

Instructions

This a school-level application to U.S. Department of Education Green Ribbon Schools (ED-GRS) and California Green Ribbon Schools (CA-GRS) for the 2017–18 cycle. The application consists of the following parts:

- School Information
- Narrative
- Cross-Cutting Questions (3 questions)
- Pillar I: Reduced Environmental Impact and Costs
 - Element IA – Energy (10 questions)
 - Element IB – Water and Grounds (6 questions)
 - Element IC – Waste (5 questions)
 - Element ID – Alternative Transportation (5 questions)
- Pillar II: Improve the Health and Wellness of Students and Staff
 - Element IIA: Environmental Health (14 questions)
 - Element IIB: Nutrition and Fitness (11 questions)
- Pillar III: Effective Environmental and Sustainability Education
 - Element IIIA: Interdisciplinary Learning (3 questions)
 - Element IIIB: STEM Content, Knowledge, and Skills (2 questions)
 - Element IIIC: Civic Knowledge and Skills (6 questions)

A successful applicant will demonstrate progress in each Element and Pillar. The application should be completed to the greatest extent possible, as partial points may be awarded for each question.

Each question includes the number of points possible; narrative responses include a suggested character limit. Do not include any links, attachments, photos, graphs, etc. in the written application.

Formatting Requirements

1. Retain all instructions, question text, headers, and formatted spacing.
2. Retain page formatting of one-inch margins.
3. Provide narrative responses in Calibri or Arial font, size 11.
4. Refrain from including photos, graphs, or links.
5. Provide all content in 50 pages or less.
6. Rename the document to 2018 ED-GRS Application – [Your School Name].

Application Submittal

Completed applications must be emailed in .docx or .pdf format to greenribbonschools@cde.ca.gov before 5:00 p.m. on January 12, 2018.

School Information

CDS Code: 01 61119 6090054

County: Alameda

District: Alameda Unified School District

School: Lincoln Middle School

Address: 1250 Fernside Blvd. Alameda, CA 94501

Grades Served: 6-8

Enrollment: 881

Is the school a private school? No

Is the school a charter school? No

Administrator Name: Michael Hans, Principal

Lead Applicant Name: Jennifer Hartigan

List any school or district social media accounts. *This information is for purposes of communications and outreach only, if state or federal recognition is earned.*

<https://lms-alamedausd-ca.schoolloop.com>

<https://lms-alamedausd-ca.schoolloop.com/green>

https://alamedausd-ca.schoolloop.com/cms/page_view?d=x&piid=&vpid=1219689623431

<https://www.facebook.com/Alameda-Unified-School-District-223677970983921/>

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Narrative

Provide a narrative describing your school's efforts to reduce environmental impact and costs; improve student and staff health; and provide effective environmental and sustainability education. Focus on unique and innovative practices and partnerships. *This section is not scored, but forms the basis of nomination packages that are sent forward to the U.S. Department of Education.* (Suggested length: 4,000 characters)

Lincoln Middle School has been a pioneer in place-based learning since its inception. This instructional approach promotes student learning about issues that exist in the student's own place. When the school was constructed in 1976, science teachers worked collaboratively with the Alameda Unified School District and community partners to create a large one acre Nature Area for the purpose of science education. The Shop class built the bridge over the pond, and over time, students built observation benches. Teachers created learning experiences such as the "Station Observation" for studying seasonal change, the "Long Term Plant Observation" for studying growth and development of native plants, and "Building a Scale Model of the Nature Area". The Nature Area is used for weather observation, tidal monitoring, modeling of physics concepts, literacy experiences, art and special education students. The use of the Lincoln Nature Area is unique as an educational experience in the nation.

Since the school's inception, students in the Outdoor Development Class have landscaped the Nature Area as well as the outdoor courtyards and walkways of the entire school. Students in the ODD class learn hands-on skills that were used to build and maintain the outdoor areas of the school. They continue to maintain the landscape with drought-tolerant and native plants. Additionally, Outdoor Development class students collect classroom recyclables from containers in all classrooms and offices in our school. Students collect and sort the CRV recyclables. They report data to StopWaste.org. With an Altamont Grant, teacher Tom Miro installed a water filling station on campus that has eliminated the need for 21,800 single-use plastic bottles. Several times a year Science teachers instruct students on lunch waste sorting, and the student members Green Team monitor the lunch waste collection cans daily.

Our school uses the Full Option Science System (FOSS) curriculum developed at the Lawrence Hall of Science. Being aligned to the Next Generation Science Standards, it includes a component of examining human impact on the environment. In sixth grade, students study Weather and Water, Diversity of Life, and Human Systems Interactions. In seventh grade, students study Populations and Ecosystems, Chemical Interactions, and Earth History. In eighth grade, students study Heredity and Adaptation, Electromagnetic Force, Gravity and Kinetic Energy, Waves, and Planetary Science. To deepen student learning about the ocean ecosystem surrounding our island community, our school also teaches weather and water concepts using the Lawrence Hall of Science Ocean Sciences Sequence (Marine Activities, Resources and Education: "MARE") curriculum in sixth grade. This focuses on mitigating the effects of human impact on climate change.

Teacher Jenny Hartigan created the Environmental Science elective course to build upon this FOSS core curriculum. After studying the transfer of matter and energy in “Populations and Ecosystems”, students have an opportunity to study our local populations and ecosystem in depth. Students consider the human impact on the local environment and take action to mitigate harmful effects. An important component of this class is data collection and reporting to the National Oceanic and Atmospheric Association (NOAA) and learning about other National Marine Sanctuaries in addition to our local Greater Farallones National Marine Sanctuary. Students also make presentations of their project to community groups such as the Parent Teacher Association, School Site Council, English Learners Advisory Council, Parent Information Night, School Board, Congresswoman Barbara Lee event, Greater Farallones National Marine Sanctuary Advisory Council Meeting, Alameda Earth Day Festival, and the Youth for the Environment and Sustainability (YES) Conference. Students have the opportunity to apply to be a student member of the Greater Farallones National Marine Sanctuary Advisory Council.

Solar panels to power a classroom, solar panels to light a public bicycle and walking path, and community supported rainwater collection systems all form part of this environmental gem that is Lincoln Middle School. Boy Scout service projects have enhanced our courtyards. Numerous Eagle projects, such as the solar lights, rainwater systems and orchard trees, have contributed to this culture.

Cross-Cutting Questions

C-1 Is your school participating in a local, state, or national school program which asks you to benchmark progress in some fashion in any or all of the Pillars? What program(s) and level(s) were achieved? (Suggested length: 500 characters; Points possible = 1.50)

As an Ocean Guardian School, we report data to NOAA annually. We achieved 3 years of recognition as an Ocean Guardian School based on the data such as amount of native plants installed, square meters of non-native plants removed, kilograms of litter collected, community presentations, and student assessment. We are currently in our fourth year.

Jenny Hartigan was a NOAA Teacher at Sea off the central California coast on the Research Vessel Fulmar in 2017. She teaches lessons on marine science and marine careers, and reports assessment results to NOAA.

Three science teachers reported results of student participation in the I2SEA International Student Carbon Footprint Calculator to an international database developed by Stanford University and the University of Washington. With the support of a NOAA Planet Stewards grant, Lincoln is developing this program so all students participate in a personal climate change mitigation project throughout their middle school experience. Results will be reported to the I2SEA program.

C-2 Has your school, staff, or student body received any awards for facilities, health, or environment? List the award(s) and year(s) received. (Suggested length: 500 characters; Points possible = 1.50)

On April 12, 1977, Lincoln Middle School was honored with 1 of 10 California State Environmental Awards for our Nature Area.

In 2014 the Alameda Unified received a Golden Bell Statewide Award for district environmental sustainability initiatives and actions. Our Seed to Table teacher, Lorri Garrett, was named in the award for her part in planning and implementing district wide recycling as part of the Green Schools Challenge. In 2010 the Alameda Education Foundation (AEF) awarded her with a Salute to Education Award for innovative programs for the Outdoor Learning Center at Bay Farm Elementary School.

In 2015 the AEF recognized Jenny Hartigan for an Innovative Program for the stewardship project with the NOAA Ocean Guardian Environmental Science class. A California State Assembly Recognition award was presented by Assemblyman Rob Bonta.

In 2015 our school's NOAA Ocean Guardian program was honored with a Certificate of Congressional Recognition by California Congresswoman Barbara Lee.

In 2017 the AEF recognized Tom Miro for an Innovative Program for leading the student tours of Outdoor Development class, Nature Area, school-wide recycling and Go Green projects. Lincoln has conducted a student-led recycling program long before the District began its "Go Green" recycling program.

In 2008 Lincoln was presented with "The Rubber Meets the Road Award" by the Service-Learning Waste Reduction Project for excellence in the development of service-learning dedication to the education and empowerment of youth and commitment to the well-being of community.

2010 Honor Roll - CA Business for Education Excellence

2011 California Distinguished School

C-3 *Is there a forum provided where all representative stakeholders involved in the daily operation of the school (such as students, faculty, maintenance, and cafeteria staff) can meet to discuss, plan, and implement ongoing green efforts? Describe your efforts. (Suggested length: 1,000 characters; Points possible = 2.00)*

Several science teachers attend the District Environmental Literacy Team meetings to develop a comprehensive and equitable educational plan in accordance with the CA Environmental Literacy Blueprint.

Bimonthly faculty meetings serve as the overarching forum for discussing, planning and implementing ongoing green efforts. Subcommittees and task forces meet regularly to address specific issues.

The structure provides for communication from bimonthly department meetings to the Lincoln Leadership Team, to Administration to Staff Meetings. The Administration works closely with the Leadership Class, Green Team, PTA and School Site Council.

When the school was constructed in 1976, science teachers worked collaboratively with the Alameda Unified School District to create a large one acre Nature Area for the purpose of science education. An agreement was reached with the Bay Conservation Development Commission (BCDC) to utilize this shoreline area for educational purposes. Community fundraising drives and workdays were held to landscape the Nature Area and the entire campus. Community partners such as Thompson's Nursery donated large trees and shrubs, and local families donated plants. A young men's organization, Alameda Do Molay, poured concrete foundations for our block walls. The District supported this project with Outdoor Education Curriculum materials obtained from a grant through Carol Smart. Approximately \$5000 of construction labor was provided by the Maintenance Department. \$10,000 of curriculum materials, tools and equipment were supported by Superintendent Klas. Students participated in the planting of the Nature Area, as a "A Walk Through California" of California native plant regions.

Pillar I: Reduced Environmental Impact and Costs

Element IA – Energy

IA-1 Does your school have a plan in place to manage and reduce energy use, such as an energy master plan, an energy conservation plan, an energy charter, an energy action plan, or energy conservation guidelines? Describe what type of plan. (Suggested length: 500 characters; Points possible = 1.00)

Lincoln Middle School uses the Energy Audit Recommendations created for Alameda Unified by Alameda Municipal Power in 2010. A 2014 Facilities Master Plan and 2016 Conservation Efficiency and Generation (CEG) Plan have recommendations specific to LMS to help manage and reduce energy use. The district has contracted with Cenergistic to provide a full-time energy conservation manager. We have implemented an Energy Management Action Plan (EMAP) to closely match all equipment and lighting usage to occupancy and the program has reduced energy consumption by 25% in its first year of implementation. An Energy Management System shuts down heating from 5 p.m. – 5 a.m. daily. Portable classrooms use programmable thermostats so heating and air conditioning are off during non-school hours.

AUSD has adopted a solar master plan; the Conservation, Efficiency and Generation Plan have identified the best sites for on-site solar installations and included LMS as an appropriate location for future solar development.

IA-2 Complete the table below to demonstrate a reduction in greenhouse gas (GHG) emissions. How did you calculate the reduction? (Suggested length: 500 characters; Points possible = 2.00)

Since 2010, LMS has reduced landfill volumes from 7 cubic yards picked up twice per week to 4 cubic yards picked up twice per week and has implemented organics collection of 2 cubic yards picked up twice per week. Using the US EPA Waste Assessment Model, this has resulted in a reduction of GHG by 6 Metric Tons of Carbon Dioxide Equivalent per year.

We used the University of New Hampshire’s Carbon calculator to figure out the below numbers. From 2014 to 2016 we were able to reduce our KWH by 47,544 KWH.

LINCOLN KWH USAGE

Sept.2014-Aug. 2015 Kwh usage was 654,400 KWH
 Sept.2015-Aug. 2016 Kwh usage was 630,800 KWH
 Sept.2016-Aug. 2017 Kwh usage was 482,800 KWH

Percentage reduction over time (Example: 15% reduction, 09/10 to 06/17)	26% Difference between 2015 and 2017
Initial GHG emissions rate (MTeCO2/person)	181310 kgCO2
Final GHG emissions rate (MTeCO2/person)	133766 kgCO2
Offsets purchased, if any	n/a

IA-3 Do you track resource use in EPA ENERGY STAR Portfolio Manager or a similar tool? Provide your ENERGY STAR score and year(s) of certification. If a similar tool is used, describe any ranking or certification earned. (Suggested length: 500 characters; Points possible = 2.00)

Alameda Unified School District uses Energy CAP which is America’s #1 utility bill and energy management software. All gas, electric and water bills are entered into this database. As soon as the information is entered we can see all of the previous bills for that facility and weather the usage of that commodity is increasing or decreasing. Viewing the building's usage over time allows us to spot gas and water leaks. Also, If a meter increases or decreases by a substantial amount during a bill cycle it is red flagged for review. We can run reports analyzing other factors as well such as increased usage, demand, cost per unit and also the weather's effect on how our buildings are run. This program is also useful when trying to explain the use of campus commodities to leaders or influencers of those buildings. There are a number of helpful analysis reports that can be presented as bar graphs or pie charts, making conservation more understandable and interesting.

IA-4 Complete the table below to demonstrate a reduction in total non-transportation energy use from an initial baseline. How did you document the reduction? (Suggested length: 500 characters; Points possible = 2.00)

Current energy usage by student (kBTU/student/year)	(kBTU/student/year)	654,400/ 894 / 2015 731 KWHps 630800/ 833 / 2016 755 KWHps 482800/ 880 / 2017 549 KWHps
Current energy usage by area (kBTU/square feet/year)	55,320 sq ft	8.73 per sq ft.
% reduction over time (Example: 15% reduction, 09/2010 to 06/2017)		decrease of 26% from 2015 to 2017

We were unable to get gas records in time for this report. The electricity is listed above and has been reduced by using new thermostats and changing to led lighting.

IA-5 What percentage of your school's energy is obtained from on-site renewable energy generation and what type? Include context on the impact of on-site renewables, including cost savings, if quantified. (Suggested length: 500 characters; Points possible= 1.00)

The first solar panels in all of AUSD were installed at our school in 2003 with a grant from Pacific Gas and Electric. Solar panels installed in 2005 power the electricity in one classroom. Sixth grade students study the solar panels as part of the climate change unit. Eighth grade students study the solar panels as part of Electromagnetic Force in Science.

In 2014, a local Boy Scout of America installed solar lights to illuminate the pedestrian/bicycle pathway on school property along the shoreline. This was his Eagle Scout project. This improvement complements our Walk and Roll to School Day. According to our surveys done 3-4 times per year, 63% of our students walk or roll to school.

IA-6 What percentage of your school's energy is obtained from purchased renewable energy above the portfolio minimum of your utility, and what type? Include the name of your local electric utility and identify its portfolio minimum. (Suggested length: 500 characters; Points possible = 1.00)

Alameda Unified has a partnership with our local utility, Alameda Municipal Power (AMP). AMP supports AUSD in energy efficiency and conservation measures. AMP is one of the greenest utilities in the U.S. with 80% renewable energy sources including geothermal, biomass, wind and small hydroelectric. An additional 20% comes from large hydroelectric sources. This means that 100% of AMP's power is carbon neutral.

IA-7 Does your school participate in federal, state, or utility school energy program(s)? Describe these programs. (Suggested length: 500 characters; Points possible = 1.00)

AUSD is a partner with our local utility, Alameda Municipal Power (AMP). AMP works closely with AUSD on energy efficiency programs and rebates for replacing lighting and equipment. AUSD has a contract with Cenergistic an energy conservation company, to meet the needs of it 2016 Conservation, Efficiency and Generation (CEG) Plan. The district used its Prop 39 funding to replace all of the outdoor lighting with LED lamps to reduce energy consumption.

IA-8 Describe how any school construction or renovation projects occurring in the past ten years meet green building standards, including any certification earned. Describe your efforts and demonstrate high performance in terms of percent better than Title 24 when possible. (Suggested length: 1,000 characters; Possible points = 2.00)

We have not had any new construction within the last 10 years, only new paint and a repaired roof. We did have our parking lot repaved and planters were added for safety, traffic flow and to add green space. We have added new thermostats in many buildings. We are looking forward to the new construction that should start next year as part of the Measure I projects planned for the school. We will be modernizing one science and one computer lab, installing technology, communication, and safety/security improvements as well as critical heating, mechanical, electrical, roofing, and accessibility improvements.

The district has also replaced all of the outdoor lighting with LED lamps, significantly reducing energy consumption. In 2016 we had a lighting retrofit funded by California's Proposition 39 that replaced fluorescent lights with LED lighting in the school auditorium and around the site.

IA-9 Has your school developed a program or made progress toward reducing the heat island effect with cool roofs, reduced pavements, or reflective coatings on pavement? Describe the program(s) and/or physical improvements made. (Suggested length: 500 characters; Points possible = 1.00)

The main way we have made progress with reducing the heat island effect is by planting trees and other vegetation providing shaded areas for our students to have lunch. Our one acre Nature Area with picnic benches under large pine trees is always a cool way to escape on hot days. All eight (8) courtyards and outdoor eating areas are landscaped with large shade trees such as California Redwoods to reduce the heat island effect. In 2005 the cap sheet roof was sealed and recoated with a lighter color to reduce heat absorption and keep the temperature down in the classrooms. Also in 2005, planters and drought resistant plants were added to the parking lot to break up the space with landscaping.

IA-10 What has your school done to reduce energy use? Describe projects such as lighting retrofits, installation of an energy management system, planting shade trees to cool classrooms and air conditioning units, etc. (Suggested length: 1,000 characters; Points possible = 2.00)

A recent lighting retrofit funded by California's Proposition 39 replaced fluorescent lights with LED lighting in around the site. A TRANE Energy Management System shuts down heating

from 5 p.m. – 5 a.m. daily. Newer classrooms use programmable thermostats so heating and air conditioning are off during non-school hours.

The entire school was built with green spaces in mind so trees are in integral part of our landscape providing shade and cool areas throughout the school. Since we live in a very mild climate, air conditioning is rarely needed. The latest roof repair was done in a lighter color to reflect heat instead of absorbing it to reduce the temperature in the classrooms

Our facilities are old and will be updated using the recommendation from Cenergistic to meet the needs of it 2015 Conservation, Efficiency and Generation (CEG) Plan.

Element IB – Water and Grounds

IB-1 How does your school track water use? (Mark one only; Points possible = 0.50)

	Our water use is not metered.
x	We meter indoor and outdoor water use together. We have a dedicated irrigation meter for the fields and a mixed use water/sewer meter for our building use
	We meter indoor water use separately with a submeter for outdoor water use.
	We have separate meters for indoor and outdoor water use.

IB-2 Complete the table below to demonstrate a reduction in your school's indoor water consumption from an initial baseline. If you do not separate indoor and outdoor water use, enter data for your total water use. How did you document this reduction? (Suggested length: 500 characters; Points possible = 1.00)

Baseline established and year established (gallons/occupant/year)	727,106 / 894 / 2014 (813 gps) 612,691/ 833 / 2015 (736 gps) 558,809/ 880 / 2016 (635 gps)
Percentage reduction over time (Example: 15% reduction, 09/2010 to 06/2016)	22% reduction between 2014 and 2016

We reduced our water usage 22% during the latest drought by following district protocol for drought procedures and because we have maintained drought restrictions previously implemented by EMBUD through our non-drought years. This meter has some mixed use for internal and outdoor use.

IB-3 Complete the table below to demonstrate a reduction in your school's outdoor water consumption from an initial baseline. If you do not separate indoor and outdoor water use, leave this section blank. How did you document this reduction? (Suggested length: 500 characters; Points possible = 1.00)

Baseline established and year established (gallons/occupant/year)	27,691,387.1/ 894 / 2014 (30,975 gps) 4,573,866.4/ 833 / 2015 (5,490 gps) 1,887,417.3/ 880 / 2016 (2,145 gps)
Percentage reduction over time (Example: 15% reduction, 09/2010 to 06/2016)	93% from 2014 to 2016

We reduced our outdoor water usage 93% during the latest drought because we stopped filling our onsite pond. We are now looking for ways to seal and restore the pond and use brackish water from the estuary so the site can still be used for watershed and other lessons.

IB-4 What has your school done to reduce water use? Describe projects such as mulching, leak detection/monitoring, installation of water-efficient plumbing fixtures or appliances, rainwater capture, etc. (Suggested length: 1,000 characters; Points possible = 1.00)

We have maintained drought restrictions previously implemented by EMBUD through our non-drought years. Currently rainwater coming from our building rooftop gutter system is diverted into a large pond in our school’s Nature Area. Since the latest drought, LMS is no longer filling the pond in order to keep it at 100% capacity. We are currently writing a grant and researching different ways to seal the pond in order to keep it full without having to use additional water. The riparian habitat that formerly existed in the Nature Area no longer now functions as a seasonal wetland. We plan to partner with the Audubon Society, NOAA’s California Bay Watershed Education and Training (CA B-WET) program, local engineering firms, and the California Coastal Commission Whale Tail grant program to restore this pond and riparian habitat for student study.

A Boy Scouts of America Eagle Scout project installed a rainwater collection system with a 500 gallon cistern for use in the school vegetable gardens and orchards. An additional Eagle Scout project will provide a rainwater catchment system with rain barrels for our Nature Area. The Boy Scouts have also completed courtyard renovations and shoreline cleanups on our campus. Our students have also sheet mulched a majority of the school green spaces.

IB-5 Complete the table below to describe the efficiency of your school’s landscape. Describe alternative water sources used for irrigation and any efforts to reduce stormwater runoff and/or reduce impermeable surfaces. (Suggested length: 1,000 characters; Points possible = 1.00)

In winter 2016/17 we saved over 100 gallons in one season by capturing rainwater in 32 gallon trash cans to be used to water plants. Starting in 2017 we are able to use the water captured in the 500 gallon cistern for our vegetable gardens. This will fill up after just one storm.

What percent of the landscape areas on the school site has an irrigation system?	10 %
What year was the current system installed?	2000
What percentage of the turf area is used for physical education or other educational purposes?	100% of the turf area at LMS is used for physical education. The field is also used for youth league and adult recreational soccer. They pay fees to water the field and annually maintain the field.
What types of water-efficient and/or regionally appropriate plants and trees are used? What percentage of all plants are water-efficient and/or regionally appropriate?	The Outdoor Development class continually landscapes the school grounds with drought tolerant plants and trees such as a variety of sages, dwarf coyote bush, sedges and rushes, drought tolerant grass varieties, rock

	<p>roses (cistus) irises, Chinese elm, big leaf maple, red maple, ceanothus, manzanita, ginkgo, and pistache. 90% of the school campus is water-efficient and regionally appropriate.</p>
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IB-6 What percentage of the school grounds is devoted to ecologically beneficial uses? Describe uses such as rain gardens, wildlife or native plant habitat, outdoor classrooms, etc. Include any ranking or certification earned. (Suggested length: 500 characters; Points possible = 0.50)

Twenty-six (26) percent of our school grounds, including the building, is devoted to ecologically beneficial uses. Our one acre Nature Area was designed as “A Walk through California”, highlighting regions such as the Estuarine Wetlands, Redwood Forest, Coastal Scrub, Riparian, Sierra Foothills and CA Desert. It contains 98% native plants and trees. We have recently added an area specifically for native California wildflowers.

The Nature Area serves as our primary outdoor classroom with picnic tables for student seating and 30 student-built benches placed throughout the Nature Area for making seasonal observations and studying plants. The Outdoor Development class maintains the Nature Area’s physical space by pruning plants, improving pathways, mulching, mowing, weeding, and eliminating invasive plants. The Shop class built the bridge over the pond. The Seed to Table class works with 16 garden beds growing herbs and vegetables used for cooking. They also grow native plants to transplant into the Nature Area.

Our NOAA Ocean Guardian program led to more Alameda schools (Earhart, Franklin and Paden) becoming Ocean Guardian schools, and to our district receiving a grant to be only the second Ocean Guardian School District in the whole country! In our four years of being an Ocean Guardian School, students have removed 688 square meters of non-native invasive plants (Russian thistle, fennel), installed 70 square meters of native plants (ex. Marsh gumplant), planted 88 square meters with native flower seed balls, and removed 264 kg litter along our shoreline.

Zero Waste Week: Students participate in a lunch waste audit and the Zero Waste Week campaign in Spring.

In 2012, our school was registered as an Alameda County Bay Friendly Garden.

In 2017, the Nature Area was designated as a National Wildlife Federation Schoolyard Habitat Site.

Element IC – Waste

IC-1 What percentage of solid waste is diverted from landfilling or incinerating due to reduction, recycling, and/or composting? Complete all of the calculations below. (Points possible = 1.50)

Is service stopped or reduced during non-service times?	Yes
A = Monthly garbage service in cubic yards: garbage dumpster size(s) x number of collections per month x percentage full when emptied or collected	One 4 cubic yard dumpster is emptied twice per week = 32 cubic yards per month
B = Monthly recycling volume in cubic yards: recycling dumpster size(s) x number of collections per month x percentage full when emptied or collected	One 6 cubic yard dumpster is emptied twice per week = 48 cubic yards per month
C = Monthly compostable materials volume(s) in cubic yards: food scrap/food soiled paper dumpster size(s) x number of collections per month x percentage full when emptied or collected	One 2 cubic yard dumpster is emptied twice per week = 16 cubic yards per month
Recycling rate: $((B+C)/(A+B+C)) \times 100$	67%
Monthly waste generated per person: A/number of students and staff	880 students + 50 staff/faculty = 930 persons 32 cubic yards per month x 300 pounds per cubic yard = 960 pounds per month or 10.3 pounds per person per month

IC-2 Describe your school's compost system. Describe practices such as compost produced from schoolyard green waste and/or lunchtime waste generated on-site, and/or locally-sourced compost or mulch used for landscaping purposes. (Suggested length: 1,000 characters; Points possible = 1.00)

LMS currently composts (off site) food waste from student and staff lunches and all paper towel waste from the bathrooms and kitchens. Compost bins are conveniently located in every classroom, kitchen, collaborative workspace, bathroom, and on all playgrounds. Bins are labeled with signs as guides. Students receive community service hours as a Recycling Monitor during lunch and helping students with recycling questions and auditing progress. Custodians empty green bins daily using two-bin carts to keep waste streams separate.

We also compost (onsite) all chicken manure from our six resident chickens, sawdust from Woodshop class, and other appropriate garden waste. All of the garden waste that cannot be composted on site is picked up by the district and composted offsite. Students learn how to maintain the compost, check the temperature and eventually use it in the school gardens. We also have onsite vermicomposting bins for kitchen food scraps. The compost is used in our vegetable gardens and to make compost tea. Mulch or soil amendments needed for

landscaping or gardening is purchased locally through American Soil or Davis Street Transfer Station.

IC-3 How is waste disposal and recycling tracked? Describe your practices. (Suggested length: 500 characters; Points possible = 0.50)

LMS has been a leader in implementing the recycling and composting program with a 67% recycling rate. Our districtwide goal is 90% by 2020. Three stream recycling bins as well as designated CRV (California Recycling Value) containers are distributed throughout the school and are collected by staff and students. AUSD keeps track of the number of waste pickups (dumpster loads) over the course of the school year and makes adjustments based on each school’s needs. Both the Environmental Science and Outdoor Development Elective classes perform periodic waste audits of school campus to document classroom waste, lunchroom waste and shoreline litter. Recyclable bottles and cans are sorted and weighed by the Outdoor Development Class and taken to a different recycling facility.

IC-4 Describe the hazardous materials used at your school and how they are disposed of properly. Describe use, storage, and disposal practices for flammable or corrosive liquids, toxins, mercury, lamps and tubes, etc. Include other progress and measures taken to reduce solid waste and eliminate hazardous waste in relation to Education Code [Section 49341](#) (Suggested length: 1,000 characters; Points possible = 0.50)

AUSD’s hazardous wastes are handled by a licensed environmental company. All hazardous waste disposals are properly documented by the EPA’s hazardous waste manifest system. We do not keep hazardous materials at our school with the exception of CFL lighting. Non-working CFL tubes and ballasts are disposed of properly using district procedures for disposal. In 2010, the maintenance, operations & facilities (MOF) program coordinator at AUSD collaborated with and received a grant from the California Department of Public Health to build a district-wide green cleaning program. Through the Cleaning for Asthma Safe Schools (CLASS) Pilot Project AUSD reduced dozens of cleaning chemicals down to a few Green Seal-Certified alternatives: all-purpose cleaner, disinfectant, neutral cleaner, and graffiti wipes.

IC-5 Complete the table below to describe how your school is implementing Environmentally Preferable Purchasing/Green Purchasing for administration, instruction, and/or maintenance. (Points possible = 1.50)

Does your school have an environmentally preferable purchasing policy and/or procedure?	Yes
Does your school track its green purchases?	Yes
Are school employees trained on how to identify and use green products?	Yes
What percentage of your school's total office/classroom paper content is post consumer material, fiber from forests certified	Because our paper is purchased through a supplier, we cannot choose the source. As of today, about 75% of our paper comes from

as responsibly managed, and/or chlorine-free?	100% plantation fiber that is sourced from Eucalyptus and Acacia trees.
Describe how your school identifies green products. Include any specific third-party-certified standards that are used and what percentage of cleaning products is third-party-certified as green.	Our cleaning supplies are purchased through our Maintenance and Facilities department. They follow government regulations. About 90% of the MOF supplies are certified as green. For paper products we have to rely on supplier due to the language in our contract, we cannot specify source/type of products we receive.

Element ID – Alternative Transportation

ID-1 What percentage of students take the following to get to/from school? Complete the table below to indicate your school’s mode share. (Points possible = 1.00)

Walk	33%
Roll (i.e., bicycle, scooter, or skateboard)	30%
Carpool with 2+ students in the car	4%
School bus	1%
Other public transportation	
Describe how these percentages were collected and calculated.	These numbers come from tallies we do 3-4 times per year from head counts done by students, or from our leadership committee questionnaires. The numbers fluctuate depending on weather and other circumstances.

ID-2 Has your school implemented any of the following? (Mark all that apply; Points possible = 1.00)

	Designated carpool parking stalls.
x	A well-publicized no-idling policy that applies to all vehicles (including school buses that are required to meet the California Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools Regulation).
x	Vehicle loading/unloading areas are at least 25 feet from building intakes, doors, and windows.
x	Designated Safe Pedestrian Routes to School or Safe Routes to School.
x	A “walking bus” program in which adults accompany groups of students as they walk to school along a given route. (this is done informally but sometimes without a parent)
	Electric vehicle charging stations have been installed to encourage the use of these vehicles.
x	Secure storage (such as lockers, racks, or rooms) is provided to encourage human-powered modes of transportation to school.

We have considered carpool stalls and electric charging stations but they are not yet implemented.

ID-3 Describe activities in your safe routes program. Describe and quantify participation in school activities. Include outreach efforts and partners, municipal collaboration, and any funding applied to safe routes and/or active transportation programs. (Suggested length: 1,000 characters; Points possible = 1.00)

Our Safe Routes activities include three Bike to School events, two weeks of Golden Sneaker competition, and continual (monthly) newsletter messages. Our PTA Walk and Roll committee spends \$200 of PTA money and partners with local businesses for incentives. During P.E. we offer bike safety courses. We also have a bike repair service visit to perform free bike checkups for the students. We recently installed additional bike racks to meet the demand as well as scooter and skateboard racks to encourage alternative ways of travel. It can now be observed that many of our students travel in bike commuter groups to come and go from campus. Many of our students were travelling over a narrow bridge from a neighboring island that was not safe for bicycles so a special bridge was added for pedestrians and bicycles. The Bay Farm Island Bicycle Bridge is the only drawbridge exclusively for bicycles and pedestrians in the United States. It is a single leaf bascule drawbridge that spans the inlet to the San Leandro Bay from the San Francisco Bay.

Construction on the Bay Farm Island Bicycle Bridge began in 1993 and was completed in 1995. It cost about 3.5 million dollars. It was built in coordination with the City of Alameda, State of California and the Federal Government. It has since become part of the San Francisco Bay Trail and is crossed frequently by all levels of bicyclists.

More improvements were made in 2009 to increase comfort, safety, and connectivity for both pedestrians and cyclists by creating a separate 2-way bike channel alongside Fernside Drive just next to LMS. This allowed parents to drop students off for school without interfering with bicycle traffic. The latest improvement was in-pavement crosswalk lights installed at the main crosswalk crossing a busy traffic route in front of the school.

ID-4 Describe how your school or district fleet is efficient and has reduced its environmental impact. Describe practices and policies pertaining to on-site school transportation as well as district bus fleets and other vehicles used in school operations or activities. (Suggested length: 500 characters; Points possible = 1.00)

AUSD does not have its own buses. Instead it partners with AC Transit for daily bus routes to and from the local schools which is the first Transit agency to join the California Climate Action Registry. They currently have 13 hydrogen cell buses and plan to have 24 by the end of 2018. AC Transit fuel cell buses are achieving significantly greater fuel economy than diesel buses, all while emitting zero pollution.

Students participate in walking field trips to attend high school plays, Alameda Theater events, and events such as the 2016 estuary celebration, reading partnerships with elementary schools, and practical living skills walking trips for special education classes.

ID-5 Describe any other efforts toward reducing environmental impact, focusing on innovative or unique practices and partnerships. Include any programs or efforts not covered in the previous questions for Pillar I. Content does not need to be specific to Element ID – Alternative Transportation. (Suggested length: 1,000 characters; Points possible = 1.00)

In 2010 Lincoln Middle School began to recycle all organic waste as part of the Alameda Green Schools Challenge. Soon after, we further reduced waste in the cafeteria by changing to recyclable containers and getting rid of prepackaged forks/napkins/straw packets. This year, our Go Green Coordinator convinced Food Services to use large ketchup pump bottles instead of single-use packages, and changed the hard to remove, non-recyclable plastic wrap covering on the hot food to a compostable paper product. Moreover, we consolidated singular catch-all waste bins into fewer full-bin stations (gray, blue and green bins) strategically placed across our campus, further reducing landfill designated trash. All stations are being monitored daily by student volunteers and volunteering and supervising parents as part of a now Go Green / Zero Waste tradition at Lincoln Middle School.

Stop Waste.org came into Environmental Science and Outdoor Development Electives to teach and follow up on campus waste audits. These same electives, as well as the Leadership class, participate in the International Carbon Footprint Challenge (ICSFC) developed by Stanford University and the University of Washington.

The Environmental Science class leads the annual Zero Waste Week community educational campaign. Students view and discuss the documentary “Bag It!”. Students then conduct a lunch waste audit to measure sorting of recyclables and disposal of compostables and landfill items. They communicate these and historical results to the student body via morning announcements. A student created Powerpoint is distributed to science teachers to educate about data and encourage students to take action in specific identified areas. The campaign occurs during the window for the annual Zero Waste Week, March 19 - April 20, 2018. Afterwards, students conduct a post-audit of the lunch waste sorting. Results are communicated to students via morning announcements. Students also distribute table tents and flyers to local businesses to encourage the community to reduce waste. A trend in recent years has been a high number of pieces of single use chip bags. These are sold as a lunch snack on our school site. It is our hope to effect a change in the lunch policy of providing single-use snack bags.

Our Outdoor Development Students are trained to sort plastic by number. They have special recycling receptacles around campus that are collected weekly, sorted and then taken to the recycling station by the teacher and traded for cash. All profits go to class supplies and a year-end pizza party.

The Seed to Table program uses reusable partyware everytime it cooks resulting in diverting over 1,800 paper products out of landfill since the program's inception. The School Climate Committee provides recyclable plateware for our monthly staff luncheons.

At the end of each year students are encouraged to recycle unused materials that can be used next year and are collected in bins by the teachers. Double sided pages are used whenever possible to save on paper.

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

Element IIA – Environmental Health

IIA-1 Is your school in compliance with the [Healthy Schools Act](#)? (Mark all that apply; Points possible = 1.00)

x	Our school or school district has a written Integrated Pest Management (IPM) Plan.
x	Our school or school district has an identified IPM Coordinator.
x	Our school or school district sends annual written notification regarding pesticide applications.
x	Our school or school district has a 72-hour individual notification registry for pesticide applications.
x	Our staff completes annual IPM training.
x	Our school or school district posts warning signs for pesticide applications (if applicable).
x	Our school or school district retains pesticide use records on-site for four years.
x	Our school or district reports pesticide use to the California Department of Pesticide Regulation as required.

IIA-2 Describe your school's efforts to practice IPM and reduce overall pesticide use. Include IPM/green certifications earned, routine pest inspections and monitoring, pest identification, recordkeeping, etc. (Suggested length: 1,000 characters; Points possible = 1.00)

LMS uses the district IPM plan which follows strict regulatory mandate on the use of chemicals for pests or weed control. Routine inspections & recordkeeping are managed by district. The school Health & Wellness Committee provides teachers with information to discourage use of any cleaning or deodorizing products that may contain toxic and asthma-inducing chemicals.

Our School Garden does not use pesticides. Students working in the gardens are taught how to make a horticultural soap with biodegradable soap, oil and compost tea. The plant diversity attracts enough beneficial insects to keep many common pests in check. Garden staff teaches students to do routine checks to make sure plants look healthy. Students help remove by hand anything that's causing too much trouble, such as snails or aphids. Sheet mulching is used as a method to control weeds without use of pesticides or herbicides.

Glue traps and snap traps are used to control mammalian pests such as rats and mice. Exterior eating areas are wiped down and the areas cleaned of debris. The school has a “no eating in classrooms” policy to reduce the need for ant baits. The use of Roundup was stopped in 2012 district wide. Mulching raised beds and walking paths also helps to reduce the use of pesticides.

IIA-3 Describe your school’s use of chemical pesticides, including insecticides, herbicides, and disinfectants. (Mark all that apply; Points possible = 0.50)

x	Our school does not use any chemical pesticides.
x	Our school does not routinely apply any chemical pesticides.
	Our school uses one or more chemical pesticides outdoors on a routine or scheduled basis.
	Our school uses one or more chemical pesticides indoors on a routine or scheduled basis.
What percentage are safer products from the Healthy Schools Act exempt products list ?	90%

IIA-7 Describe actions your school takes to prevent exposure to asthma triggers in and around the school. Include practices, such as the use of asthma-safer chemicals. (Suggested length: 1,000 characters; Points possible = 1.00)

Faculty receives an updated list of Student Health Concerns at the beginning of the school year. Asthmatic students are identified so that teachers can work with parents to understand concerns and asthma triggers. The Health, Wellness and Safety Committee compiled information for email distribution to teachers and families to inform them of cleaning products and air fresheners that can trigger asthma.

IIA-8 Describe actions your school takes to control moisture from leaks, condensation, and excess humidity. Describe actions and practices for moisture control, including mold abatement. (Suggested length: 500 characters; Points possible = 0.50)

Routine maintenance is done on the roof and in the classrooms. If moisture or a leak is detected, samples are sent out to be analyzed and repairs are made when necessary.

IIA-9 Describe the procedures and policies your school follows to ensure buildings and site soils are lead-safe. Describe procedures or policies related to lead-containing building or finishing materials, especially lead-based paint. (Suggested length: 500 characters; Points possible = 0.50)

The district is currently in the process of testing soil at all school sites. LMS has been tested and has meet all standards.

IIA-10 Describe your school’s access to clean drinking water. Describe how the water source is protected from potential contaminants. Describe the program in place to control lead and other contaminants in drinking water. (Suggested length: 1,000 characters; Points possible = 1.00)

The school’s drinking water comes from:	x	Municipal water source
		Well on school property
		Other – Describe

We receive our water from East Bay Municipal Utility District, which filters all water through sand, and anthracite or carbon. Each water treatment plant also provides disinfection, fluoridation and corrosion control. All plumbing is lead-free and compliant with California AB 1953. State law since 2006, this legislation establishes the toughest drinking water plumbing lead content standard in the world.

On November 4th, 2017 ACC Environmental Consultants collected drinking water samples from thirty-two (32) locations at LMS. Samples were analyzed for lead in accordance with the EPA SM3113B Test Method. All but one source had well below the 15 parts per billion (bbp). The one faucet in question had a “second draw” of well below the 15 ppb and was recommended for replacement.

We have a water bottle filling station on campus that was installed in 2014 with the help of an Altamont Landfill Grant that has eliminated the need for 21,800 single use plastic bottles.

IIA-11 Describe how your school controls and manages chemicals routinely used in the school to minimize student and staff exposure. Describe actions and practices, including staff training programs and safer alternatives. (Suggested length: 1,000 characters; Points possible = 0.50)

All custodial staff is trained on safe use of chemicals routinely used at school. These safety measures are reviewed before every school year by MOF managers. Cleaning products are locked in custodial supply rooms and inaccessible to students. Staff have been trained to use safe cleaning products for general cleaning. They are trained on how to identify and what to do for cases where bleach or antibacterial cleanup is needed. Staff qualified to perform this type of cleanup have been trained on how to minimize the use of these chemicals, student and staff exposure and their effect on the local environment. For example, bleach is only used to clean mops at the end of the day and must be rinsed off before use.

IIA-12 Describe your school's healthier and greener cleaning custodial program, including green cleaning products, services, advanced equipment, and/or policies. Describe actions and practices; specify if you have implemented the California Department of Public Health’s “[Healthy Cleaning & Asthma-Safer Schools: A How-To Guide.](#)” (Suggested length: 1,000 characters)

In 2010, the maintenance, operations & facilities (MOF) program coordinator at AUSD collaborated with and received a grant from the California Department of Public Health to build a

district-wide green cleaning program. Through the Cleaning for Asthma Safe Schools (CLASS) Pilot Project AUSD reduced dozens of cleaning chemicals down to a few Green Seal-Certified alternatives: all-purpose cleaner, disinfectant, neutral cleaner, and graffiti wipes; transitioning from disposable cotton mops and rags to nylon microfiber ones and laundering system via mobile washing machines; removing the use of bleach from non-food servicing areas; switching out buckets and mops for automated restroom cleaning machines; and increasing staff training for the new equipment. AUSD collaborated with the California Department of Public Health to support the development of the Work-Related Asthma Prevention Program (WRAPP) developed Healthy Cleaning & Asthma-Safer Schools: A How-To Guide, published in Oct 2014.

IIA-13 Describe other steps your school takes to protect indoor environmental quality. Describe practices such as implementing EPA's [IAQ Tools for Schools](#) and/or conducting other periodic, comprehensive inspections of the school facility. (Suggested length: 1,000 characters; Points possible = 0.50)

Our facility and every room is inspected during summer break to identify any issues with the HVAC system. School staff is reminded not to block heating vents with shelving or boxes. Filters are changed at every vent annually. Staff is instructed by Maintenance Operations and Facilities to report any indoor air quality concerns by submitting a work order. Our school Health & Wellness Committee provided staff with information about cleaning products and plug-in air fresheners that may adversely affect indoor air quality. A list of nontoxic methods to clean and deodorize air in the classroom was distributed to staff.

IIA-14 Describe other steps your school takes to protect outdoor environmental quality. Describe practices such as reducing vehicle idling, planting trees, etc. (Suggested length: 1,000 characters; Points possible = 0.50)

Lincoln Middle School currently has a no-idling policy, and has changed the main student pick up zone farther from school to reduce traffic in the parking lot. Our principal encourages parents to drop their students off a few blocks from campus to encourage walking and reduce traffic congestion. We encourage bike riding with frequent walk and roll days as well as the bring your bike to PE program. We have well placed recycling stations around campus to reduce litter as well as an afterschool trash pickup.

Every year our campus beautification committee works with our Outdoor Development Teacher discussing improvements in our outdoor green spaces. Trees and shrubs are placed in any bare areas to provide shade or natural habitats. We will also schedule litter pick up along the coast during Save the Bay clean up days.

Element IIB – Nutrition and Fitness

IIB-1 Which practices does your school employ to promote healthy food and nutrition? (Mark all that apply; Points possible = 1.00)

	Our school has been recognized in the USDA's HealthierUS School Challenge and/or Alliance for a Healthier Generation ; provide level and year in the space below.
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	Our school participates in a Farm to School program to use local, fresh food (e.g., California Thursdays).
x	The food purchased by our school is certified as environmentally preferable; provide the percentage and type in space below.
x	Our school provides staff, students, and families information on nutrition education and/or programs.

Provide specific examples of actions taken for each checked practice, focusing on innovative or unique practices and partnerships. (Suggested length: 1,000 characters)

Our PTA sponsors a Seed to Table program as part of our Outdoor Development and Environmental Science classes where the students grow, harvest and cook organic produce and discuss the carbon footprint of their food. AUSD school meals meet or exceed all State and Federal regulations and are looking to introduce a Farm-to-Fork program next year. School meals contain no added trans-fats; chocolate milk does not contain High Fructose Corn Syrup (HFCS); they serve whole grain breads and pastas; pizza crust is whole grain; no deep fried foods; breakfast cereals are whole grain with reduced or no added sugar; fresh fruits and vegetables with meals; all members of AUSD food services are trained as Safe Food Handlers. AUSD website includes links for parents and students to websites promoting healthy food and nutrition.

Our Spanish and French teachers introduce a cultural aspect to eating where the kids will bring in foods representing a specific country or region. Our ELD teacher adds nutrition to enhance her literature assignments by cooking recipes specific to the story.

IIB-2 Which practices does your school employ relative to school gardens? (Mark all that apply; Points possible = 1.00)

x	Our school has one or more on-site gardens maintained by students, staff, and/or families.
x	Our school garden supplies food for our students in the cafeteria, a cooking or garden class, or to the community.
x	All students in every grade receive instructional time in a school garden.

Provide specific examples of actions taken for each checked practice, focusing on innovative or unique practices and partnerships. (Suggested length: 1,000 characters)

LMS has a one acre Nature Area that rests on the San Leandro Bay, containing 2 fruit orchards and 2 vegetable gardens. Students in the Outdoor Development and Environmental Science classes maintain the gardens and grow vegetables to cook with or give to teachers or students to take home. Eggs from our 6 resident chickens are raffled off to students or cooked in class with Seed to Table teacher. Students in science classes are brought out to observe and gather data on different organisms of the Nature Area throughout the year and observe seasonal variations with flora and fauna including habitats such as the Bay/San Leandro Estuary and Oakwood land habitat. Special Ed classes use the Nature Area/Garden daily. Students have

various courtyards with trees and benches around the school landscaped and maintained by the Outdoor Development Class students and teacher.

Students in the Outdoor Development and Environmental Science classes provide tours of the Nature Area/Garden to elementary students. We are developing a buddy tutoring system whereby all 3rd grade elementary students in our district will have a field trip to LMA Nature Area. In this outdoor classroom, middle school students will teach a lesson to the elementary students about watersheds and our local San Leandro Watershed. Students will participate in a hands-on science lesson.

All students have time in the garden during their three years at the school, but specific elective classes that work in the gardens obviously receive more time than others.

IIB-3 Which practices does your school employ relative to physical education? (Mark all that apply; Points possible = 1.00)

x	Our students spent at least 120 minutes per week over the past year in school-supervised physical education.
x	At least 50% of our students' annual physical education takes place outdoors.
x	Health measures are integrated into assessments.

Provide specific examples of actions taken for each checked practice, focusing on innovative or unique practices and partnerships. (Suggested length: 1,000 characters)

All students receive 225 minutes of PE every week; instruction takes place primarily outdoors. Students are assessed using the standard Physical Fitness Testing requirements every year. Between 77 to 99% of our seventh graders have scored of in the Healthy Fitness Zone in all six areas of measurement: Aerobic Capacity, Abdominal Strength, Trunk Extension Strength, Upper Body Strength and Flexibility. Structured physical fitness activities include daily stretching along with a monthly sports unit; these range from basketball and volleyball to yoga and track. Students participate in a weekly running day which sometimes occurs off-campus along shoreline pathways. The curriculum is designed so students will come away from the class more fit, with healthier bodies and a better understanding of physical and mental well-being. Cycles of Change comes to campus to provide a week-long bike unit in the physical education class where students learn basic cycling skills and street safety. Teachers sponsor intramural sports teams during lunchtime for flag football, ultimate frisbee, basketball, and softball. AUSD partners with Alameda Education Foundation (AEF) who provide after-school sports and fitness classes for students including track, volleyball and basketball. Teams play the other middle schools in Alameda.

IIB-4 Which practices does your school employ to promote wellness? (Mark all that apply; Points possible = 1.00)

x	Our school has an active wellness committee that meets at least quarterly.
x	Our local school wellness policy addresses positive environmental and health impacts that have helped green our school.
x	Our wellness policies and practices extend into afterschool programs and/or activities.

x	At least 50% of our students has participated in the SunWise program (or an equivalent program).
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Provide specific examples of actions taken for each checked practice, focusing on innovative or unique practices and partnerships. (Suggested length: 1,000 characters)

Lincoln Middle School strives to integrate mental, social, academic and physical health related education into their curriculum and promotes healthy environment through policy and action. We have a COST committee that focuses on preventative intervention identifying at risk students early on. They will put together an action plan involving teachers and administration to support students on all levels.

The Alameda County Crisis Support Services annually provides an excellent Suicide Prevention presentation during science class for all sixth and eighth graders.

Cycles of Change sponsors 3-4 after-school bike safety and repair events on campus throughout the year after school.

We have many after school activities that support physical health such as AEF sports, running club, cheerleading, bike classes, band, and school dances throughout the year

All of our students will participate in the SunWise program in eighth grade. We have landscaped many areas of the campus with additional trees and benches to provide more shaded areas of the campus for students to eat and socialize.

The faculty have a climate committee that meets once a month, and sponsors social and team-building events. Many staff members have participated in CPR and First Aid Training on site. A suggestion is that this committee begins to write a wellness plan for staff and faculty.

IIB-5 Describe the types of outdoor education, exercise, and recreation available outside of formal physical education. Include time spent in the garden and opportunities for students to engage in child-led, child-directed physical play activities. (Suggested length: 1,000 characters; Points possible = 1.50)

Students have access to after school sports provided by Alameda Education Foundation such as track, basketball and volleyball. Our Outdoor Development Class spends approximately 95% of their time outdoors landscaping the school grounds, tending the vegetable gardens, taking care of the chickens, building structures such as benches and steps as well as sorting the schools recycling. The Environmental Science class spends approximately 50% of class time outdoors removing invasive plant species and planting native plants along the estuary as well as spending time with our Seed to Table teacher tending the vegetable gardens and transplanting native seedlings to larger pots.

We have an award winning marching band that spends time outside practicing and performs in parades as well as special events. We also have many active clubs that meet at lunch or after school such as cheerleading, dance club, golf club, and running club that meets once a week

throughout the year. Our special education students are frequently given supervised free time in the Nature Area to explore and visit with the chickens.

IIB-6 Describe the efforts being made to increase staff wellness. Include physical fitness, mental health, nutrition, sun exposure, etc. (Suggested length: 1,000 characters; Points possible = 1.50)

AUSD has an Employee Assistance Program EAP for staff wellness and mental health support. AUSD's EAP is provided by Magellan Health Services of California. Including access to a 24 hours, 7 days a week, toll-free Crisis Counseling number, and offers tools and resources on; achieving work-life balance, grief and loss, depression, family and relationships, living healthier and emotional wellness. They also write a bi-monthly newsletter including tips to improve health and wellness. Staff can also take advantage of membership discounts at four different local health clubs. Classes are encouraged to have one or more class plants.

IIB-7 Describe any other efforts to improve health and wellness. Highlight innovative or unique practices and partnerships with local growers, businesses, and/or community partners. (Suggested length: 1,000 characters; Points possible = 2.00)

Our PTA sponsors the Seed to Table Program that works with the Outdoor Development and the Environmental Science classes. Students grow and cook with organic vegetables and receive a cookbook of recipes at the end of the year. The recipes include pesto, stir fry, salad, rosemary potatoes, cheesy chard, prickly-pear lemonade and egg scramble (eggs provided from the onsite chickens).

Save the Bay donated native plants to the Environmental Science class for their project.

An East Bay Regional Park Ranger visited the Environmental Science class to teach students elements of effective sign layout. Students then designed an interpretive sign for their stewardship project.

Students from the Alameda High School Advanced Art class took our Environmental Science students' hand drawn designs and turned them into a digital form so that we could produce and install an interpretive sign along the shoreline.

During Walk and Roll we have had the students make smoothies with a bicycle powered blender. We also have a partnership with Bike Alameda and Cycles for Change that encourages our students to ride frequently and safely. Safe Routes maps and bicycle tips are provided in the office.

IIB-8 Does your school use a Coordinated School Health approach or other health-related initiatives to address overall school health issues? Describe the health-related initiatives or approaches used by the school. (Suggested length: 1,000 characters; Points possible = 2.00)

LMS uses a comprehensive district program to promote the health and well-being of students and staff. We are committed to providing physical education, health services, nutrition services,

psychological and counseling services, a safe and healthy school environment, and involvement of parents/guardians and community members.

All eighth grade students experience vision and hearing testing. Vaccines, including pertussis, are required for school enrollment. If there is a health issue, such as pertussis, the District immediately notifies the parent community via School Loop, the Yahoo group, the Facebook page and the PTA. Lincoln also screens all students for scoliosis.

In sixth grade science class, students study Human Body Systems, focusing on the importance of the interaction among all the systems in our bodies. If one system has difficulty, it will affect the other systems.

Lincoln students participate in Sexual Health Education. Sixth graders focus on physical, social and emotional changes, and the reproductive system, using the curriculum FLASH. Eighth graders focus on making healthy choices regarding sexual development, friendships, bullying and relationship abuse, sexual harassment, preventing an unplanned pregnancy, teen pregnancy: choices and responsibilities, myths and stereotypes about HIV infection, preventing sexually transmitted diseases, sex trafficking, recognizing and reducing risk, peer and media pressure, community resources, and goal-setting. The Positive Prevention Plus curriculum is used in accordance with California State Law.

Lincoln students participate in a substance awareness program focused on making healthy behavioral choices. The Project Alert program is used extensively in seventh grade, and again revisited with booster lessons in eighth grade.

IIB-9 Does your school partner with any postsecondary institutions, businesses, nonprofit organizations, or community groups to support student health and/or safety? Describe these partnerships. (Suggested length: 1,000 characters; Points possible = 2.00)

LMS was the first school in our district to have a full safety plan. Over the years we have been adding procedures and fine tuning our plan to meet all state safety requirements. Now all staff are trained yearly on the Emergency Operation Plan and perform drills once a month with the entire school population. We have four types of drills which include 1) Fire 2) Earthquake 3) Intruder 4) Shelter in Place. We have a SERT team consisting of students and teachers that are selected by administration to be in charge of mandatory training. Each classroom has an emergency pack with specific procedures for each type of emergency. The school also has a large disaster preparedness trailer that has emergency supplies and food.

We now participate in Share 911 on all the cell phones where teachers must report their status to administration. The school also has specific lines of communication directly to the police and fire station to improve response time to any schools in need.

AUSD schools annually participate in the Great California ShakeOut; students are taught earthquake safety & practice behaviors that can help them survive/recover from a major earthquake.

LMS works with the Tobacco Use Prevention Education (TUPE) who provide a counselor to visit LMS a couple times during the year to mentor Leadership students to be peer educators about the use of alcohol, drugs, and tobacco. Students also celebrate Red Ribbon Week to educate themselves to be alcohol, tobacco, drug, and violence free.

Alameda Unified partners with Alameda Family Services which will waive the fees for the first counseling visit.

IIB-10 Do your students have daily access to a school nurse and counselor and/or a school-based health center? Describe these programs and the services they provide. (Suggested length: 1,000 characters; Points possible = 0.50)

Lincoln has an onsite full time health clerk and also provides students with vision, hearing and scoliosis checks. All students must provide immunization reports before they enroll.

Lincoln has wonderful group of counselors, social workers and psychologists available for our student population that take a preventative intervention approach to facilitate the academic and social health of our students by meeting monthly to discuss at risk students and developing a plan to help them. Our At-Risk Counselor works with small groups focusing on emotional growth and executive function as well as mindfulness and self-awareness.

We have a partnership with Seneca to help provide a dedicated Counseling Enriched Classroom that works with at risk students with severe behavioral problems and incorporates group, individual and family counseling.

There is one full time licensed counselor and one part-time counselor that are also available to students for personal, social, and academic concerns. The part-time counselor provides small regular small group counseling that addresses homework habits, social skills, study and test-taking skills. The full time counselor will work with students dealing with truancy or suicide or grief counseling. Parents are referred to outside counselors if necessary. She works with them on awareness and develops a contract for change.

Our Bridge program addresses students with moderate learning and social issues.

Our Fusion class works with students reading below grade level. They are brought together in a smaller setting social setting with a variety of seating accommodations and taught how to decode, comprehend and analyze.

IIB-11 Describe your school's efforts to support student mental health and school climate. Include anti-bullying programs, peer counseling, restorative justice, etc. (Suggested length: 1,000 characters; Points possible = 1.50)

In 2009 when we adopted a new Anti-Bullying Campaign that promotes empowerment instead of victimization. The lessons start in 6th grade with vocabulary so students can clearly recognize bullying and progress every year. Every student planner has 30 pages dealing with bullying and worksheets to work on and turn into their teacher. Students attend a group assembly and are

required to write thank you notes restating what they learned. We have had a huge reduction in bullying cases.

This year the PTA paid for the entire school to go on a walking field trip to “Wonder” the movie. It was a great bonding and learning experience and has been discussed in detail with their core teachers. Students have made posters around school to let everyone know they belong.

Students and teachers can give out PBIS slips (purple slips standing for Positive Behavior Intervention Support) to people that are displaying the life skills including caring, common sense, pride, cooperation, problems solving, sense of humor, curiosity, perseverance, courage, effort, friendship, initiative, integrity, patience, flexibility and organization. Students will be chosen by the Vice Principal for a special recognition in our weekly newsletter that goes out to the community.

We have a Gay Straight Alliance (GSA) club that meets weekly. We also provide a “lunch bunch” classroom for students who have trouble socially where they are welcomed and can feel safe and included.

Pillar III: Effective Environmental and Sustainability Education

Element IIIA – Interdisciplinary Learning

IIIA-1 Which policies does your school employ to help ensure effective environmental and sustainability education? (Mark all that apply; Point possible = 6.00)

x	A written definition of environmental literacy and/or a definition of environmental learning outcomes including knowledge, skills, positive attitudes, and civic responsibility.
x	An environmental or sustainability literacy requirement.
x	A set of policies to promote environmental education and sustainability.
x	California’s <u>Environmental Principles and Concepts</u> are an integrated element of instruction across disciplines.
x	A green schoolyard vision statement and/or master plan that guides the development of school grounds over time.

Provide specific examples of actions taken for each checked practice, focusing on innovative or unique practices and partnerships. (Suggested length: 2,000 characters)

One science teacher is a member of the AUSD Environmental Literacy Team that develops the Environmental Literacy Plan for our District. We partner with ChangeScale.org to develop this plan with local environmental literacy providers such as the East Bay Regional Parks, YMCA, StopWaste.org, and Point Bonita. We have published a written definition of environmental literacy with learning outcomes, and are in the process of refining our environmental education and sustainability policies.

The District Environmental Literacy Team is developing and implementing a District Wide Plan to integrate California’s Environmental Principles and Concepts across all grade levels. Our

school leads the way in this effort, because we have been integrating instruction in our Nature Area across disciplines since the school’s inception. Our science teachers work on the Team to provide field trips to the Nature Area for elementary school students. Middle school students currently give tours to prospective students and families. In future, middle school students will teach the field trips to the younger students.

The landscaping master plan focuses on reducing the use of water in landscapes by planting native and low water need plant varieties. The plan also includes permeable hardscapes (use of decomposed granite to replace concrete or weed intensive areas) and sheet mulching to prevent water loss and invasive weeds/plants. The plan includes the dry season manual use of sprinklers or hand watering while plants are immature.

We are very fortunate to have a local nonprofit called Stopwaste.org that offers programs for our students and teachers teaching them about environmentally friendly practices like composting, sheet mulching and recycling. Our Seed to Table teacher has attended their Leadership Environmental Action Forum (LEAF) with one LMS student, where middle school students participate in workshops on a variety of environmental issues and network with other middle schoolers. She has also attended their recent teacher training offered to local educators learning more about cooking with local produce and decreasing food waste. They provided our school with new trash pickers and signage to improve our recycling program.

Because of all the hard work that the Alameda Green Schools Challenge, the students that come from our elementary feeder schools all go through recycling training starting in kindergarten and are required to recycle in the classrooms and lunchroom. The majority of them also attended the field trip to Davis Street Transfer Station to learn about three stream recycling. This has really helped create a culture of environmentally aware students.

IIIA-2 Which academic programs does your school employ to help ensure effective environmental and sustainability education? (Mark all that apply; Point possible = 8.00)

x	An academic program that integrates environmental and sustainability concepts across the curriculum in a single subject.
x	An academic program that integrates environmental and sustainability concepts across the curriculum in multiple disciplines.
x	An environmental or sustainability elective course, including an AP Environmental Science course (high schools only).
x	A garden program that is integrated in the curriculum.
x	A way to assess student environmental and sustainability learning and achievement.
x	Professional development in environmental and sustainability education for all teachers and staff.

Provide specific examples of actions taken for each checked practice, focusing on innovative or unique practices and partnerships. (Suggested length: 2,000 characters)

As part of the AUSD Environmental Literacy Plan and ChangeScale partnership, StopWaste Schools provides services to support the teaching of the Ocean Guardian sixth grade partnership. Sixth grade student garbologists investigate their 3-stream cafeteria waste and school litter audit. Students collect data and photo-document their findings. Sixth grade teams perform a litter audit along the shoreline, where they collect data and photo-document their findings. Students do a comparative analysis of the findings in the waste streams and any connections to their litter audit. Students assess and identify behavior patterns based on their audit findings, and take action to stop waste.

Lincoln Middle School is in its fourth year as a NOAA Ocean Guardian School due to the Environmental Science class' stewardship project. Along with Computers and Engineering, it forms our STEM elective wheel. In Environmental Science, 90 students every year learn stewardship of our local environment. They do a hands-on project of removing non-native invasive plant species, installing native plant species, and cleaning up litter from the shoreline and wetlands bordering our school. They report results to NOAA, communicate the project to all 900 students and issue a call to action. This complements the work we do with our Nature Area, the Outdoor Development class and our Go Green and lunch waste recycling programs.

Our school's place-based environmental education and involvement as a NOAA Ocean Guardian School influenced our district to become an Ocean Guardian District. It is now only the second district in the nation to be an Ocean Guardian District! Our goal is to educate every student in our island city to care deeply about and become a steward of the ocean.

In the Environmental Science Elective class, students apply the concepts in various Nature Works Everywhere videos on School Gardens Habitats, Living Systems, Carbon Footprint, and Soil, to their work in the Seed to Table program.

One of our seventh grade students is an organizer and keynote speaker at the Youth for the Environment and Sustainability (YES) Conference in Oakland, CA. This is a nine county San Francisco Bay Area conference for middle and high school youth. Students attend to share ideas, network, and organize for climate action.

Students use a watershed model to demonstrate, explain and predict the health of the watershed given various inputs. Lincoln also lends this model out to other schools within the District so that other classes may also benefit.

In grades 6-8, we use the Lawrence Hall of Science Full Option Science System curriculum which emphasizes the Science and Engineering Practices, and the Human Impact on the Environment. We use a place-based approach aligned with the Next Generation Science Standards to engage the students in science in their local environment. Students connect their learning with Crosscutting Concepts and engage in Scientific and Engineering Practices as they work on Performance Expectations using the Disciplinary Core Ideas. Sixth through eighth grade science builds upon the K-5 curriculum as it spirals back upon itself, allowing for deeper learning.

Sixth grade English and reading teachers utilize Inquiry by Design curriculum and Scholastic Scope magazine for springboards to learning science thinking skills. Students read the novel SCAT, by Carl Hiaason, about endangered species and legislation for environmental resource management.

Sixth grade Social Studies curriculum takes a resource management lens when studying early man and how they chose sites for settlement.

The Outdoor Development Elective class collects and sorts CRV containers from inside and outside buildings once a week. They also collect paper once a week. The curriculum of this class promotes the reuse, recycling, or reduction of virgin source materials.

Students participate in a Science Bowl Team, competing in the Sandia Laboratories Regional Middle School Science Bowl. Regional winners will advance to national competition.

The PTA sponsored Seed to Table teacher discusses different ways the students can help the environment at home and in the garden. They are taught about sheet mulching, hot & cold composting, vermicomposting, water collection, drip irrigation and native plants and animals. They plant marsh gumplant, milkweed and goldenrod and nurture it until it is large enough to transplant into the native gardens.

IIIA-3 Which co-curricular programs does your school employ to help ensure effective environmental and sustainability education? (Mark all that apply; Point possible = 6.00)

x	An environmental or sustainability student club, and/or a school Green Team that includes student representation and/or opportunities for student leadership.
x	Field trips for students to study environmental education at outdoor programs, science museums, zoos, aquariums, parks, and farms.
x	A school program that includes service learning projects that incorporate environmental topics.
x	A way to use the buildings, grounds, and neighborhood to teach place-based environmental education and foster local ecological literacy in a hands-on manner.

Provide specific examples of actions taken for each checked practice, focusing on innovative or unique practices and partnerships. (Suggested length: 2,000 characters)

Lincoln Middle School has been a pioneer in place-based learning since its inception. This instructional approach promotes student learning about issues that exist in the student’s own place. When the school was constructed in 1976, science teachers worked collaboratively with the Alameda Unified School District and community partners to create a large one acre Nature Area for the purpose of science education. The Shop class built the bridge over the pond, and over time, students built observation benches. Teachers created learning experiences that are still in use today such as the “Station Observation” for studying seasonal change, the “Long Term Plant Observation” for studying growth and development of native plants, and “Building a Scale Model of the Nature Area”. The Nature Area is used for weather observation, tidal monitoring, modeling of physics concepts, literacy experiences, art and special education

students. The use of the Lincoln Nature Area is unique as an educational experience in the nation.

Since the school's inception, students in the Outdoor Development Class have landscaped the Nature Area as well as the outdoor courtyards and walkways of the entire school. Additionally, Outdoor Development class students collect classroom recyclables from containers in all classrooms and offices in our school. Students collect and sort the CRV recyclables. They report data to StopWaste.org. With an Altamont Grant, teacher Tom Miro installed a water filling station on campus that has eliminated the need for 21,800 single-use plastic bottles. Several times a year Science teachers instruct students on lunch waste sorting, and the student members Green Team monitor the lunch waste collection cans daily.

Students receive community service hours as a Recycling Monitor during lunch and helping students with recycling questions and auditing progress. Fortunately, the students that have come from our feeder elementary schools have been trained with the Alameda Green Schools challenge curriculum and have already had training as recycling monitors. The students that have not had previous training are trained by our parent Go Green volunteers. Students are encouraged to complete their twenty (20) hours of AUSD required community service by participating in PTA sponsored campus beautification workdays.

Items that are not recyclable such as bottle caps are turned into art and displayed around school to encourage kids to recycle.

STEM students attended the Island City celebration in Spring 2016 to learn about the marine, social and economic heritage of our ocean oriented city. A field trip to the San Francisco Bay Model is planned for 2018-19 for students to study the San Francisco Bay watershed.

Environmental Science students participate in virtual field trips (PORTS) to CA state parks Interacting with the Park Range at Crystal Cove, students and Point Lobos, as well as the JOIDES Resolution, where they learn about studying ocean cores.

The Nature Area Club meets weekly at lunchtime to remove non-native invasive plants in the Nature Area.

Environmental Science and Outdoor Development (ODD) students have an opportunity for student leadership during school tours when teaching incoming students about the programs and their environmental impact. The ODD students have a chance to choose specific projects around school that provide safety, or specify planting and sitting areas. Projects have included a wheelchair ramp, railings, stairs, benches and even a recycling penguin to add humor on campus.

AP Environmental Science students from Alameda and Encinal High School present lessons to middle school students on sustainability and environmental science. Teacher work with scouts from several local Boy Scout Troops in planning and implementing their Eagle Scout projects.

The Lawrence Hall of Science developed outdoor curriculum for the Full Option Science System (FOSS) program based on their work with our students in our Nature Area. For the past 5 years, our teachers have worked closely with Lawrence Hall of Science professionals to develop curriculum and participate in national trials testing. An example of a learning activity specifically developed from the FOSS work at our site is conducting a BioBlitz to study biodiversity of the Nature Area. This is especially valuable for students because they have the opportunity to engage in an authentic scientific practice that real scientists do.

Students from the Outdoor Development Class and the Environmental Science class conduct tours for prospective middle school students to learn about environmental opportunities and projects at LMS. In concert with our District Environmental Literacy Plan, Lincoln is developing a field trip experience for all third graders in the district. Middle school students will teach a hands-on watershed lesson to third graders. Third graders will either walk to our site or take public transit, furthering their outdoor learning.

Element IIIB – STEM Content, Knowledge, and Skills

IIIB-1 How does your school use sustainability and the environment as a context for learning science, technology, engineering, and mathematics thinking skills and content knowledge? Describe programs and coursework across grade levels. (Suggested length: 2,000 characters; Points possible = 2.50)

Teacher Jenny Hartigan created the Environmental Science elective course to build upon our core science curriculum. After studying the transfer of matter and energy in “Populations and Ecosystems”, students have an opportunity to study our local populations and ecosystem in depth. Students consider the human impact on the local environment and take action to mitigate harmful effects. An important component of this class is data collection and reporting to the National Oceanic and Atmospheric Association (NOAA) and learning about other National Marine Sanctuaries in addition to our local Greater Farallones National Marine Sanctuary. Students also make presentations of their project to community groups such as the Parent Teacher Association, School Site Council, English Learners Advisory Council, Parent Information Night, School Board, Congresswoman Barbara Lee event, Greater Farallones National Marine Sanctuary Advisory Council Meeting, Alameda Earth Day Festival, and the Youth for the Environment and Sustainability (YES) Conference. This is funded by a NOAA Ocean Guardian \$19,500 grant, and we are in Year 4 as a NOAA Ocean Guardian School.

1. Students learn to identify native and non-native plants and describe their ecosystem interactions between biotic and abiotic factors. Students utilize mathematical and computational thinking to analyze litter data.
2. Zero Waste Week: Students participate in a lunch waste audit and the Zero Waste Week campaign in Spring.
3. Leadership: Our Ocean Guardian program led to more Alameda schools (Earhart, Franklin and Paden) becoming Ocean Guardian schools, and to our district receiving a grant to be only the second Ocean Guardian School District in the whole country!

4. NOAA Teacher at Sea: The lead teacher assisted NOAA scientists on a week-long research expedition in the California Current of the Pacific Ocean. She brings lessons on marine science and ocean careers back to the classroom.
5. Voice and advocacy: Students created and gave presentations on the project to many groups, including Lincoln's PTA, School Site Council, English Learners Advisory Council, New Parent Information Night, the Board of Education, Congresswoman Barbara Lee, and the Greater Farallones National Marine Sanctuary Advisory Council. Mrs. Hartigan appeared on the "Ocean Currents" radio program of KWMR, and articles have appeared in the Alameda Journal and the East Bay News Group. Students designed an interpretive sign that is installed along the public biking and walking path on the Fernside Blvd. shoreline. Additionally, students presented at the Alameda Earth Day Festival. Students conduct presentations to fifth graders when they visit Lincoln as potential sixth graders.
6. Students issue a call to action: What can you do to help take care of the ocean?

Students from the Outdoor Development Class and the Environmental Science class conduct tours for prospective middle school students to learn about environmental opportunities and projects at LMS. In concert with our District Environmental Literacy Plan, Lincoln is developing a field trip experience for all third graders in the district. Middle school students will teach a hands-on watershed lesson to third graders. Third graders will either walk to our site or take public transit, furthering their outdoor learning.

Several science teachers participate in the I2SEA International Student Carbon Footprint Challenge, where students choose personal actions to mitigate their carbon footprint. We are currently expanding our eighth grade portfolio process to include a personal action project of environmental stewardship. Students will participate in the International Student Carbon Footprint Challenge in sixth grade, and choose a personal action project to do during their middle school years. They will extend their learning in seventh grade with ocean acidification lessons in chemistry, and deepen with the evolutions lesson in eighth grade science. Upon finishing their middle school career, students will reflect on their project and how it impacted their carbon footprint. In this way, we aim to extend our culture of environmental stewardship of our local area. A partnership with the NOAA Planet Stewards \$2500 grant facilitates this process.

Sixth grade English and reading teachers utilize Inquiry by Design curriculum and Scholastic Scope magazine for springboards to learning science thinking skills. Students read the novel SCAT, by Carl Hiaason, about endangered species and legislation for environmental resource management.

Sixth grade Social Studies curriculum takes a resource management lens when studying early man and how they chose sites for settlement.

The Environmental Science class studies science and engineering practices by reading the novel The Martian (classroom edition).

Our school uses the Full Option Science System (FOSS) curriculum developed at the Lawrence Hall of Science. Aligned to the Next Generation Science Standards, it includes a component of examining human impact on the environment. To deepen student learning about the ocean ecosystem surrounding our island community, our school also teaches weather and water concepts using the Lawrence Hall of Science Ocean Sciences Sequence (MARE) curriculum. This focuses on mitigating the effects of human impact on climate change. We are currently expanding our eighth grade portfolio process to include a personal action project of environmental stewardship. Students will participate in the I2SEA International Student Carbon Footprint Challenge in sixth grade, and choose a personal action project to do during their middle school years. They will extend their learning in seventh grade with ocean acidification lessons in chemistry, and deepen with the evolutions lesson in eighth grade science. Upon finishing their middle school career, students will reflect on their project and how it impacted their carbon footprint. In this way, we aim to extend our culture of environmental stewardship of our local area. A partnership with the NOAA Planet Stewards grant facilitates this process.

The Special Education classes in grades 6-8 visit the Nature Area as a therapeutic calming space for them to refocus during lessons of high cognitive demand in mathematics and communication skills. Our Counseling Enriched Class (CEC) students in grades 6-8 participate in reading lessons, and science lessons about tides and plants in the Nature Area.

IIIB-2 How does your school use sustainability and the environment as a context for learning green technologies and career pathways? Describe programs and coursework across grade levels. (Suggested length: 2,000 characters; Points possible = 2.50)

Seventh and eighth grade students can take a STEM wheel elective course of one trimester each of Engineering, Computers and Environmental Science. In the Environmental Science course students study our local populations and ecosystem in depth. Students consider the human impact on the local environment and take action to mitigate harmful effects. An important component of this class is data collection and reporting to the National Oceanic and Atmospheric Association (NOAA), and learning about our local Greater Farallones National Marine Sanctuary, in addition to other National Marine Sanctuaries. Students learn environmental advocacy skills and make presentations of their project to community groups such as the Parent Teacher Association, School Site Council, English Learners Advisory Council, Parent Information Night, School Board, Congresswoman Barbara Lee event, Greater Farallones National Marine Sanctuary Advisory Council Meeting, Alameda Earth Day Festival, and the Youth for the Environment and Sustainability (YES) Conference. This is funded by a NOAA Ocean Guardian \$19,500 grant, and we are in Year 4 as a NOAA Ocean Guardian School. Results to date are as follows:

1. Students learn tool safety and techniques to remove non-native invasive plants, plant native seeds and seedlings and care for the newly planted fauna. Students learn safe practices to collect and analyze litter.
2. Zero Waste Week: Students learn to carry out a lunch waste audit and publicize the Zero Waste Week campaign in Spring.

3. Leadership: Our Ocean Guardian program led to more Alameda schools (Earhart, Franklin and Paden) becoming Ocean Guardian schools, and to our district receiving a grant to be only the second Ocean Guardian School District in the whole country!
4. NOAA Teacher at Sea: The lead teacher assisted NOAA scientists on a week-long research expedition in the California Current of the Pacific Ocean. She brings lessons on marine science and ocean careers back to the classroom.
5. Voice and advocacy: Students created and gave presentations on the project to many groups, including Lincoln's Parent Teacher Association, School Site Council, English Learners Advisory Council, Parent Information Night, the AUSD Board of Education, Congresswoman Barbara Lee, the Greater Farallones National Marine Sanctuary Advisory Council, and the City of Alameda Earth Day Festival. Mrs. Hartigan was interviewed on the "Ocean Currents" radio program of KWMR, and articles have been published in the Alameda Journal and the East Bay News Group. Students designed an interpretive sign that is installed along the public biking and walking path on the Fernside Boulevard shoreline. Students will present at the Youth for Environment and Sustainability (YES) 2018 Conference. Students conduct presentations to fifth graders when they visit Lincoln as potential sixth graders.
6. Students issue a call to action: What can you do to help take care of the ocean?

Community members make presentations to students about marine career pathways. Students conduct research on various NOAA Corps careers and marine science careers. Some examples are a San Francisco Bay Bar Pilot, NOAA scientist, NOAA ensign and East Bay Park Ranger. Students also participate in "Meet the Scientist" video field trips.

Students make a project presentation to a meeting of the Greater Farallones National Marine Sanctuary Advisory Council and have the opportunity to apply to become a student member of the Council.

Our Wood Shop is one of the few remaining shops in middle and high schools in the nation. Students learn to design and use tools to create projects.

Students from the Outdoor Development Class and the Environmental Science class conduct tours for prospective middle school students to learn about environmental opportunities and projects at LMS. In concert with our District Environmental Literacy Plan, Lincoln is developing a field trip experience for all third graders in the district. Middle school students will teach a hands-on watershed lesson to third graders. Third graders will either walk to our site or take public transit, furthering their outdoor learning.

In grades six through eight, students explore green technologies and career pathways as they engage in the Inquiry to Student Environmental Action (I2SEA) International Student Carbon Footprint Challenge (ISFSC). They engage in an international dialogue with students around the world. Students learn about career options as they study the one hundred most substantive existing solutions to address climate change in Project Drawdown. They learn about, discuss, and envision solutions to shared environmental challenges.

Element IIIC – Civic Knowledge and Skills

IIIC-1 Describe students' civic/community engagement projects integrating environmental and sustainability concepts. Specify at which grade level each is implemented. (Suggested length: 2,000 characters; Points possible = 2.00)

One of the most important components of our environmental science class is communication of our project to the greater community. Students learn public speaking and have many opportunities to engage the public in taking action to care for our local environment. This is funded by a NOAA Ocean Guardian \$19,500 grant, and we are in Year 4 as a NOAA Ocean Guardian School.

1. Zero Waste Week: Students make presentations about the Zero Waste Week campaign to the AUSD School Board.
2. Leadership: Our Ocean Guardian program led to more Alameda schools (Earhart, Franklin and Paden) becoming Ocean Guardian schools, and to our district receiving a grant to be only the second Ocean Guardian School District in the whole country!
3. NOAA Teacher at Sea: Lead teacher Mrs. Hartigan assisted NOAA scientists on a week-long research expedition in the California Current of the Pacific Ocean. She brings lessons on marine science and ocean careers back to the classroom.
4. Voice and advocacy: Students created and gave presentations on the project to many groups, including Lincoln's PTA, School Site Council, English Learners Advisory Council, New Parent Information Night, the Board of Education, Congresswoman Barbara Lee, and the Greater Farallones National Marine Sanctuary Advisory Council. Mrs. Hartigan appeared on the "Ocean Currents" radio program of KWMR, and articles have appeared in the Alameda Journal and the East Bay News Group. Students designed an interpretive sign that is installed along the public biking and walking path on the Fernside Blvd. shoreline. Additionally, students presented at the Alameda Earth Day Festival. Students conduct presentations to fifth graders when they visit Lincoln as potential sixth graders.
5. Students issue a call to action: What can you do to help take care of the ocean?

Students from the Outdoor Development Class and the Environmental Science class conduct tours for prospective middle school students to learn about environmental opportunities and projects at LMS. In concert with our District Environmental Literacy Plan, Lincoln is developing a field trip experience for all third graders in the district. Middle school students will teach a hands-on watershed lesson to third graders. Third graders will either walk to our site or take public transit, furthering their outdoor learning.

Several science teachers participate in the I2SEA International Student Carbon Footprint Challenge, where students choose personal actions to mitigate their carbon footprint. We are currently expanding our eighth grade portfolio process to include a personal action project of environmental stewardship. Students will participate in the International Student Carbon Footprint Challenge in sixth grade, and choose a personal action project to do during their

middle school years. They will extend their learning in seventh grade with ocean acidification lessons in chemistry, and deepen with with the evolutions lesson in eighth grade science. Upon finishing their middle school career, students will reflect on their project and how it impacted their carbon footprint. In this way, we aim to extend our culture of environmental stewardship of our local area. A partnership with the NOAA Planet Stewards \$2500 grant facilitates this process.

Seventh and eighth grade Environmental Science students present their project to community groups such as the PTA, School Site Council, English Learners Advisory Council, Parent Information Night, Open House, AUSD Board of Education, the Congresswoman Barbara Lee event at Hilltop School, and the Greater Farallones National Marine Sanctuary Advisory Council Meeting. Articles have appeared in the Bay Area News Group publications (Dec. 2015). Students participated in a letter writing campaign that resulted in the Alameda city ordinance "Straws upon Request" beginning in 2018. They wrote letters to the editor of our local newspaper, the Alameda Journal, presenting our project and urging the community to pick up litter. They also conduct tours for prospective students and their families, where they advocate for ocean literacy.

Seventh and eighth grade environmental science students present their project at an interactive booth at the City of Alameda's Annual Earth Day event. They use an interactive watershed model so participants may experience hands-on learning.

In 2018, students will present at the Youth for Environment and Sustainability (YES) Conference in Oakland CA. This is a student organized conference. One of our seventh graders is the keynote speaker and an organizer of the YES Conference.

IIIC-2 Describe students' meaningful outdoor learning experiences. Specify at which grade level each is implemented. (Suggested length: 2,000 characters; Points possible = 2.00)

Sixth grade students study seasonal change in a specific location in the Nature Area. They also conduct weather observations at our weather station. They study Bay Area fog formation, onshore and offshore breezes in the Nature Area.

Seventh grade students observe change in growth and development over time for a specific native plant. They conduct a "BioBlitz" to measure biodiversity in our Nature Area. They study rocks and geology of the local environment.

Eighth grade students study speed and acceleration by measuring time and distance while walking and running an outdoor pathway. They also design and test brain protection devices in our Gravity and Kinetic: Energy Engineering Challenge. They study phases of the Moon and seasons of the year through outdoor observation during Planetary Science. They observe and measure tidal change in the San Leandro Estuary.

Seventh and eighth grade environmental science students learn to collect native plant seeds such as marsh gumplant, separate the seeds from the chaff, plant them and water them to germination and seedling maturity. They learn all aspects of planting the seedlings in the Nature Area (using tools appropriately, digging the hole, mixing in fertilizer, filling in the appropriate amount of dirt, and watering).

Seventh and eighth grade environmental science students learn appropriate tool use and debris disposal as they remove non-native invasive plants such as fennel and Russian Thistle.

Seventh and eighth grade students learn safety techniques for litter recovery as they collect marine debris from the shoreline and report data to the California Coastal Conservancy.

IIIC-3 How does your school participate in California's annual celebration of Living Schoolyard Month (ACR-128)? Include all green schoolyard activities taking place in the month of May. (Suggested length: 1,000 characters; Points possible = 0.50)

The students in the Outdoor Development Class plan and take home a mini garden that can double as Mother's Day gift that includes flowers or herbs that they planted from seeds. The student-run carnival has a plant station where the students are taught how to make a pot from newspaper and transplant a small plant to take home.

Students celebrate Arbor Day with Earth Day Network activities as part of the spring growing season.

IIIC-4 Describe how outdoor learning is used to teach an array of subjects in contexts, engage the broader community, and develop civic skills. Specify at which grade level each strategy or program is implemented. (Suggested length: 2,000 characters; Points possible = 2.00)

Sixth, seventh and eighth grade art students do thumbnail sketches and studies of landscapes, as well as a plein aire unit. They write Haiku poetry based on their art from the Nature Area. Sixth grade students sketch organisms in the Nature Area.

Sixth, seventh and eighth grade students read and discuss novels and write personal essays in the Nature Area.

An article in the East Bay News Group (December 2015) highlighted the work our environmental science class does as an Ocean Guardian School. As a result, community members contacted the teacher to offer assistance in the classroom and field trip chaperoning. Donations were made of teaching materials.

In 2015, Environmental Science students designed an interpretive sign to install along the public bicycle/pedestrian pathway along the shoreline of campus. A ranger from our local East Bay Regional Park, Crab Cove, presented a lesson to students on how to design a sign. Students created a hand drawn design, which was sent to the Alameda High School Advanced

Multimedia Art Class. From the drawings, a high school student created a digital file for production. The sign was completed and installed, and in 2016, we held a ribbon cutting ceremony for it. All community partners were invited, which resulted in media coverage. This event was featured in the *Magazine of the National Marine Sanctuaries: Earth is Blue* (Volume 2, June 2017).

IIIC-5 Describe partnerships with the local community that help advance the school, other schools (especially schools with fewer resources), school districts, and the greater community toward the Three Pillars. Include partners from K–12 and higher education, business, government, non-profit, and non-formal science institutions. (Suggested length: 2,000 characters; Points possible = 2.00)

When the school was constructed in 1976, science teachers worked collaboratively with the Alameda Unified School District to create a large one acre Nature Area for the purpose of science education. An agreement was reached with the Bay Conservation Development Commission (BCDC) to utilize this shoreline area for educational purposes. Community fundraising drives and workdays were held to landscape the Nature Area and the entire campus. Community partners such as Thompson's Nursery donated large trees and shrubs, and local families donated plants. A young men's organization, Alameda Do Molay, poured concrete foundations for our block walls. The District supported this project with Outdoor Education Curriculum materials obtained from a grant through Carol Smart. Approximately \$5000 of construction labor was provided by the Maintenance Department. \$10,000 of curriculum materials, tools and equipment were supported by Superintendent Klas. Students participated in the planting of the Nature Area, as a "A Walk Through California" of California native plant regions.

The Shop class built the bridge over the pond, and over time, students built observation benches. Teachers created learning experiences such as the "Station Observation" for studying seasonal change, the "Long Term Plant Observation" for studying growth and development of native plants, and "Building a Scale Model of the Nature Area". The Nature Area is used for weather observation, tidal monitoring, modeling of physics concepts, literacy experiences, art and special education students. The use of the Lincoln Nature Area is unique as an educational experience in the nation.

Since the school's inception, students in the Outdoor Development Class have landscaped the Nature Area as well as the outdoor courtyards and walkways of the entire school. Students in the ODD class learn hands-on skills that were used to build and maintain the outdoor areas of the school. They continue to maintain the landscape with drought-tolerant and native plants. Additionally, Outdoor Development class students collect classroom recyclables from containers in all classrooms and offices in our school. Students collect and sort the CRV recyclables. They report data to StopWaste.org. With an Altamont Grant, teacher Tom Miro installed a water filling station on campus that has eliminated the need for 21,800 single-use plastic bottles. Several

times a year Science teachers instruct students on lunch waste sorting, and the student members Green Team monitor the lunch waste collection cans daily.

Last summer the students from the Boys and Girls club attended a summer field trip at Lincoln Middle School. They were invited to visit the chicken coop, have lunch in the Nature Area looking over the estuary and visit and taste from our vegetable gardens. They were shown how we compost and tasted green beans and raspberries.

IIIC-6 Distinguish any other programs or features not included in the application that demonstrate ways that your school integrates core environmental, sustainability, STEM, green technology, and civics into curricula. Highlight innovative or unique practices and partnerships that provide effective environmental and sustainability education. If applicable, include examples of the evolution of your program(s) over time. (Suggested length: 2,000 characters; Points possible = 1.50)

Throughout the curriculum and grade levels, teachers include environmental learning. For example, when sixth graders learn about the geographies of ancient civilizations, they learn the influence of river systems on the development of civilizations due to human needs and agriculture. This connects environmental resource management with civics and geography.

One of the things that is difficult to recycle is bottle tops/caps. The students create art with the bottle caps and place it around the school to encourage each other to recycle.

The onsite woodshop class used to throw all of their sawdust in the trash. Over the last 3 years they have been recycling the sawdust by delivering it to the Seed to Table students so they can compost it on site with the chicken manure.

When we installed our water bottle filling station we promoted special Lincoln Middle School water bottles with our Lion Logo and school colors. These bottles have helped us eliminate the need for 21,800 single use plastic bottles. Students can now get customized water bottles with their name on the front to ensure they won't lose it.

The San Leandro Estuary was recently named a Resiliency by Design Challenge Site. Our school is located on the San Leandro Bay along with the Martin Luther King Regional Shoreline and Arrowhead Marsh, a bird sanctuary. Save the Bay maintains a nursery in the MLK Regional Shoreline, and partners with our school to launch our Ocean Guardian program by donating teacher education. they also help us continue our program by donating native plants.

The East Bay Regional Park District provided design instruction for our interpretative sign and recommendations for professional graphic artists to assist with the process. They also recommended vendors for production of the sign.

Our Ocean Guardian program began with a single elective class and expanded to several other schools. Now we have become an Ocean Guardian District with the goal of effecting civic policy change for the health of our environment. The Ocean Guardian program has also led to participation in the Teacher at Sea program, creating partnerships with the Greater Farallones National Marine Sanctuary, the Cordell Bank National Marine Sanctuary and Point Blue

Conservation Science, PRBO. Scientists consult with teachers and visit the classrooms so that students can apply real data in their environmental education.

Congratulations! You have completed the 2018 ED-GRS application for California schools. To submit your application, email your document in .docx or .pdf format to greenribbonschools@cde.ca.gov before 5:00 p.m. on January 12th, 2018.