III: Provide Effective Environmental and Sustainability Education Element IIIA: Interdisciplinary Learning

- Bella Mente's commitment to environmental education is rooted in its founding charter, which identifies environmental literacy and sustainability as core pillars. The charter requires all students to engage in garden and nutrition education, with TK-6th grade students attending weekly and 7th-8th grade students participating daily.
- The mission of the Bella Mente Garden Project is to empower students by fostering global environmental awareness through project-based learning and Montessori philosophies. The school's green schoolyard features garden beds, a compost system, and a habitat for native plants. Additionally, the outdoor garden classroom serves as a natural extension of the learning environment, providing students with a hands-on, immersive educational space focused on place-based learning, including seating made from recycled trees stumps.
- Bella Mente's green schoolyard vision guides the school's outdoor space development, promoting continued sustainability practices on campus. The school's schoolyard is an outdoor learning lab where students engage in sustainable gardening, composting, and soil regeneration, enhancing classroom instruction and cultivating environmental stewardship through hands-on experiences.
- Bella Mente integrates sustainability concepts throughout the curriculum, aligning with Maria Montessori's philosophy, Common Core State Standards (CCSS), and California's Next Generation Science Standards (NGSS). Students explore botany, animal life cycles, and ecosystems through project-based learning, creating sustainable energy models, analyzing local water quality, and partnering with environmental organizations to apply science in real-world contexts.
- The Garden and Nutrition Program is the cornerstone of Bella Mente's environmental education, providing hands-on, project-based learning that integrates NGSS EP&C's and Disciplinary Core Ideas (CDI) across science, social studies, math, art, and physical education. Students learn about soil health, composting, recycling, and sustainable agriculture, with curriculum goals tailored to each grade level and enriched by Life Lab and Edible Schoolyard resources. The program also partners with local horticultural experts and hosts family workshops, enhancing community involvement and student understanding of sustainable farming practices.
- Bella Mente supports teacher development in environmental education by hosting
  weekly professional development sessions and leading an innovative "Green Training
  Days" program directed by the Garden and Nutrition instructor. During workshops,
  teachers work with local environmental experts to design interdisciplinary units that
  incorporate sustainability into every aspect of the curriculum.
- The school's student-led Green Team actively contributes to the school's sustainability
  efforts by tracking campus waste diversion and composting rates. Using math and
  science skills, students measure the impact of organic waste reduction on school
  gardens and present their findings at monthly Board meetings, demonstrating the results
  of their environmental efforts to the community.
- In October 2024, the school introduced an interactive waste management activity where students analyzed picnic waste, discussed its environmental impacts, and explored

strategies for waste reduction using the Zero Waste Hierarchy. This activity empowered students to make sustainable choices by comparing linear and circular economies. Furthermore, the school's math curriculum fosters sustainability by requiring students to track and graph school waste diversion rates, analyze the effects of waste reduction efforts, and develop data-driven solutions.

- Field trips play a key role in the school's environmental education program by offering students hands-on experiences that deepen their understanding of ecosystems and conservation. Experiences include the following:
  - Transitional kindergarten and kindergarten students visit the San Diego Zoo to study animal adaptations in a real-world context.
  - First through third-grade students participate in virtual field trips to local watersheds, such as Elfin Forest, and engage with presentations by The Wyland Foundation focusing on stormwater pollution.
  - Sixth-grade students attend Camp Cuyamaca for nature immersion and environmental stewardship activities.
  - Seventh and eighth-grade students virtually visit Catalina Island and the Pali Institute, exploring sustainability and preservation practices unique to island and mountain ecosystems.
- The school's habitat garden offers a dedicated space for students to explore the role of
  pollinators and study the lifecycles of butterflies and native plants. Students use the
  garden to teach their community about local ecosystems, reinforcing the importance of
  biodiversity and ecosystem health.

### Element IIIB: STEM Content, Knowledge, and Skills

- Bella Mente integrates sustainability into STEM learning, aligning its NGSS-based curriculum with California's Environmental Principles and Concepts (EP&Cs). Students develop STEM skills through real-world applications like inquiry, data analysis, and environmental projects. For example, they investigate water conservation by comparing soil temperature and plant growth in mulched versus unmulched beds, reinforcing scientific methods and sustainable gardening practices.
- Students at Bella Mente study the history of environmental and cultural practices worldwide. They research Aztec chinampas (floating gardens) in a cross-curricular project to learn about ancient farming techniques. Building on this knowledge, they design and create their own stagnant hydroponic systems, applying their understanding of engineering and agriculture.
- Students incorporate engineering principles into problem-solving projects that encourage innovation and teamwork. For example, they designed and constructed a raised garden bed from recycled materials.
- At Bella Mente, sustainability concepts are often integrated into mathematics, reinforcing
  practical applications of mathematical skills. For instance, students create "compost
  salads" to learn about ratios and percentages, calculating the ideal balance of "greens"
  (nitrogen) and "browns" (carbon) for effective composting. They use fresh ingredients to
  model compostable materials, simulate the composting process, and discuss the
  environmental benefits of composting, linking mathematics to real-world issues.
- The school's garden program integrates STEM learning by having students apply science and math to real-world problems, such as optimizing soil health, managing crop rotation, and using sustainable gardening techniques. These projects cultivate students'

- analytical and critical thinking skills as they experiment with plant growth, seasonal cycles, and regenerative practices.
- TK through third-grade students engage in hands-on activities focused on plant care, basic gardening, and understanding natural cycles such as composting and the water cycle. Working in the school's garden, they explore the relationships between plants, soil, and insects, fostering early interest in biodiversity and sustainable living. The addition of native pollinator plants through a Budding Botanist Grant introduces students to ecosystem restoration and the role of pollinators in agriculture, inspiring future careers in conservation biology, sustainable horticulture, and ecological design.
- Fourth through sixth-grade students engage with advanced topics, such as sustainable agriculture and environmental science. They experiment with mobile garden beds and greenhouse projects, exploring plant growth, soil health, and regenerative agriculture techniques under various conditions. Students also learn about waste reduction and its importance in sustainable food systems through Bella Mente's composting initiative and the "Offer vs. Served" food model. These projects introduce students to green careers in agricultural technology innovation, soil science, environmental engineering, and circular economy strategies, highlighting the link between sustainable practices and addressing climate change.
- Seventh and eighth-grade students engage in project-based learning centered on food science, nutrition, and business. In one project, they examine the journey of food from growth to consumption, exploring sustainable farming practices, eco-friendly packaging, and renewable energy applications in food production. By creating their own healthy snack product, students gain insight into green careers in sustainable food science, agricultural technology, renewable energy, eco-marketing, and entrepreneurship while developing teamwork, collaboration, and problem-solving skills.
- Through studies and field trips to local watersheds, seventh and eighth-grade students gain insights into the effects of pollution and climate change on water sources while exploring solutions like water purification technologies, rainwater harvesting systems, and smart irrigation techniques. On campus, they apply this knowledge in the garden by utilizing drought-tolerant plants and soil practices that improve water retention. These experiences connect students to careers in environmental engineering, sustainable agriculture, and water resource management, showcasing the role of innovation in tackling global water challenges.

#### Element IIIC: Civic Knowledge and Skills

- Students at Bella Mente participate in a variety of civic and community projects that
  integrate environmental stewardship, sustainability, and social responsibility. These
  projects, implemented at all grade levels, are part of the "Bella Give Back" program,
  designed to instill a sense of civic duty, compassion, and global citizenship. Activities
  through the grades include the following:
  - TK through third-grade students focus on sustainability and environmental care at school. Each week, they work in the garden, learning about composting, planting, and reducing food waste. This hands-on experience builds a foundation in sustainability, helping young students understand the impact of their actions on the environment.
  - Fourth through sixth-grade students help maintain the school's Food Forest, established in 2016. This project provides fresh fruits to local residents and addresses food insecurity. It was inspired by the need for accessible, healthy

- foods in the community and allows students to contribute directly to local food resources.
- Seventh through eighth-grade students deepen their civic engagement through various impactful projects. They participate in beach cleanups, collecting litter alongside parents and staff to protect the local environment and reinforce lessons on conservation. In the winter, middle school students knit scarves for local homeless individuals, blending compassion and home arts with practical support for vulnerable populations.
- Since 2018, seventh through eighth-grade students have led a reusable water bottle fundraiser, phasing out single-use bottles on campus. By 2019, Bella Mente became single-use bottle-free for all events, demonstrating the power of student-led initiatives in promoting sustainability.
- In 2019, the school introduced a tomato plant fundraiser, replacing traditional fundraising methods like cookie sales with sustainable options that align with the school's mission.
   The funds raised have expanded the garden program, fostering environmental responsibility and promoting sustainable gardening practices.
- In 2020, students initiated a vertical green wall project to improve air quality, inspired by similar projects in the Philippines and Mexico City. Though delayed by school closing for the global pandemic, the initiative is progressing as students seek funding and resources, integrating science, engineering, and environmental technology.
- During the Winter Spectacular, middle school students demonstrate a strong sense of ownership and enthusiasm for enhancing the garden program and broader sustainability initiatives within their school community. They showcase projects such as repotting succulents and fundraising efforts to support their garden program and sustainability initiatives.
- Bella Mente fosters partnerships with local organizations, businesses, and non-profits
  that support the school's Three Pillars: Enhance student learning. Improve campus
  sustainability. Extending resources to underserved communities. Examples include the
  following:
  - Local Girl Scout Troop 1820 raised funds to purchase and plant fruit trees, creating a community food forest along the campus exterior that benefits residents, including the homeless. North Coast Church contributed by providing labor to build picnic tables, repaint walls, and enhance outdoor spaces with materials supplied by Bella Mente.
  - The local Kiwanis Club partners with Bella Mente to maintain and rehabilitate the school's garden and chicken coops through regular service projects, supporting ongoing sustainability efforts and ensuring educational garden spaces remain functional.
  - In collaboration with I Love a Clean San Diego and the City of Oceanside, Bella Mente students and staff participate in beach cleanups and host environmental assemblies, such as Ocean Conservation and Recycling Assemblies, to promote waste reduction and pollution prevention.
  - o Bella Mente partners with local farmers like Hukama Produce to provide students with hands-on learning experiences in sustainable agriculture, including soil-based farming, hydroponics, and greenhouse technology. Each student takes home a garden kit, which promotes local food production, reduces the distance that food travels from the point of production to the point of consumption (food miles), and promotes environmental awareness.

- Bella Mente collaborates with Agri-Service, Kellogg's Products, Mushroom Meadow Farms, Sage Garden Project, Smart & Final, and Frazier Farms to receive soil, mulch, food donations, and funding. This support enhances the school's garden and nutrition programs, fostering sustainable practices and healthy habits among students.
- At Bella Mente, every month is Living Schoolyard Month, with students showcasing their garden projects and skills. Starting on Back to School Night, students invite their parents to help plant the gardens they designed, teaching them how to transplant eggplants, tomatoes, and peppers. The students are responsible for organizing and marketing an educational garden showcase for families, with minimal teacher guidance. During Open House in May, they invite their parents to sample garden-grown veggies and herbs, with older students preparing dishes in the nutrition lab. Additionally, they raise funds by offering a self-written cookbook featuring recipes using garden-grown ingredients.