



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 Pre-K-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 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.
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.
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 2015-2018

[X] Public [] Charter [] Title I [] Magnet [] Private [] Independent [] Rural

Name of Principal: Dr. Troy S. Hogg (Specify: Ms., Miss, Mrs., Dr., Mr., etc.) (As it should appear in the official records)

Official School Name: W.W. Keysor Elementary School (As it should appear on an award)

Official School Name Mailing Address: 725 N. Geyer Rd. Kirkwood, MO 63122 (If address is P.O. Box, also include street address.)

County: St. Louis County State School Code Number *: 096092-5000096092

Telephone: 314-213-6100 Fax: 314-213-6172

Web site/URL: https://keysor.kirkwoodschoools.org/pages/Keysor_Elementary E-mail:troy.hogg@kirkwoodschoools.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.

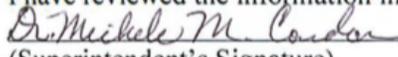
(Principal's Signature)

Date: 11/15/2017

Name of Superintendent: Dr. Michele Condon
(Specify: Ms., Miss, Mrs., Dr., Mr., etc.) (As it should appear in official records)

District Name: Kirkwood Public Schools

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

 Date: 11/15/17
(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: Missouri Department of Elementary and Secondary Education

Name of Nominating Authority: Mr. John Kitchens
(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: March 29, 2018
(Nominating Authority's Signature)

SUMMARY AND DOCUMENTATION OF NOMINEE'S ACHIEVEMENTS

Provide a coherent summary that describes how your school is representative of your jurisdiction's highest achieving green school efforts. Summarize your strengths and accomplishments in all three Pillars. Then, include concrete examples for work in every Pillar and Element. Only schools that document progress in every Pillar and Element can be considered for this award.

SUBMISSION

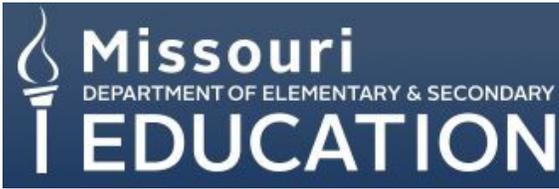
The nomination package, including the signed certifications and documentation of evaluation in the three Pillars should be converted to a PDF file and emailed to green.ribbon.schools@ed.gov according to the instructions in the Nominee Submission Procedure.

OMB Control Number: 1860-0509

Expiration Date: March 31, 2018

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.



Missouri Green Ribbon Schools Nomination Form

School Contact Information

| | | |
|---|--|-------------------|
| School Name: W.W.Keyser Elementary | Street Address: 725 N. Geyer Road | |
| City: Kirkwood | State: MO | Zip: 63122 |
| Website: http://keysor.kirkwoodschoools.org/pages/Keysor_Elementary | Facebook: https://www.facebook.com/KeysorElementary/ | |
| Principal: Dr. Troy Hogg | District: Kirkwood School District | |
| Principal Email: troy.hogg@kirkwoodschoools.org | Principal Phone: 314-213-6120 | |
| Lead Applicant and Position (if different): Mrs. Traci Jansen, Teacher and Sustainability Coordinator | | |
| Lead Applicant Email: traci.jansen@kirkwoodschoools.org | Lead Applicant Phone: 314-213-6120 ext. 2450 | |

School Characteristics

| | | | |
|---|---|---|---|
| Level <input type="checkbox"/> Early Learning Center <input checked="" type="checkbox"/> Elementary (PK - 5 or 6) <input type="checkbox"/> K - 8 <input 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 | How would you describe your school? <input type="checkbox"/> Urban <input checked="" type="checkbox"/> Suburban <input type="checkbox"/> Rural | Total Enrolled: 534 Graduation rate: Attendance rate: 93% |
| Does your school serve 40% or more students from disadvantaged households? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | | |
| % receiving FRPL: 11.5% | % limited English proficient: <1% | Other measures: 12.8% IEP, 19% in reading, writing, math intervention groups | |

Summary Statement

W.W. Keysor Elementary has fostered an educational community where elementary students develop their passions, learn about the world around them, and have a positive impact on society. Our sustainability goal is to cultivate students who are stewards of their environment and who actively realize a sense of responsibility and feel connected to our planet and its inhabitants. The goal is supported by both our school mission, “The Keysor community works together to support all learners on their journeys as empathetic, creative and critical thinkers who actively impact our world,” and our vision’s four themes of focus, “Character, Achievement, Community and Impact.”

Our annual participation in the Green Schools Quest continues to engage students, faculty, staff, and community members in projects on Energy Reduction (2013), Rain Studies & Capture (2014), Sustainable Gardening (2015), and Waste Reduction and Diversion (2016). These efforts have contributed to a 30% reduction in energy use over the past three years.

Beginning in 2012 we undertook a concerted effort to reduce lunch waste sent to landfills. Students collected data and discovered 2,340 bags of trash were sent each school year. Compostable trays were introduced and students began sorting cafeteria waste into separate bins: recycling, composting, and landfill. Trash was reduced from thirteen bags to two bags a day, an 85% reduction.

Energy consumption has been a focus for reduction during the 2017-2018 school year, as our Green Schools Quest work has educated the Keysor community in practices regarding resource conservation through use of daylighting, unplugging electronics, and conserving energy production from our HVAC systems. Educational videos, with student role models, and mini-informational posters have been developed and shared with 540 students and 45 staff members this school year leading to a 10% per student per year reduction in energy use.

Our sustainability efforts extend beyond our daily building operations. By harvesting rainwater, over 100 gallons of collected water are used within our garden spaces. With over half of our greenspace on campus dedicated to actively stewarded water efficient and regionally appropriate landscape plantings, an increase in animal and insect species has been recorded.

Health and Wellness are a mainstay at Keysor. Nutritional education and opportunities have also deepened Keysor staff and students understandings, as all are able to nurture, cultivate and enjoy produce of immediate creation. Through the implementation of our three Tower Gardens and Garden Lab spaces, Keysor kids have been afforded opportunities in healthy eating with over 10 varieties of vegetables and fruits produced on site.

Nearly 1/3 of our student population arrives to and from Keysor each day in personal transportation vehicles. Educating our students, families and community about emissions led to adoption of our No-Idling Policy. Further modeling of bike safety, walking to school options and Fitness Fridays has also fostered an environment of ecologically beneficial actions.

Innovative practices in well-being have been fostered across the Keysor community through the creation of a Health & Wellness classroom, as well as full-time counseling support. Keysor’s additional creation of a behavior specialist position, have enabled for students and staff to receive guidance and assistance, as needed, further strengthening Keysor’s focus to healthy well-being for ourselves, each other and our environment.

Our largest learning milestone was the creation of our outdoor learning landscape known as Project IDEA (Imagination, Discovery, Exploration, Adventure). Project IDEA promotes learning both inside and outside the classroom. The area fosters efforts to reduce our environmental impact, improve the health and well-being of our community, and provide environmental and sustainability education to all members of the Keysor community.

Our community’s stewardship of renewable resources is demonstrated at several key areas in the Project IDEA space. Specifically, two exploration houses, known as Hoffarth House and Riggs Diggs, include rain barrels to collect water for our gardens, solar panels to power the rain barrel water pump and security lights, and a green, living

roof. By observing this practical demonstration of renewable resources in the Project IDEA space outside, our community is inspired to review our practices inside like using natural light and unplugging devices when not in use.

Our ecological habitats within Project IDEA create a sense of connectedness to the world. Students view the native wildlife in the Lori Whiting Bird Sanctuary, tag Monarch butterflies in our certified Monarch Waystations, and conserve native habitats by managing a student-planted, seed-stomped prairie. Students also learn the importance of filtering rainwater runoff while caring for our five rain gardens. Together, students and staff embrace the cycle of plant growth through produce cultivated for consumption. Keysor kids are provided with a setting that is always evolving and meets curriculum standards across the grade levels. Each habitat within this less-than-an-acre setting, provide real-world examples of habitat preservation, landscape maintenance, nutritional well-being, social engagement, and creativity.

As a Keysor family, we respect the Earth and its resources deeply. By listening to our children's voices, our families' passions and our educators' interests, we have made enormous gains to positively impact the world around us. These respectful insights have created dynamic changes for our school and students, and have fostered a caring community which embraces and extends our practices into their homes and neighborhoods. We are forever grateful for this place that has created so much joy for all.

At Keysor, we are committed to reducing environmental impact, improving the health and wellness of our students and staff, and providing effective environmental and sustainability education. Our school community and our Kirkwood community embrace these commitments. We engage the community in our work and give back through civic engagements and encourage students to become agents of positive change in their broader community.

Cross Cutting Questions

1. Team

Keysor's sustainability program for environmental education has continued to garner the support and interest of students, faculty and staff, families and community members. Keysor has a Sustainability Coordinator, Mrs. Traci Jansen (1st Grade Teacher) and two Project IDEA Coordinators, Mrs. Melissa John (Mathematics Interventionist) and Mr. Justin Bradley (2nd Grade teacher), who assist teachers in their learning, planning and implementation of sustainability projects across the K-5 setting. Additionally, Keysor regularly seeks help from the District's Curriculum and Innovation Directors to develop units of study that include specific sustainability studies tied to state and national standards. Keysor also has a building Leadership Team, focused on Impact/Green practices in education, made up of representatives from each grade level, special area educators, and Special School District educators. This team meets to establish, design and monitor goals around sustainability practices. Keysor's continued development of Project IDEA is facilitated through a committee, which is comprised of parents, community members, staff members and administrators. This team is dedicated to offering opportunities for our students to play and learn within our landscape of learning. During these past two years the PTO has helped us identify "Project IDEA Room Coordinators" who assist teachers in organizing and planning student events in designated Project IDEA learning spaces. Children volunteer their time as environmental advocates, developing responsibility for our environment. Teachers work together to create Buddy Class relationships between two classrooms, promoting servant leadership initiatives, as well. Throughout the year, classes work together to garden, rake leaves in Keysor's neighborhood, or find other ways to demonstrate servant leadership. Through our innovative Flex Time opportunities, 4th and 5th grade students volunteer their time in environmental stewardship through gathering bins for snack waste composting, plastic bag collection drives, and gardening.

2. Benchmarking

After reviewing our previous school year's (2016-2017) Green Ribbon application, Keysor retroactively implemented the EPA ENERGY STAR Portfolio Manager. This summative, analytical tool has benchmarked our sustainability practices in energy, water, and waste creation. The results have identified a baseline ENERGY STAR Score of 53 from December 2014, to an increased score of 66 for November 2017.

For the past five years we have participated in the U.S. Green Building Council (USGBC) - Missouri Gateway Chapter Green Schools Quest program. This participation requires the submission of an annual proposal and monitoring of progress of the elements that are directly related to one or all Pillars within this application. We received a 2nd Place Elementary Award receipt in 2014, and presentation at the Sustainability Institute for Educators during Summer 2017.

3. Awards

School: Cardinals Care Grant for \$3,000 to build a bird garden (2010); Let's Play Community Construction Grant for \$15,000 (2012); Missouri American Water Grant for \$3,000 for rain garden creation (2012); National Blue Ribbon School (2013); Missouri Gold Star School (2010-2011 and 2012-2013), U.S. Green Building Council (USGBC) - Missouri Gateway Chapter Green School Quest, 2nd Place (2013-2014); Certified Monarch Waystation (2014), Exxon Mobil Educational Alliance Grant for \$500 for STEAM Materials and garden lab (2014); Certified Wildlife Habitat by National Wildlife Federation (2016); St. Louis County Department of Health Grant of \$5,490 for Community Composting Program (2016-2017); Subaru Loves the Earth Pollinator Garden Grant for \$500 (2016-2017); Certified Pollinator School Yard Habitat by National Wildlife Federation (2016-2017); Missouri Green School (2016-2017); Wild Ones St. Louis Chapter Garden Grant for \$393.50 (2017)

Staff: Mrs. Traci Jansen (1st Grade Teacher) IIE Japan-U.S. Teacher Exchange Program for Education for Sustainable Development (ESD) (2015); Mrs. Robin Ehrlich (Health & Wellness Instructor) Town & Style Reaching Out Award (2016); Mrs. Traci Jansen (1st Grade Teacher) Good Apple Award, USGBC-MO Gateway Chapter (2017)

Student Body: Shiloh Byers (1st Grade) received a \$30 gift card from the Air & Waste Management Association - Greater St. Louis Section for project titled: The Air We Breathe (Kirkwood Air Quality) (2014); Luke Adams (3rd Grade) ran Missouri Cowbell Half Marathon and broke state record for 9-year olds (2016); LEGO Robotics Pride Protectors received “Innovative Project Award” for research, design and model creation of a collection basin to collect and redirect waste water from water fountains per Hydrodynamics themed challenge (2017)

4. Goals

1. Care for the ecological environment by increasing conservation efforts in diverting waste and reducing our energy consumption, all monitored through the benchmarking system, ENERGYSTAR Portfolio.
2. Provide and promote opportunities for health and well-being, through multiple, regularly scheduled physical activities and nutritional lessons with students, staff and families.
3. Educate students, staff, family members, neighboring schools and community in sustainability practices at Keysor, including composting, recycling, energy conservation, pollinators, year-round gardening and waste reduction.

5. Building

Year school was originally constructed: 1930 Total Building Area: 94,394 sq. ft.

New Construction Year: 2012 Total Area of new construction: 15,000 sq.ft.
Certification Year: N/A % Area that meets a green building standard: 0 %

Keysor's new construction included installation of light sensors within every learning space to conserve energy. Additionally, efficient HVAC systems were installed to provide for classroom temperature adjustment. Many classrooms choose to use daylight in lieu of ceiling lighting.

Renovation Year: 2012 Total Area of renovation: 45,486 sq. ft.
Certification Year: N/A % Area that meets a green building standard: 0 %

The areas renovated within the original building were not designated for meeting green building standards. Staff in these classrooms use daylight for daily instruction, rather than ceiling lighting. Classrooms are equipped with adjustable thermostats that allow staff to adjust learning space temperatures as needed.

WATER AND GROUNDS

6. Water Use

Baseline Year: 2015 Water Use (gal / student / year): 1,291 gal / student / year
Ending Year: 2017 Water Use (gal / student / year): 1,482 gal / student / year
Reduced Water Use: -191.33 gal / student / year
% Reduction: -15% gal / student
% Reduction per Year: -7.5% gal / student / year
% Reduction Domestic Water Use: -7.5%
% Reduction Irrigation Water Use: NA - not measured

As documented within the ENERGY STAR Portfolio, our water consumption has slowly *risen* at Keysor over the past two years, as a result of the establishment of garden labs upon the Project IDEA site and a growing student population. We are monitoring our water usage through the ENERGY STAR Portfolio to implement further water reduction efforts beyond our current low-flow faucets, water refill stations, and rain barrels in Project IDEA.

7. Water Efficient and Regionally Appropriate Landscaping (WERAL)

Total Area: 39,204 sq. ft. WERAL Area: 23,211.60 sq. ft. % WERAL: 59%

Water Efficient Plants: Within our landscaping, there are over 30 species of water efficient plants, including: Feather Reed Grasses, Cardinal Flowers, Golden Alexander, Sky Blue Aster, Phlox, Liriope Grasses, Bluestem Grasses, and Smooth Aster.

Regionally Appropriate Plants: Throughout our outdoor campus, there is a diverse range of over 30 regionally native species, as well as a balance of regionally resilient conventional landscape plants, including: Dogwood Trees, Red Twig Dogwood Shrubs, Butterfly Bushes, Milkweed, Yarrow, Black-eyed Susan, Indian Pink, Sunflowers, Goldflame Spirea, Smoke Trees, Magnolia Trees, Wisteria, New England Aster, Mallow, Pale Purple Coneflower, Blazingstar/Gayfeather, Sentinel Apple and Golden Delicious Apple Trees, Cliff Goldenrod, Rattlesnake Master, Bee Balm, Yarrow, Blue Sage, Rose Verbena, and Tall Coreopsis.

Integration of Missouri's ecological habitats is a large focus of Project IDEA. Within the prairie, children explore native wildflowers. Our five rain gardens have been nurtured through inclusion of deep rooted local plantings. Habitat refuge is also facilitated for wildlife within the Bird Sanctuary located at the front of campus.

8. Alternate Water Sources

Keysor harvests rainwater from roofs within Project IDEA, through three rain barrels. Rain collected in these barrels supplies an alternative water source for irrigation of plants in our outdoor learning space. Solar panels from one exploration house power a pump within the rain barrel for local landscape irrigation.

9. Runoff

During 2012, Keysor worked with the Metropolitan St. Louis Sewer District (MSD) to limit impermeable surfaces, and installed five rain gardens to reduce stormwater runoff. The gardens were outfitted with native plants (donated by Forest Park Forever) that help pollutants from the runoff.

10. Ecologically Beneficial Spaces

Total Area: 94,394 sq. ft.

EB Area: 43,560 sq. ft

% EB Area: 46%

Keysor's outdoor landscape was renovated in 2011-2012 to create an outdoor, all-inclusive learning space, called Project IDEA (imagination, discovery, exploration and adventure). This space incorporates rain gardens planted with native plants for rainwater runoff abatement, a bird sanctuary for natural pollinators and native bird species, and a prairie planted with native prairie grasses. Project IDEA is a natural, ecological setting that fosters environmental stewardship and sustainability practices. Within Project IDEA, we are able to cultivate produce, monitor pollinators, promote physical well-being and explore with our senses. In 2014 we were certified as a Monarch Waystation and in 2016, Project IDEA became a National Wildlife Federation Schoolyard Habitat.

WASTE

11. Solid Waste

Monthly garbage service: 48 cu. yds.

Monthly recycling volume: 32 cu. yds.

Monthly compostable materials volume in cubic yards: 13.476 cu. yds.

Recycling Rate: 48 %

Monthly waste generated per person: 0.09 cu. yds.

Keysor participates in school-wide, single-stream recycling and composting programs, both in the classrooms and cafeteria. Each month, nearly 45 cu. yards of waste are redirected from landfills. We have further reduced our waste by eliminating straws in our cafeteria and installing reusable bottle refill water stations at four water fountains.

12. Hazardous Waste

How many gallons or lbs. does your school currently have of each of these classes of hazardous materials?

Flammable liquids: 2 gal. Corrosive liquids: 5 gal. Toxics: 0.5 gal. Mercury: fluorescent bulbs Other: NA

When we identify regulated waste that needs disposal, we call the District office which contacts Aegis Environmental, a company licensed to pack, transport and dispose of it. They provide chain of custody documentation from Keysor, to the licensed disposal site. A significant change in procedure at Keysor includes the disposing of fluorescent bulbs, which are now collected and recycled instead of being thrown in the dumpster.

13. Green Cleaning

Which green cleaning custodial standard is used? MO Green Cleaning Guidelines and Specifications for Schools

What % of your products are certified? 67% Green Seal Certified products,

What specific 3rd party certified green cleaning product standard is used? Green Seal Certification

14. Electronic Waste

Keysor works with the Kirkwood School District to safely and responsibly dispose of electronics. The District contracts with U.S. Materials Management to certify and recycle all electronic waste each school year. Depending on the amount of waste, it may be picked up directly from the school or a district facility.

TRANSPORTATION

15. Alternative Transportation

As an alternative to single passenger vehicles, the school uses a total of 3 school buses and encourages students to ride the bus, walk or bike to school. Events like Walking School Bus, and Wellness Wednesdays/Fitness Fridays also encourage students to be healthier by walking to school. 225 of our students ride school buses daily, while 38% walk or ride bikes. Additionally, because of proximity to their homes or use of public transportation, a total of 7 out of 60 (12%) staff members occasionally or regularly walk to work each day.

16. Accommodations for alternative travelers

Families can ride and keep bikes at school at two 20-bar bike racks. Keysor students have also participated in designated healthy choice mornings to encourage walking to and from school. This year our healthy morning activities have switched to “Fitness Fridays.” All walking routes are deemed Safe Pedestrian Routes, supervised by four adult and four student crossing guards. To ensure our students safety, we also updated our crosswalk locations upon campus during 2017. Additionally, carpooling partnerships are organized among neighboring families.

PURCHASING

17. Paper

post-consumer recycled content paper: 0% paper from FSC certified forests: 0% chlorine-free paper: 0%

Recycled paper is available for student use. Staff members repurpose scraps that are collected from recycling bins located at each copier and in classrooms. Copiers within our building and district are also EnergyStar certified, utilizing a reduced level of energy for production.

18. Food

Breakfast and lunch meals at Keysor are provided through Chartwells Food Service program. Chartwells promotes locally grown produce and support for local farms by purchasing and serving healthy, nutritionally balanced meals to our children. Additionally, Keysor has three indoor Tower Gardens on-site and three garden beds in Project IDEA that grow produce nurtured by our Keysor community. This food is served during lunch periods over the school year as part of our partnership with Chartwells “Garden to Plate” program. Our “Garden to Plate” program began in 2015 through project-based work for our Green Schools Quest.

OVERALL ENVIRONMENTAL IMPACT

19. Environmental Impact Summary

Waste reduction and diversion have included targeted efforts to keep plastic bottles, bags and straws, food and recyclables out of landfills. As documented within our ENERGYSTAR Portfolio, nearly 34% of all waste collected is diverted from landfills. Beginning in 2012 we undertook a concerted effort to reduce lunch waste sent to landfills. Students collected data and discovered 2,340 bags of trash were sent each school year. Students began sorting cafeteria waste into separate bins: recycling, composting, and landfill. Trash was reduced from thirteen bags to two bags a day, an 85% reduction. We also changed our practices, to provide compostable trays during lunch service.

Energy consumption has also been a focus for reduction during the 2017-2018 school year, as our Green Schools Quest work has educated the Keysor community in practices regarding resource conservation through use of daylighting, unplugging electronics, and conserving energy production from our HVAC systems. Educational videos, with student role models, and mini-informational posters have been developed and shared with 540 students and 45 staff members this school year.

Our reduction efforts to benefit the environment have extended beyond our daily building operations. By harvesting rainwater, over 100 gallons of collected water are used within our garden spaces. With over half of our greenspace on campus dedicated to actively stewarded WERAL plantings, an increase in animal and insect species has been recorded.

Pillar 2: Improve the health and wellness of students and staff

ENVIRONMENTAL HEALTH

1. Water Sources

Keysor's water is provided by Missouri American Water (MAW) through the city of Kirkwood. The water source is the Missouri River and tributaries. Kirkwood's Water Quality Report shows no violations of EPA standards for contaminants. MAW participates in river cleanups, watershed protection programs and other environmental events.

2. Drinking Water

Missouri American Water participates in annual water quality assessments. 2015's Quality Report identified testing for lead and other contaminants, sharing that all levels are in compliance with state and federal requirements. Also, Keysor's four Elkay EXH20 Bottle Filling stations use filters, which meet lead reduction requirements for NSF/ANSI 53 certification.

3. Moisture

Following District policy, we take steps through building maintenance to control moisture from leaks, condensation, and excess humidity to promptly clean up mold and/or remove moldy materials when found. District maintenance staff has been trained in appropriate removal of hazardous items that are found upon premises.

4. Ventilation

Kirkwood School District maintenance staff conducts annual inspections to measure air quality each summer to maintain the building's ventilation system and ensures state and local codes are met. Our full-time lead custodian also inspects unit ventilators for efficiency and/or damage in learning spaces bimonthly, to provide for cleanliness and proper operation. Air ducts are replaced as needed, with the cleaning out of air ducts occurring annually.

5. Airborne Contaminants

During the 2016-2017 school year, Keysor began a "No Idling Policy" facilitated through the American Lung Association for those waiting in car lines to drop students off in the morning or pick up students during the afternoon. With this program, eight metal signs were installed at the north and west side of the school campus. In addition, pick-up and drop off locations for students occur at least ten feet away from any school exit door or window.

6. Integrated Pest Management

What is the volume of your annual pesticide use (gal/student/year): < 0.3 gal/student/year

Kirkwood School District utilizes an Integrated Pest Management (IPM) program based on the Environmental Protection Agency (EPA) publication, "Pest Control in the School Environment." Jason Mueller is the district's IPM Coordinator. He and another staff member perform monthly inspections of school buildings. They both hold Certified Public Operator licenses from the Missouri Department of Agriculture, and attend EPA Webinars about IPM in schools on a regular basis.

7. Chemical Management.

During the 2015-2016 school year, Keysor pioneered a Health/Wellness class, as part of the district's Health and Physical Education curriculum. This separate class for K-5 students encourages healthy choices into adulthood. Age-appropriate lessons teach about the pollutants and toxins found within smoking. The District also established board policy (AH) formulated to: 1) Clearly stipulate a tobacco-free environment; 2) Reflect and emphasize hazards of tobacco use; 3) Demonstrate commitment to smoke and tobacco-free environments beyond standards 191.775, RSMo; 4) Protect the health and safety of all students, employees and general public; 5) Set a non-tobacco use example by all adults.

NUTRITION AND FITNESS

8. Healthier US Schools

In partnership, Keysor's Wellness and Physical Education teachers support all students by monitoring physical well-being within the Fitness Gram program. Additionally, opportunities for active life choices are offered to the Keysor community annually. During each school year since 2000, Keysor students have participated in the Go! Read, Right & Run St. Louis Marathon. Annually, Keysor partners with the American Heart Association (since 2001) through the Jump Rope for Heart program, and the Kirkwood Police Department for Bike Week. Keysor also provides opportunities for exercise before and during school through Fitness Friday, Halloween parade walks, and biannual neighborhood Fun Runs.

9. Healthy Foods

What percentage of the food purchased or used by the school is environmentally preferable in some way? 33%

Within Project IDEA's vegetable garden beds and three indoor Tower Gardens, Keysor staff and students nurture organic produce. Each grade level is responsible for the seeding, maintenance and harvesting of their garden beds and Tower Gardens. Vegetables, fruits and herbs are enjoyed for snack, lunch and community experiences throughout the school year.

10. Fitness

P.E.: 100 - 150 minutes/week outdoor P.E.: 30 %

Keysor students participate in a special class (Art, Music, Physical Education, and Health & Wellness) weekly rotation. During the PE instructional times, students participate in running activities, organized team sports, cardio exercise experiences, large group dance and play opportunities, and cooperative activities. The creative planning and sharing of these experiences are also extended to family events before, during and after-school during the school year. These fitness experiences are based upon the district's Physical Education and Wellness curriculum.

11. Outdoor Safety.

Within the Wellness curriculum during fall and spring, students learn about sun exposure safety, precautions to take and the St. Louis area's UV index. Through AirNow, students are taught about air quality levels during the school year. Daily AirNow levels are checked before choosing daily outdoor play experiences. During the Summer of 2017 Keysor also installed a 575 sq.ft. shade structure to provide additional shade options during outdoor experiences.

12. Outdoor Activity

Keysor students and families are encouraged to explore and play in our learning landscape on campus, in Kirkwood and the St. Louis area. Project IDEA promotes gardening, dramatic play, musical expression and habitat monitoring within our prairie, rain gardens and bird sanctuary. In conjunction with Bike Week, the TrailNet organization shares bike routes for the Keysor community to explore. The Kirkwood Community GreenTree Parade and parks offer additional healthy opportunities. Keysor also takes advantage of the St. Louis area for hiking and play explorations at Shaw Nature Reserve, Missouri Botanical Gardens, City Museum, Zoo, and Litzinger Road Ecology Center.

COORDINATED SCHOOL HEALTH PROGRAM

13. Health Education

Through Keysor's Wellness program, children are taught an array of health and wellness topics during each of their elementary years. Through partnership with the University of Missouri-Columbia extension, lessons in nutrition education are provided to Kindergarten - 5th Grade students. Students experience a six week instructional program, outlining healthy eating options and recipes for easy balanced meals to make at home.

14. Health Services

Our registered school nurse supports the medical needs of Keysor staff and students through administration of all first aid care, medicine management, rest and recovery needs.

15. Mental Health

Our Guidance Counselor works with students, staff and families, in the development of education plans, mental well-being and social skills. She also coordinates 504 plans for students who need additional levels of support. Our Educational Support Counselor also supports and develops strong relationships with our students and families, through identification of community resources, home-visits, and providing therapy and one-on-one support to students with intensive needs. Together, Keysor staff instruct students in problem solving, conflict resolution, character education (Second Step) and anti-bullying (OLWEUS) programs.

16. Employee Wellness

Kirkwood School District provides all employees a confidential Employee Assistance Program. The program provides assistance in dealing with personal concerns that may affect work and/or life management needs that may include: in-person counseling, weight and nutritional consultation and smoking cessation. In addition, through the medical insurance plan all full-time employees are provided, opportunities are available for staff members to receive all medical services. At the building level, our Health and Wellness instructor has also coordinated wellness opportunities for staff, including Zumba and yoga. During Kirkwood School District's Opening Day, our staff also participated in community outreach and environmental stewardship. In 2017, a "Mother's Room" was established to create privacy for familial needs.

17. Community

Keysor's community works together throughout the year, facilitating partnerships with local organizations to provide real-life, health-related activities. Students have partnered with the local Humane Society, St. Patrick's Center, and KirkCare food pantry in servant leadership activities promoting well-being. Similarly, partnerships with the Kirkwood Police and Fire Departments, and MU Extension program create real-life applicable experiences in bike safety, CPR and nutrition. Annual STEAM (Science, Technology, Engineering, Arts, Math) presentations bring several other community experts to Keysor, sharing future occupational interests. Organizations include Monsanto, St. Louis Children's Hospital, Missouri Master Naturalists, The Missouri Botanical Garden, Missouri Department of Conservation and Grow Native!

18. Family

During the school year, families join together with Keysor staff in our Fall Fun (one-mile) Run, Halloween "Spiders" Obstacle Course, Winter Family Roller-Skating as part of our in-school skating program, Spring Fun (one-mile) Run and end-of-the-year Field Day. Additionally, to begin our relationship with our future Keysor kids, evening Keysor Cub opportunities are presented that encompass music, play, dance and reading. Activities are scheduled and include before school, during school and evening events, to include as many families as possible.

OVERALL HEALTH IMPACT

19. Health Summary

Health and Wellness are a mainstay at Keysor. Nearly 1/3 of our student population arrives to and from Keysor each day in personal transportation vehicles. Educating our students, families and community regarding the poisons from idling vehicles, as well as sharing encouragement of non-contaminant transportation options, have successfully resulted in the school-wide adoption of our No-Idling Policy. Further modeling of bike safety, walking to school options and Fitness Fridays has also fostered an environment of ecologically beneficial actions.

Nutritional education and opportunities have also deepened Keysor staff and students understandings, as all are able to nurture, cultivate and enjoy produce of immediate creation. Through the implementation of our three Tower Gardens and Garden Lab spaces, Keysor kids have been afforded opportunities in healthy eating with over 10 varieties of vegetables and fruits produced on site.

Innovative practices in well-being have been fostered across the Keysor community through the creation of a Health & Wellness classroom, as well as full-time counseling support. Keysor's additional creation of a behavior specialist position, have enabled for students and staff to receive guidance and assistance, as needed, further strengthening Keysor's focus to healthy well-being for ourselves, each other and our environment.

Pillar 3: Effective Environmental and Sustainability Education

CURRICULUM AND ASSESSMENT

1. Environmental Literacy Requirement

W.W. Keyser Elementary's mission and vision are focused to the four themes of Character, Achievement, Community and Impact, and our District vision for students to be driven by a sense of wonder, connection and joy. To facilitate these goals, students across all grade levels pursue interest topics promoting engagement in diverse cultures/ideas, improving our community through service advocacy and civic responsibility. Keyser students serve as stewards of their environment, developing their sense of connectedness to and responsibility for our planet.

2. Environment and Sustainability Lesson Integration

| Grade | Curriculum or Lesson | Subjects |
|-------|--|---|
| K | Nature; Weather/Seasons and Climate-Nature documentation; Community | Science: plant and animal habitats; Social Studies: community, social awareness |
| 1st | Bird Sanctuary (habitat care); Earth Day - 3 R's; Sensory Gardens | Science: animal life, senses, environmental stewardship |
| 2nd | Composting; Pollinators & Monarch tagging; Reusable Containers/No-Straw Challenge; Recycling; Writing - Conducting Research presentation; Ecological exploration - Litzsinger partnership; Erosion table | Social Studies: social responsibility, maps; Science: plants and pollinators, migration, cycles, soil elements and erosion; Writing: persuasive writing and presentation; Reading: research, non-fiction studies; Math: survey/inventory collection |
| 3rd | Weather and Climate; Prairie (plant identification, diversity survey, editing/replanting), Nature Unleashed | Science: plant habitat and care, weather and climate; Math: line plot, graphing, data collection |
| 4th | Composting; Waste Reduction; Recycling; ShoeMan Shoe Drive, Bonkers for Birds (native birds, ecosystems) | Math: data survey/recording, collection organization; Science: cycle study, habitat study, animal research; Social Studies: habitat preservation |
| 5th | Fish habitats; Geocaching | Reading: research, non-fiction text study; Science: habitat study, animal research; Social Studies: geography; Engineering: animal attribute structure, |

3. Assessments

| Grade | Curriculum or Lesson Assessed | Assessment Tool | Average Student Proficiency (%) |
|-------|--|---|---------------------------------|
| K | Seasonal changes | Illustration and short answer | 85% |
| 1st | Environmental stewardship; Biomimicry | Short answer response; Presentation | 80% |
| 2nd | Composting; Ecological exploration - Litzsinger; Pollinator study; Tower Garden care, Makerspace Engineering Challenge | Student Instructional Presentation; Journal short answer responses and illustration | 85% |
| 3rd | Prairie Inventory | Visual/Mapping Presentation | 90% |
| 4th | Plant Study/Inventory; Waste Reduction, ShoeMan project; Bonkers for Birds | Graph display; Essay | 85% |
| 5th | Living Roof, Composting | Visual/Media Presentation; Essay | 90% |

4. Environment and Sustainability as context for STEM

| Grade | Curriculum or Lesson | STEM Standard (Missouri Learning Standards) |
|-------|--|--|
| K | Seasonal Changes; Nature explorations and tool creation | Science: K.PS1.A.1 - Properties of Matter, K.PS3.A.1 - Energy, K.ESS1.B.1 - Earth & Solar System, K.ETS1.A.1 - Engineering Math: K.GM.B - Time & Measurement |
| 1st | Sound within Music exploration (Project IDEA musical garden); Biomimicry investigations; Bird Sanctuary observations and maintenance | Science & Technology: 1.PS4.A.1 - Informational Technologies, 1.LS1.A.1 - Structure & Processes of Organisms, 1.LS3.A.1 - Inheritance of Traits, 1.ETS1.A.1 - Engineering Math: 1.GM.B - Measure length in non-standard units, 1.DS.A - Represent & Interpret Graphs |
| 2nd | Pollinator Study, Tower Garden care, Makerspace Engineering | Science & Engineering: 2.LS2.A.1, 2 - Ecosystems, 2.ETS1.A.1 - Engineering Design Math: 2.NBT.C - Represent & Solve Problems with Base Ten, 2.GM.B - Measure & Estimate Length, 2.DS.A - Represent & Interpret Data |
| 3rd | Prairie Inventory: Animal and plant symbiotic study; Goldsworthy Art Project; Climate change | Science: 3.LS1.A.1 - Structure & Processes of Organisms, 3.LS1,3.B.1 Growth & Development, 3.LS3.C.1 - Animal & Plant Adaptations, 3.LS3.D.1 - Biodiversity, 3.ESS2.D.2 - Weather and Climate Change Math: 3.GM.D - Understand Perimeter, 3.DS.A - Represent & Interpret Data |
| 4th | Plant Study/Inventory | Science: 4.LS1.A.1 - Structure & Processes of animals and plants Math: 4.DS.A - Represent & Interpret Data |
| 5th | Living Roof; Composting; Rain Garden care | Science: 5.LS1,2.C,B.1 - Structure & Function of Processes, 5.ESS1.B.1 - Earth's Place in the Universe - observations, 5.ESS2.A.1 - Earth's Systems, 5.ESS2.C.1 - Role of Water in Earth's Systems, 5.ESS3.C.1 - Earth & Human Activity Math: 5.DS.A - Represent & Interpret Data |

5. Environment and Sustainability as a context for Green Tech/Careers

| Grade | Curriculum or Lesson | Green Technology/Career Pathway |
|---------------|---|---|
| K | Natural environment exploration and monitoring; weather | environmentalism; meteorology; |
| 1st | Monitoring and care for Bird Sanctuary | zoology, ornithology, animal preservation and wildlife management |
| 2nd | Waste reduction, Makerspace engineering challenge | composting, engineering, city manager |
| 3rd | Prairie Inventory | habitat conservation, environmental engineering |
| 4th | Recycling and resource reduction, Bonkers for Birds | public health, civil and environmental engineering, wildlife management; zoology, ornithology |
| 5th | Rain Garden studies | environmental engineering, horticulturist |
| K - 5th Grade | STEAM (Science, Technology, Engineering, Arts, Mathematics) Night | biology - Monsanto Group; computer programming - Raspberry Pi; law enforcement - CSI Finger printing; engineering - lift w/ paper airplanes; clean hygiene - St. Louis Children's Hospital; gardening/farming - |
| K - 5th Grade | Bike Week | civil service: Police Officers, Park Guides |

6. A.P. Environmental Science - NA

PROFESSIONAL DEVELOPMENT

7. Certification

| Certification | Grade (# Teachers) Year; Grade (# Teachers) Year:... |
|---|---|
| Green Classroom Professional | 1st Grade, 1 teacher, 2012 |
| Master of Arts: Education and Innovation, Emphasis in Global Sustainability | 1st Grade, 1 teacher, 2012 |
| Population Education Trainer | Interventionist, 1 teacher, 2012 |

8. Workshops Attended

| Workshops (Category 1, 2, or 3) | Grade (# Teachers) Year; Grade (# Teachers) Year |
|---|--|
| Litzsinger Road Ecology Center - Bees and Pollinators Workshop | 2nd Grade, 2 teachers, 2017 |
| Missouri Green Schools & Environmental Education Conference | 1st Grade, 1 teacher, 2017 Administrator, 2017 |
| Missouri Department of Elementary and Secondary Education - Interface 2017: Solving the STEM Puzzle | 1st Grade, 2 teachers, 2017 3rd Grade, 2 teachers, 2017 |
| Midwest Education Technology Community (METC) Conference 2016 | 2nd Grade, 2 teachers, 2016 |
| IIE Japan-U.S. Teacher Exchange Program for Education for Sustainable Development (ESD) 2015 | 1st Grade, 1 teacher, 2015 |
| Experiential Educators Exchange: Grit, Mindset, and Project Based Learning Conference | Administrator, 2015 |
| Webster University - Sustainability Workshop | 4th Grade, 1 teacher, 2014 |

9. Workshops and Lessons Provided

| Workshops or Lessons | # Attendees |
|---|--|
| Litzsinger Road Ecology Center Teacher Conference (2018), "Monarch Madness," Mrs. Robin Wellman and Mrs. Jen Bartin (2nd Grade), in Frontenac, MO | 18 attendees |
| Missouri Green Schools & Environmental Education Conference, MEEA (2017), "Environmental Opportunity Gaps", Dr. Troy Hogg and Mrs. Traci Jansen (1st Grade), in Kansas City, MO | 5 attendees |
| Sustainability Institute for Educators, Webster University (2017), "Reducing Waste through Composting" by Mrs. Traci Jansen (1st Grade), Mrs. Robin Wellman (2nd Grade) and Mrs. Jen Bartin (2nd Grade) and student leaders (1st and 2nd Grade) at MICDS, St. Louis, MO | 40+ attendees |
| Green Schools Quest Project: Waste Redirection and Reduction (2016): http://prezi.com/cbbtuj_xohbm/?utm_campaign=share&utm_medium=copy&rc=ex0share | |
| Makerspaces - STEM Leadership Series (2016) by Mrs. Jen Bartin (2nd Grade) and Ms. Kelly Lauberth (5th Grade) at the Steel Workers Grand Hall in St. Louis | 40-50 attendees at 2 separate sessions |
| Green Schools Quest Project: Sustainable Gardening (2015): https://www.youtube.com/watch?v=tJ9yPTJwuS4 | |

| | |
|--|-----------------------------|
| Sustainable Recycling in Elementary Education - IIE Japan-U.S. Teacher Exchange Program for Education for Sustainable Development (ESD) (2015) by Mrs. Traci Jansen (1st Grade), Tokyo, Japan | 50+ international attendees |
| Green Schools Quest Project: Rain Studies (2014): https://prezi.com/r7cx0v6cyua6/green-schools-quest-project-based-challenge/ | |
| Sustainability in Education (2014) by Mrs. Traci Jansen, in partnership with Webster University at St. Louis University | 30 session attendees |
| Green Schools Quest Project: Energy Reduction (2013): https://prezi.com/_6r7cq5xgtla/green-schools-quest-project-challenge/ | |

OUTDOOR LEARNING EXPERIENCES

10. Outdoor Learning

| Grade | Outdoor Experience (Subject Standard) |
|-------|--|
| K | Shaw Nature Reserve: outdoor exploration during the spring season, noting changes in environment within local region; K.LS1.C.1 |
| 1st | Conservation of bird sanctuary; care and monitoring of food, water and habitat for local birds and pollinators, noting life cycle observations; 1.LS3.A.1, 1.SS.1.E.1 |
| 2nd | Litzinger Ecology Center: hiking explorations to observe ecosystems and natural erosion; 2.ESS1.C.1, 2.SS.1.D.1 |
| 3rd | Prairie maintenance: preservation and reseeded of prairie habitat to create new habitats for plant and animal life, due to destruction of Missouri prairies; 3.LS3.D.1 |
| 4th | Geological exploration in maintaining rock beds in Project IDEA; 4.ESS.C.1 |
| 5th | Compost creation and gardening maintenance in Project IDEA space, through voluntary “Flex Time”; 5.ESS3.C.1 |
| K-5 | Green Schools Quest: Sustainable practices within daily school environment; ETS1.A |

11. Outdoor Learning in Context & Community

Context: First Grade students maintain and monitor the Lori Whiting Bird Sanctuary across the school year. This level of environmental stewardship reinforces animal life habitat preservation and care, per NGSS performance expectations. Students monitor, discuss, and provide habitat resources to fulfill wildlife needs.

Context: Kindergarten annual field trip to Shaw Nature Reserve teaches about sustainable practices within our local environment. Students are able to view human’s care and nurturing of native plant life within the region. Students journal their observations, reflect through illustration and discussion, and present their ideas upon return.

COMMUNITY ENGAGEMENT

12. Community Engagement

Keyser kids are supported throughout their elementary years by staff who embrace a whole-child educational philosophy. By integrating passion and curricular standards, students grow both academically and within their community. Through Passion Projects, studies completed by 4th and 5th graders, students become agents of change in their school and broader community.

Annual participation in the Green Schools Quest fosters a civic duty to maintain sustainable environments by changing practices in waste direction, water conservation, organic gardening and electricity usage. Through civic and community engagement, children have helped neighbors, reduced waste, and improved our practices to make a true difference in our world.

Waste redirection of plastic caps occurred at a monumental scale through annual sustainable practices focus. Students worked collaboratively to gather 1,500 pounds of caps, through partnership with the St. Louis Cardinals. The caps were repurposed to create outdoor seating in Project IDEA and an elaborate mural within our building.

13. Partnerships

Pillar 1, Sustainability – Keysor students have provided over 1,700 food resources through KirkCare food drives; 40+ pet care items for adoptable pets for the Humane Society of Missouri and created 85+ lbs. of produce. Our partnership with Sitton Energy has measured our energy practices to increase by 14 points over three years.

Pillar 2, Health – For 2017, 165 students have partnered with Go! St. Louis Read, Right and Run Marathon, completing 26 good deeds, reading 26 books and running 26 miles. Additionally, over 50+ items were donated to Promise Place for Kirkwood children in need.

Pillar 3, Learning - Second grade teachers and their 90 students have promoted 20+ pollinators and introduced Project IDEA as a National Schoolyard Habitat. Globally, sustainable practices have been shared with 50+ educators in two continents.

OVERALL EDUCATION IMPACT

14. Education Summary

Providing our students with a whole-child education across their elementary years at Keysor enables the development of stewards for our environment and a culture of care for our world.

Students work within their Writing Workshop to create persuasive letters for families and our community, centered around reducing waste by ending their use of straws, redirecting their waste and realizing the implications of human actions upon our world. Curricular research to understand the impact of these healthy choices is an integral part of Science and Social Studies within the K-5 curriculum.

As a setting for families to grow and develop over a span of six years, annually over 300 families receive role-model guidance from their children in reducing their energy usage and the quantity of waste directed to the landfill. Together, these lessons are shared with staff during the school year through presentations designed collaboratively between teacher and students, both in video format and student-teaching-student modalities.

By unifying our all-inclusive Project IDEA space to incorporate standards for curriculum instruction across the K-5 setting, students are provided experiences during their elementary years that create awareness, connectedness to community and native habitats, and collaborative nature when working with peers, community members and staff.

MEDIA

15. Media

1. Environmental Stewardship: Annual Fall Leaf-Raking within our Keysor Neighborhood
2. Community Outreach: Outdoor Work Day at Keysor's Project IDEA
3. Curriculum Integration: 2nd Grade students tagging Monarch Butterflies within Rain Garden setting
4. Health/Wellness: 3rd Grade students enjoying annual Bike Rodeo, in partnership with Kirkwood Police Department