



School Nominee Presentation Form

ELIGIBILITY CERTIFICATIONS

School and District's Certifications

The signatures of the school principal and district superintendent (or equivalents) on the next page certify that each of the statements below concerning the school's eligibility and compliance with the following requirements is true and correct to the best of their knowledge. *In no case is a private school required to make any certification with regard to the public school district in which it is located.*

1. The school has some configuration that includes grades early learning to 12.
2. The school has been evaluated and selected from among schools within the Nominating Authority's jurisdiction, based on high achievement in the three ED-GRS Pillars: 1) reduced environmental impact and costs; 2) improved health and wellness; and 3) effective environmental and sustainability education.
3. Neither the nominated public school nor its public school district is refusing the U.S. Department of Education Office of Civil Rights (OCR) access to information necessary to investigate a civil rights complaint or to conduct a district wide compliance review. The Department of Defense Education Activity (DoDEA) is not subject to the jurisdiction of OCR. The nominated DoDEA schools, however, are subject to and in compliance with statutory and regulatory requirements to comply with Federal civil rights laws.
4. OCR has not issued a violation letter of findings to the public school district concluding that the nominated public school or the public school district as a whole has violated one or more of the civil rights statutes. A violation letter of findings will not be considered outstanding if OCR has accepted a corrective action plan to remedy the violation.
5. The U.S. Department of Justice does not have a pending suit alleging that the public school or the public school district as a whole has violated one or more of the civil rights statutes or the Constitution's equal protection clause.
6. There are no findings of violations of the Individuals with Disabilities Education Act in a U.S. Department of Education monitoring report that apply to the public school or public school district in question; or if there are such findings, the state or public school district has corrected, or agreed to correct, the findings.
7. The school meets all applicable federal, state, local and tribal health, environmental and safety requirements in law, regulations and policy and is willing to undergo EPA on-site verification.

U.S. Department of Education Green Ribbon Schools

☒ Public ☐ Charter ☐ Title I ☐ Magnet ☐ Private ☐ Independent ☐ Rural

Name of Principal: Mr. Gene Thompson

(Specify: Ms., Miss, Mrs., Dr., Mr., etc.) (As it should appear in the official records)

Official School Name: Mickle Middle School

(As it should appear on an award)

Official School Name Mailing Address: 2500 N 67th St. Lincoln NE 68507

(If address is P.O. Box, also include street address.)

County: Lancaster State School Code Number *:

Telephone: 402-436-1216 Fax:

Web site/URL: mickle.lps.org E-mail: genethomps@lps.org

**Private Schools: If the information requested is not applicable, write N/A in the space*

I have reviewed the information in this application and certify that to the best of my knowledge all information is accurate.

Gene Thompson
Gene Thompson (Feb 14, 2020)

Date:

(Principal's Signature)

Name of Superintendent: Dr. Steve Joel

(Specify: Ms., Miss, Mrs., Dr., Mr., etc.) (As it should appear in official records)



District Name: Lincoln Public Schools

I have reviewed the information in this application and certify that to the best of my knowledge all information is accurate.

Superintendent's Signature Date: February 12, 2020
(Superintendent's Signature)

Nominating Authority's Certifications

The signature by the Nominating Authority on this page certifies that each of the statements below concerning the school's eligibility and compliance with the following requirements is true and correct to the best of the Authority's knowledge.

1. The school has some configuration that includes grades Pre-K-12.
2. The school is one of those overseen by the Nominating Authority which is highest achieving in the three ED-GRS Pillars: 1) reduced environmental impact and costs; 2) improved health and wellness; and 3) effective environmental and sustainability education.
3. The school meets all applicable federal civil rights and federal, state, local and tribal health, environmental and safety requirements in law, regulations and policy and is willing to undergo EPA on-site verification.

Name of Nominating Agency:

Name of Nominating Authority:

(Specify: Ms., Miss, Mrs., Dr., Mr., Other)

I have reviewed the information in this application and certify to the best of my knowledge that the school meets the provisions above.

Date: 02/02/2020
(Nominating Authority's Signature)

SUBMISSION

The nomination package, including the signed certifications, narrative summary, documentation of evaluation in the three Pillars, and photos should be submitted online according to the instructions in the Nominee Submission Procedure.

OMB Control Number: 1860-0509

Expiration Date: March 31, 2021

Public Burden Statement

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless such collection displays a valid OMB control number. The valid OMB control number for this information collection is 1860-0509. Public reporting burden for this collection of information is estimated to average 37 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. The obligation to respond to this collection is required to obtain or retain benefit P.L. 107-110, Sec. 501, Innovative Programs and Parental Choice Provisions. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the U.S. Department of Education, 400 Maryland Ave., SW, Washington, DC 20202-4536 or email ICDocketMgr@ed.gov and reference the OMB Control Number 1860-0509. Note: Please do not return the completed ED-Green Ribbon Schools application to this address.

Nominee Presentation Form School Mickle - sj (1) (1)

Final Audit Report

2020-02-14

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Adobe Sign

Mickle Middle School- Lincoln, Nebraska



School Contact Information

School Name: Mickle Middle School	Street Address: 2500 N 67th St	
City: Lincoln	State: Nebraska	Zip: 68507
Website: mickle.lps.org	Principal: Gene Thompson	
Principal Email: gthomps@lps.org	Principal Phone: (402) 436-1216	
Lead Applicant: Katie Hammond - Mickle Sustainability Champion		
Lead Applicant Email: khammond@lps.org	Lead Applicant Phone: (208) 215-8614	

School Characteristics

Level: <input type="checkbox"/> Early Learning Center <input type="checkbox"/> Elementary (PK-5/ 6) <input type="checkbox"/> K-8 <input checked="" type="checkbox"/> Middle (6 - 8 or 9) <input type="checkbox"/> High (9 or 10-12)	School Type: <input checked="" type="checkbox"/> Public <input type="checkbox"/> Private/Independent <input type="checkbox"/> Charter <input type="checkbox"/> Magnet	Geographic Area: <input checked="" type="checkbox"/> Urban <input type="checkbox"/> Suburban <input type="checkbox"/> Rural	District Name: Lincoln Public Schools Total Enrolled: 732 Graduation rate: Not Applicable Attendance rate: 94.6%
% receiving FRPL: 49.2%	% limited English proficient: 0%	Does your school serve 40% or more students from disadvantaged households? (x) Yes () No	
Other measures: White 74.6%, American Indian .5%, African American 4%, Asian 1.4%, Hispanic 9.8%, Two or more 9.7%			

Summary Statement

At Mickle Middle School, environmental sustainability has been integrated across the building in all classrooms and even outside the school. Our journey began in 2010 with Community Crops partnering with our school to establish a garden and provide support. But it wasn't until 2017 when Katie Hammond became the designated "Sustainability Champion" that the efforts really began to thrive and spread throughout our school community. As champion, she focuses on how we can improve sustainability within our building, whether it is with composting, recycling, or another avenue.

Because Mickle already had a garden in place, Katie started out trying to determine how staff and students could better utilize the garden space as a whole. Currently, Mickle has a 35 x 35 foot garden, which houses a variety of plants in approximately 1,225 square feet. In 2017, the garden primarily was a weed patch being taken care of by Community Crops instead of Mickle students and staff. With the help from administration and other teachers, Katie created an elective class, called Guided Studies, that allowed students to give back to the community and learn leadership skills. This is where the culture of sustainability was formed.

During the fall of 2017, the students in Katie's class started picking and washing produce for students in need at our school. Only about eight students, at that time, were taking part in the school's first "Produce Backpack Program." During the winter, the class turned their focus to redoing the recycling program. Students came up with "Recycling in a Backpack," whereas, all recycling, other than paper, is placed in a backpack then sorted and recycled by students. Students in Katie's class wrote and filmed a recycling informational video for the building, called "Recycle Man VS Garbage Man & Trash Boy". The video portrayed all the new "rules" to recycling at Mickle.

As the awareness about sustainability at Mickle grew, so did the student's passion about gardening. Mickle created a program to help keep the garden running in the summer and staff started volunteering. By the fall of 2018, staff and students started asking for a garden club, where students who loved working outside with their hands could gather. The Mickle Garden Club was formed. Soon the staff started asking how they could incorporate sustainability into their curriculum. Spanish classes and Art students began moving their lessons to the garden, while Life Skills students took charge of the recycling in the building.

In August of 2018, Mickle signed on as one of only a handful of schools across the country to pilot the Arc for Schools platform. This platform is a building benchmarking tool that was previously only used for LEED building certification for Operations and Maintenance and was being tested as an educational resource for schools through the U.S. Green Building Council Center for Green Schools. Arc measures building performance for five categories: Energy, Water, Waste, Transportation, and Human Experience. The district provided the data for the Energy, Water, and Waste categories, but it fell to our school to distribute the Transportation and Human Experience survey questions.

In the spring of 2019, Katie worked with the Guided Studies class to present the Transportation Survey as part of the Arc Pilot. Once Mickle had their Arc scores they carried out a variety of activities and launched a Sustainability Week to improve awareness. Now, Mickle has a team of

staff that run the entire sustainability program under the leadership of the Sustainability Champion. Four dedicated staff members focus on Garden Club with the 20 students that consistently come off and on throughout the school year. Two different staff members are dedicated to recycling within our building once a week. Our counseling staff, with the help of the Special Education Department, makes sure that produce is washed and sent home with students. During the summer, a team of staff members work in the garden and provides opportunities for both middle and high school students to earn community service hours. Not to mention, all the staff that teach sustainability within their classroom or clubs. The main reason sustainability is part of the culture at Mickle is because the staff and students see it as a way that we can give back to the community that they all love. Without all these amazing systems in place, there would be no way that our students could have these unique experiences.

Participation and Recognition

Programs that are used to benchmark progress in sustainability

- ENERGY STAR Portfolio Manager
- Arc Schools Pilot Platform

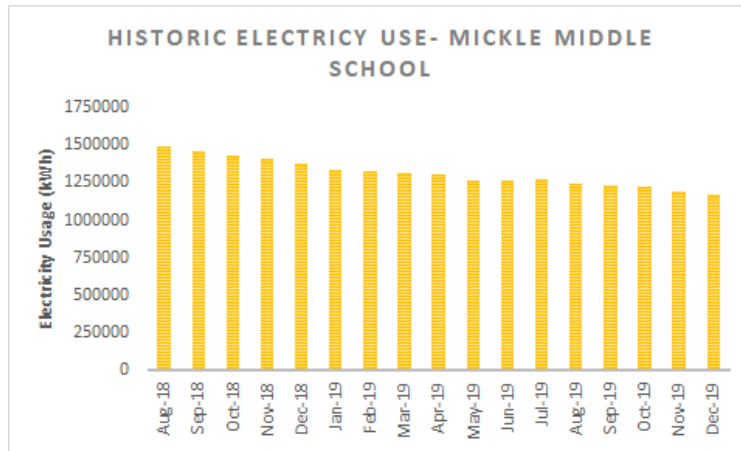
Recognition and Awards

- Nebraska is Beautiful Award, Secondary School, 2018
- Nebraska Wildlife Foundation Grant for a 10x10 pollinator garden, 2018
- Lincoln Public Schools Top Secondary School in the Green Schools Recognition Program

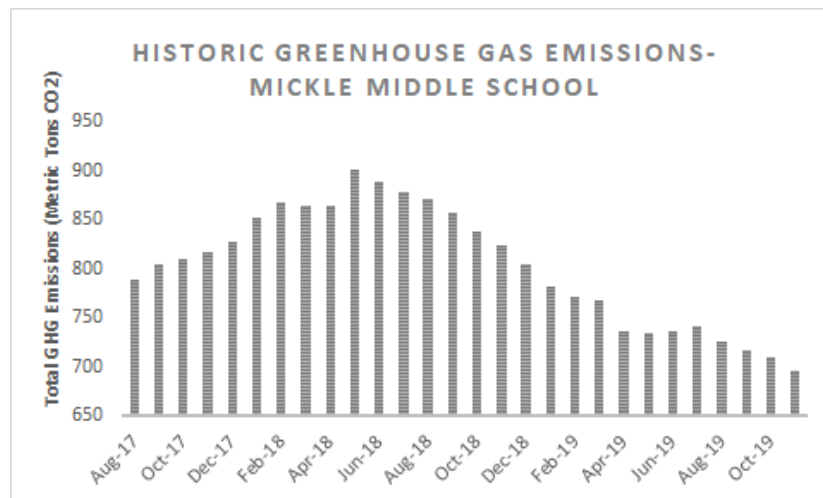
Pillar I: Reduce Environmental Impacts and Costs

Energy Savings During sustainability week at Mickle, students developed a plan to remind students and staff to turn off lights in the classroom when not in use. The students created posters and placed them around the school and gave a reminder announcement at the beginning of the day. The district also provided stickers for the light switch panels to remind staff and students to turn off lights when not in use. Students placed these stickers on panels around the building, so ninety percent of our building has this visible reminder.

In addition to creating an energy saving culture, Mickle uses geothermal heating and cooling systems to provide for a more sustainable environment for the school and surrounding community. Mickle is able to track historic energy savings, water usage and greenhouse gas emissions by using the ENERGY STAR profile which tracks and stores all the energy data for the school.



Mickle has been working to decrease energy usage over the last school year, evident in our energy reports by a steady decrease in kilowatt hours from August 2018 to our most current report in December 2019.



In addition to reducing energy usage, Mickle has also been steadily reducing their greenhouse gas emissions, seen from August 2017 to October 2019.

Mickle currently has an Energy Star Score of 90.

Arc Energy Score

Current score

⚡ **94/100**

[Breakdown](#)



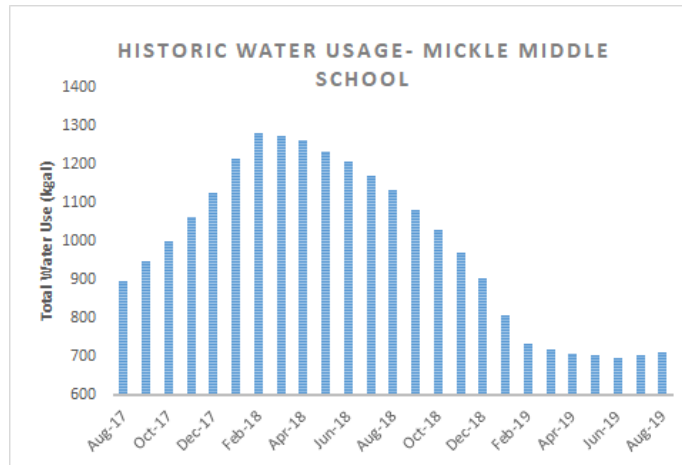
Referring to the Arc profile, Mickle's Arc Energy Score is currently 94, well above the global average of 81.

Improved Water Quality, Efficiency and Conservation

Awareness: During Sustainability Week, students created posters and placed them around the school to remind students to be more aware of their water usage. The posters included ways that students could reduce their use of water both at school and at home, such as turning off the faucet while washing their hands. A few students made a video giving suggestions on how to reuse water at home and at school. Mickle, with help from the district, has also installed two refillable water stations at in 2019.

Mickle Garden: A 1,250 square foot vegetable garden and outdoor classroom. The garden has twelve, three by eight foot raised beds. In these beds, we plant herbs, beans, lettuce, kale, broccoli, cauliflower, standard and sweet potatoes, peas, onions, peppers, and carrots. There is also a long three by twenty foot bed for tomatoes with a trellis, and seven three by three foot raised beds with connecting trellises. In hopes of improving production, we grow a variety of melons and cucumbers from these beds on vertical trellises. The Mickle garden is also in the middle of installing a four by eight foot, three tier strawberry bed. We have a section of the garden for popcorn, as well as pumpkins, zucchini, and other vining squash. Paths run throughout the garden for easy access and we are mulching the entire garden to make it easier access for wheelchairs, as well to improve weed control. In the garden, we also have two areas designated for Nebraska pollinator plants. Other flowering annuals and perennials can be found throughout. As of the fall of 2019, we have two tables with seating to serve as outdoor instructional space for teachers to take their students outside. We have funding for three more tables and a variety of flexible seating that will be stored in our shed for classrooms to pull out and use.

With help from the Kiwanis of Lincoln, in the spring of 2019, four drip irrigation systems were installed using 55 gallon rain barrels placed on raised stands. This drip irrigation system allows us to water eight garden beds that grow a variety of vegetables. The drip irrigation system waters the plants over a six hour period reducing the amount of water used and improving the overall health of the plants by decreasing the spread of disease. In the spring of 2020, with guidance from the Kiwanis, Mickle hopes to install five more drip irrigation systems throughout the garden to further reduce disease and improve water usage.

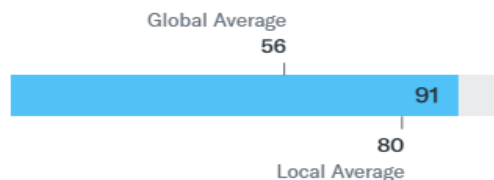


Using historic data for Mickle’s ENERGY STAR Profile, we can see the declining water usage at Mickle from August 2017 to August 2019.

Arc Water Score

Current score

💧 91/100



Currently, Mickle’s Arc Water Score is 91, exceeding the global average of 56 and the local average of 80.

Reduced Waste Production

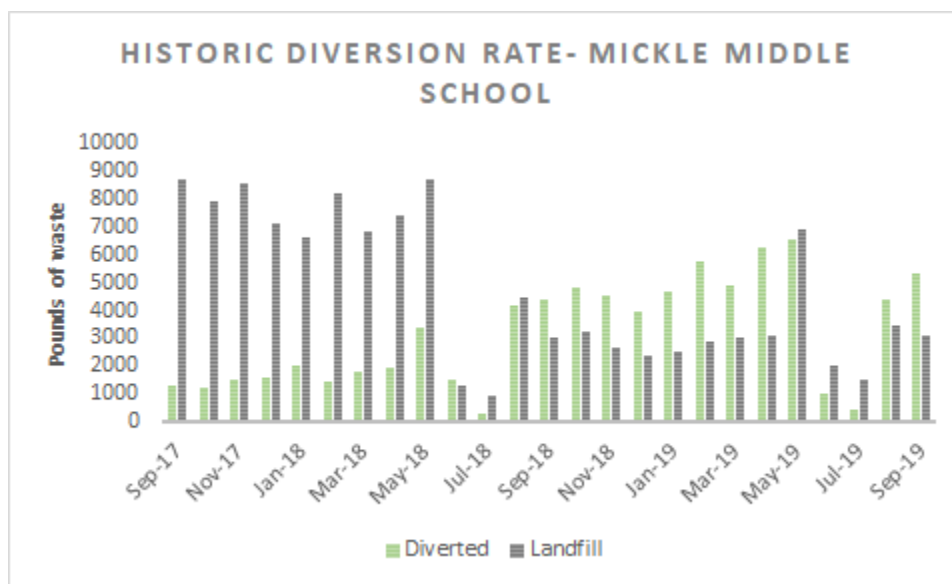
Mickle Garden Compost: Any refuse found in the garden throughout the school year is composted. This allows for the majority of our garden waste to be diverted from the landfill. With our excess plant material, we follow the City of Lincoln regulations that require all plant material to be bagged into paper sacks and transported to the transfer station by the district to be composted by the city.

Recycling in a Backpack: Our backpack recycling collection system allows our general education students the opportunity to work with our high needs students that may have learning difficulties. Students collect recyclable materials, other than paper, in a reusable bag or backpack once a week. These bags are then sorted by the students, providing a community service opportunity for the students while helping the custodial staff. In the fall of 2017, Mickle recycled 1,478 average pounds of recyclable material. In the spring of 2018, we started our new recycling backpack

program and increased our recycling to 2,128 average pounds. By the spring of 2019, we have increased our recycling to 2,161 pounds.

Crayola Cycle: Collect markers, highlighters, and expo markers that are shipped to Crayola through the Colorcycle program. During the 2018-2019 school year, Mickle recycled and shipped 2,285 markers (approximately 50 pounds) to Crayola.

Because of Mickle's school engagement with the recycling program, composting during lunch and continued recycling challenges they participate in, waste diversion and reduction has been an exciting thing to watch take off for this school.



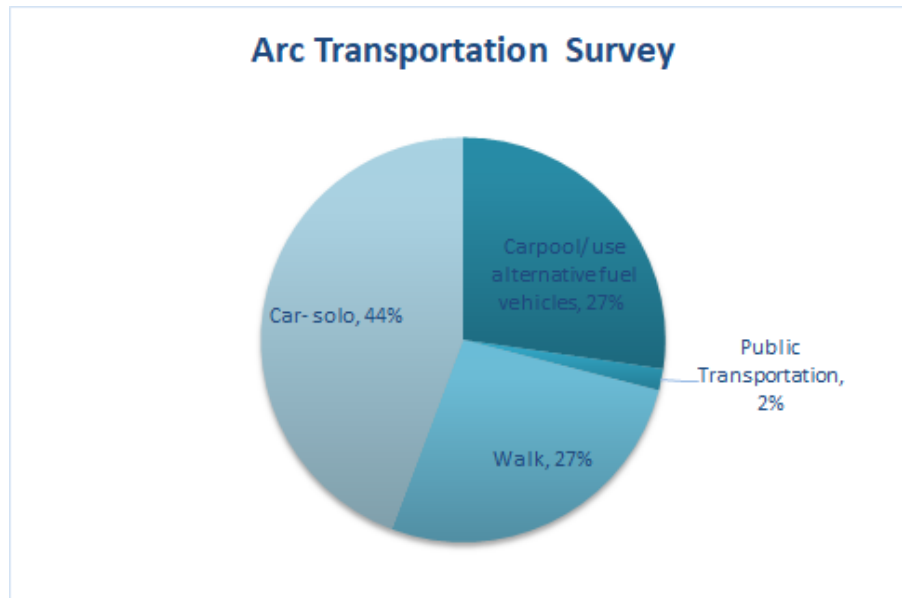
The above graphic displays the diversion rate at Mickle from September 2017 to September 2019. Since starting the composting program in August 2018, there has been a dramatic decrease in the amount of materials going to the landfill. Mickle has been successfully diverting more materials away from the landfill during the school year.

All hazardous waste produced by Pound is routinely monitored and appropriately disposed of by following the City of Lincoln's regulations. This is overseen by the LPS Environmental Department.

Use of Alternative Transportation

Arc Transportation Survey: As part of the Arc Platform Pilot at Mickle in the Spring of 2019, eighty percent of the staff and students at Mickle completed a transportation survey. The survey was taught to a class of seventh grade students, which in turn, went out and spoke to all the students at Mickle from grades sixth through eighth. These seventh grade students taught their peers how to take the transportation and human experience survey. This is not something the district or Mickle had ever surveyed students directly about before. With this information, Mickle students and staff

could see their transportation footprint on the environment and encourage each other to use other modes of transportation. However, it was exciting to see that we already have over 50% of people getting to school in a more sustainable way, such as walking, biking, public transportation or carpooling.



This graphic breaks down the Arc Transportation Survey results for staff and students at Mickle, displaying that the majority of the school uses a more sustainable way to get to and from school.

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

Integrated School Environmental Health Program

As part of a school district with a dedicated Environmental Department, our building is held to a very high standard in terms of indoor air quality and healthy learning spaces.

Air quality tests are completed at Mickle on a regular basis. Environmental staff complete routine air monitoring at each building on an eight month cycle. During these visits they gather data (Temp, Humidity, CO₂ and CO) from occupied rooms. This data is put into a district wide database which is used as baseline levels for future testing. If rooms fall outside of the high standard our district holds, the environmental staff returns with a long-term air monitor which sets in the space over several days to a week. Once this data is reviewed the maintenance and environmental staff work together to make repairs/modifications for improvement.

As part of the Arc for Schools Human Experience score, VOC readings were also taken in the building to understand overall air quality in learning spaces. This benchmarking tool gave the Environmental Department a new tool to explore and analyze how buildings are performing from that perspective.

The district standard requires radon testing at all school facilities and there is a program in place for continual retesting on a rotating basis. The HVAC fresh air systems are utilized to keep buildings positively pressurized to reduce and maintain radon levels below EPA action levels.

Mickle's custodial staff is responsible for completing a building wide inspection after we receive moisture. If they come across an issue maintenance staff are dispatched to make the repair. After the repair has been made, custodial staff works with environmental staff to dry out the materials. The goal for drying out these materials is 48 hours to prevent mold growth. Anything that cannot be dried out in that timeframe is closely monitored until dry. At any point if it appears that we may have mold growth the materials are removed and replaced.

Each curriculum department within the school is responsible for keeping an accurate inventory of the chemicals in their areas. Environmental staff reviews and maintains these inventories. We do not stockpile a certain chemical at one building that could be shared between buildings district wide. The environmental staff also monitor purchase dates, so as chemicals become outdated they can coordinate disposal. Routine spot inspections make sure chemical storage areas are locked, inventories are correct, items are stored correctly, etc. The environmental department meets yearly with each of the major groups (Science, Industrial Tech, Maintenance, and Custodial) across the district to review inventories/inspections and talk about changes that should be made.

Additionally, it is the policy of the Lincoln Public Schools District to employ IPM techniques for pest situations on district property. These practices include structural and procedural modifications that reduce pest access, food, moisture, and harborage within the school environment. This school district will use non-chemical methods first as a means of pest prevention. These methods include sanitation, exclusion, and monitoring. The application of chemical control products will be used only "as needed" to correct verified problems. It is the policy of Lincoln Public Schools to ensure minimal or no exposure to pesticides in the school environment. Children may be more susceptible to pesticides than adults due to their smaller size and rapid development. Only products that are the least hazardous and most effective for the control of the targeted pest will be used. Chemical control products will be placed in specific locations where they are available to pests, but not accessible to children, faculty or staff. A staff member at Mickle has been designated to coordinate the IPM program and maintain pest management records; this person is the IPM Coordinator.

Through the district EPA "Tools for Schools Program", Mickle has a building representative who receives information and training at district meetings. This training may consist of bringing outside sources in to talk to the group or be as simple as providing handouts to post. They pass along the information to the staff in the building. Mickle also limits delivery of latex balloons and due to significant allergy concerns, establishes peanut safe classrooms where students with allergies learn. Integrated Pest Management Programs as well as Preventative Maintenance Programs help to provide healthy spaces for staff/students in every Lincoln Public Schools building.

Health & Wellness Opportunities

- **Farm to School:** Students in multiple classes and Garden Club visit the garden to plant, care for, and harvest ingredients. Some of these ingredients are used in our Family and

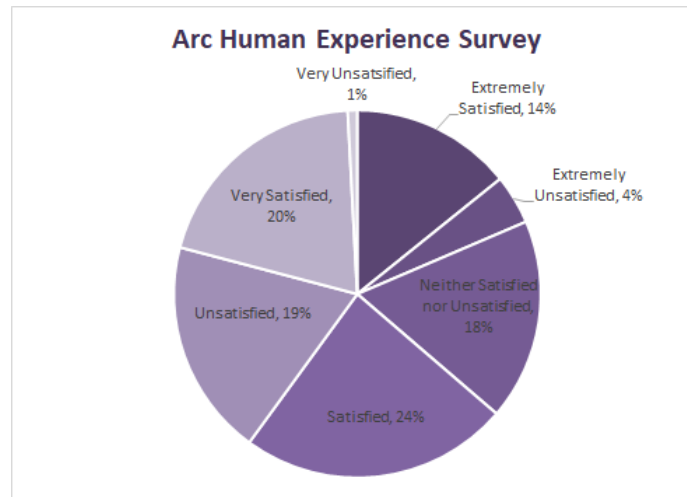
Consumer Science classes, as well in cooking with our Life Skills and other special needs students. (2017 - present)

- **Mickle Garden:** A 1,250 square foot vegetable garden and outdoor classroom. The garden has twelve, three by eight foot raised bed and a twenty foot bed. We also have a designated pollinator garden, as well as flowering annuals and perennials.

Goals for the Garden in 2020

- Increase the number of picnic tables and flexible seating
 - Rearrange some of the garden beds & rebuild the strawberry bed
 - Continue to tie garden in with curriculum and after school activities
 - Install more drip irrigation rain barrels
 - Redo the Mickle Garden sign with our Industrial Technology Department
 - Finish our pollinator garden and perennial planting
 - Continue to work with local partners on projects
 - Mulch the whole garden and continue weed control
-
- **Mickle Garden Club:** Allows our students to go outside and improve their math, civic, engineering, and critical thinking skills. Student help us create rock borders, mulch the garden to prevent weed control, install stone paths, dig holes, move dirt, and build garden beds. They are taught how to maintain a garden, grow their own food, and become part of the community. Meanwhile, the physical activity of gardening helps to keep the students in shape and in the fresh air. (2018 - present)
 - **Produce Backpack Program:** The produce picked during the school year is collected and on Fridays it is washed by our Life Skills students, sent to the counseling center, and taken home by students in need. The students with access to the produce have been chosen by counselors as families who would benefit from this program. The fresh ingredients will help to improve the lives of our students, giving them something that will enhance their health and well being. (2017 - present)
 - **Physical Education:** All students at Mickle have a 52 minute physical education class every other day. The PE department takes students outside 10% of the year or more if whether permits. Outdoor activities include doing the mile run each spring and playing games such as soccer. After school, Mickle sponsors sports for 7th and 8th grade students, and soccer, track, and cross country students have practice for an hour outside every day during their season. There are also Community Learning Center program clubs, such as world of sports, that students can participate in outside after school.
 - **Lunch Recess:** After lunch each day, students are given twenty minutes outside, as long as it is 32 degrees or warmer, which is about 70% of the school year. Students can be active and do activities like playing basketball, or simply sit outside and enjoy some fresh air.
 - **Human Experience Survey:** Along with the transportation survey, students also answered questions regarding the experience of the school building and environment. Students were asked to rate how satisfied they were about classroom temperature, amount of light, and

air quality. While the Environmental Department routinely surveys the staff regarding their building satisfaction, this is the first time Mickle had ever surveyed students directly regarding this topic, and it was a student led process using the Arc for Schools platform. Because of the survey, students started to suggest to staff when classrooms were hard to learn in, which was reported to the district office.



Pillar III: Provide Effective Environmental and Sustainability Education, Incorporating STEM, Civic Skills and Green Career Pathways

Curriculum Connections

- **Science**
 - **6th grade:** Learn about how seeds pollinate, as well as the reproduction of flowers. Students plant flowers to learn about pollinators. (S.C.6.6.3)
 - **7th grade:** Are taught about renewable and nonrenewable resources, as well as their footprint on the Earth and how to conserve resources for future generations. Spend a day giving back to the community by picking up trash. (S.C.7.13.5)
 - **8th grade:** Use soybeans and other plants to learn about mutations in genes, as well as Punnett Squares and inheritance (S.C.8.9.4)
- **Art:** 7th grade students create sculptures using reusable materials. This art needs to express what they feel about the environment. They use anything from old televisions to aluminum cans and plastic containers. (F.A.8.2.2)
- **Spanish:** 8th grade students create identification markers for plants in the garden in both Spanish and English. Students place their ID markers in the garden next to the correct plant and learn the Spanish words for other common vegetables and fruits. (WL3.1.a)

- **Life Skills Students:** 6th through 8th grade students learn basic communication, trade, and life skills by working in the garden and recycling throughout the building. Students harvest and weigh vegetables in the garden, as well as work together to collect and sort recycling throughout the building. The students sort using identification markers like hearts, stars, circle, and squares.
- **Guides Studies:** 7th grade students created their own Action Project teaching sustainability education to their peers. Some students taught about recycled art, compostable plastics, reusable materials, and reducing energy. All of the students taught their peers and staff how to complete the survey that is required with the ARC Pilot Program. Students went through a benchmarking lesson and learned about environmental impacts. They used the data collected to create Action Projects that can increase the score of our school. (SC.7.7.3.D) & (L.A.7.3.1)
- **Contemporary Communications:** 7th grade students learn about volunteering and civic skills in a unit in this course. They are able to apply these skills by working in the garden and helping the life skills students with recycling.
- **Family & Consumer Science:** Students in grades 6th - 8th use produce from the garden in their cooking and demonstrations in class. For example, they learned proper knife skills practicing on carrots and potatoes grown at school.

School Connections

- **Sustainability Week:** A week at Mickle devoted to reducing our impact on the environment. Students from the guided studies classes taught their peers about a variety of different topics including how to conserve water at home. The building was plastered in posters giving stats about our water and energy usage at Mickle. Students could enter trivia questions for prizes and there were daily sustainability announcements. A speaker came into the Guided Studies class to talk about zero waste businesses in our community.
- **Staff Education:** Sustainability Champion at Mickle presented during a staff meeting to educate the staff on sustainability efforts happening at Mickle
- **Garden Club:** Students discuss topics from our footprint on the environment to how to reduce waste, soil quality, cover crops, and increasing the yield of plants. Our students learn how to properly care for a garden, and many of them start one at home.
- **Soybean Institute:** Science teachers are encouraged to attend the Soybean Science Institute with the Nebraska Soybean Board. Teachers learn from University of Nebraska professors about how soybeans can be used in the classroom to teach a variety of science topics. Five teachers from our building have attended this professional development.

Use of the Environment and Sustainability to Develop STEM Content

Partnerships

- **UNL:** Students from the Environmental Science 101 class at the University of Nebraska develop environmentally sustainable projects to complete with our students. They have helped us design and plant our pollinator garden, as well as build bee houses for the garden. *(2018 & 2019)*
- **Kiwanis Club of Lincoln:** Designed and helped install rain barrels and drip irrigation systems for our garden. They also educate the students and staff on planting and tending to cover crops to improve soil quality. *(2019 to present)*
- **Nebraska Wildlife Foundation:** Helped provide a grant to start our pollinator garden at Mickle. They provided the background knowledge and resources on which plants to purchase, and worked with staff and students to plant the actual garden. They continue to support the project by providing guidance when needed. *(2018 & 2019)*
- **Community Learning Center & YMCA:** Provides resources and an opportunity to have a supported club at Mickle for our students. Through grants, the CLC community in Lincoln has funded and allowed Mickle to redo their garden to be a vegetable and pollinator garden within an outdoor learning classroom. *(2018 - present)*
- **Lincoln Garden Club:** Our garden club students and staff presented at one of their meetings, therefore, sharing with the community Mickle's vision and its impact. *(2019)*
- **Community Crops:** A local nonprofit in Lincoln that helps start gardens at schools and community areas throughout the city. They are a supporter of our garden and a great resource.

STEM Education

- Special education students help harvest, count, weigh, and wash produce before it gets distributed to students *(2018 & 2019)*
- All produce is weighed and recorded after being harvested. Students are learning how to use scales and record the weight on a data sheet, as well as the variety and type of produce. This has been done by all grade levels of students at Mickle in either a class or garden club. *(2019)*
- Students who participate in garden club receive hands-on experience building garden beds and trellises to update our garden and improve plant growth. *(2019)*
- 6th Grade Science students learn about seed distribution and pollinators by planting flowers to increase them in our garden. *(2019)*
- 8th Grade Science students plant soybeans, as well as other plants to learn genetics. Students also review how plants are pollinated and reproduce. *(2017-2019)*

- 8th Grade Science students plant pollinator plants native to Nebraska in the Mickle garden to improve monarch habitat. These plants are found in Nebraska's Eastern Tallgrass Prairie ecosystem. Monarchs are an endangered species in the United States. In the fall of 2019, science students, as citizen scientists, went to the garden and a natural area in the local park to catch and tag Monarchs on their migration to Mexico. This information was sent to Monarch Watch at the University of Kansas to track their migration over the fall. (2018 & 2019)

Careers

- Students in an 8th grade science class were introduced to agricultural careers while planting soybeans. Students were encouraged to consider pursuing degrees in agriculture at universities such as the University of Nebraska - Lincoln. (March 2019)
- Students in Garden Club learned about the process of planting and harvesting corn, one of the main agricultural crops in Nebraska. Garden Club students actually help to plant, grow, and harvest popcorn in our garden. (2018 & 2019)

Civic Skills & Giving Back to the Community

- **Raising Canes Coat Drive:** Students donate coats, which is returned to kids in need in the local area. It encourages reusing and recycling clothes and benefits the surrounding community. (2014 - present)
- **Backpack Produce Program:** Students from lower income families are able to bring produce home from the school garden. Students in class, and or, Garden club harvest and wash the produce at school. In 2019, seven hundred and fifty pounds were picked from our garden, with at least five hundred pounds going home to students in need. (Fall of 2017, 2018, 2019)
- **Local Community Service Hours:** Local high school students need Government and Politics community service hours in order to graduate high school. They can earn them by working in the garden over the summer. In turn, impacting more students and families than those just at Mickle. (Summer of 2018 & 2019)
- **7th Grade Contemporary Communications Class:** Students have a unit on volunteering and giving back to the community. Students do that at school by helping in the garden and with recycling, as well as other tasks around the building. (2017 - present)
- **Student Council:** Helps beautify Mickle in the Spring and Fall by raking leaves and collecting trash. (2018-2019)
- **Green Schools Conference, Saint Paul, MN, April 2019:** Katie Hammond, a science teacher and designated Sustainability Champion at Mickle, presented at a national conference about the work her students did with the Arc Pilot, their Action Projects, benchmarking, and how her students encouraged the Mickle community to be more sustainable. (April 2019)

- **Teaching with Your School Building, Webinar, U.S. Green Building Council:** Katie Hammond spoke with teachers and other professionals about the Arc Pilot and Action Projects completed by the students at Mickle, as well as how students learned about benchmarking. *(October 2019)*

Photographs



Left: Students helping harvest and learning about vegetables in a 6th Grade Science Class.
 Right: Students taught other students how to take a survey for the ARC Pilot Program.



Left: Students show off the new Spanish labels they put in the garden.
 Right: Two students work together to place the correct label next to the corresponding plant.



Left: Students from low income families are able to choose fresh produce from the school garden to take home.

Right: Katie Mickle, Mickle's Sustainability Champion, presenting at the Green Schools Conference.



Over winter break of the 2017-18 school year, the sustainability office helped us perform a container reset which removed oversized and excess containers and established a standardized waste stations for all classrooms with a trash can and recycling bin next to each other and next to the door.

Mickle Middle School in the Media

[Mickle's 7th graders taught other students in the building about taking the surveys on Arc, a new sustainability tracking tool.](#)

[Mickle was recognized during the annual KNB Environmental Awards Program.](#)

[The garden at Mickle was highlighted to show the programs and activities their school incorporates into outdoor learning.](#)

[Mickle's Recycle Man vs Trash Boy school video.](#)

[Water video created by Mickle students.](#)