

Greenprint 2014



**A Sustainability Plan for
Genesee Community Charter School
Written by the GCCS Sixth Grade Class of 2014**



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About the Sixth Grade Year at GCCS

Sixth grade is a rite of passage at GCCS. It starts in September as students attend a four-day retreat in the Adirondack Mountains to develop leadership skills and to better understand their place in a crew as well as in the natural world. They become the leaders of the school, hosting Community Circle, our whole school gathering. They assist in the primary classrooms. The year ends with a presentation of their accomplishments and learning through Portfolio Passage, an oral defense of their readiness for life after GCCS. It is a rigorous year, indeed.

Each year the GCCS sixth grade class selects a “hot topic” to study during the course of the year. These topics, while locally focused, often have national or international connections, and are meant to start a conversation about revitalization or raising awareness in our community.

This tradition started in 2006 with the first class of GCCS sixth graders. They studied the merits of the Grasso-

Zimmer Plan to re-water the Erie Canal bed in downtown Rochester. Since that first year, seven other classes have embraced projects that have ranged from childhood obesity and wellness to public art to bicycle culture.

In each case, students had to travel to meet with experts, conduct original research, synthesize their learning, present their findings through a public presentation, and produce a written component to share with stakeholders. It is work done with pride and purpose.

We are proud of this year’s class as they help to lead GCCS on the path to becoming a greener school. In this Greenprint they have created a vision for future classes and we hope that when they come back in 2020 for their Senior Luncheon, they will see their hopes and dreams realized in a transformed Genesee Community Charter School, as a Green Ribbon School that is a model for Rochester and the nation.

*Alexis Stubbe, Chris Dolgos & Barb Schild,
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Developing A Greener Mindset

What exactly is a green school? It's a school that creates a healthy environment that is conducive to learning while saving energy, resources and money. Green schools come in all shapes and sizes and are located in diverse communities. Connected to this, is the concept of a sustainable school. These are schools that also think about their social impact as well as their environmental impact.

We began our year exploring a few glimmers of sustainability in our community and discovered there is a lot going on in Rochester. Later, a member of the GCCS Board of Trustees came to visit us and gave us the responsibility to discover what it would take to become a sustainable school with the idea of becoming a U.S. Department of Education Green Ribbon School.

We accepted the challenge and began to focus on our school's waste stream. We decided that we really needed to get better at recycling and the food waste was a real issue. We spent the year looking at compost as one of many facets of sustainability.

We saw composting on a backyard scale and on a more industrial scale at a local landfill. We studied the science of compost and hosted a Compost Carnival to inform the public about the benefits of composting. We visited communities around the country where composting was in full swing and we visited Green Ribbon and green schools to learn how they got to be so sustainable.

Now we are ready to share what we've learned and explain how GCCS needs to change to become a greener, more sustainable school.



Genesee Community Charter School began its expansion project in 2013 with a few sustainable features in mind. Plenty of windows provide natural light to supplement or even replace the need for artificial light. Efficient HVAC and low-flow water appliances were also installed. Finally, several inches of insulation and motion activated light switches add to the energy efficiency of the school.

How to Read This Greenprint

To be honest, it isn't easy being green. There are several organizations working to help create green/ sustainable schools. The U.S. Green Building Council has its own Center for Green Schools, The Cloud Institute has created standards around sustainability education, and Earth Force and The National Wildlife Federation both have programs to help schools go green. So many different standards! Which ones should we follow?

We have decided to use the Green Schools National Network's (GSNN) Core Practices, five principles that can help guide schools towards more sustainable practices. These Core Practices also connect with the U.S. Department of Education's Green Ribbon School's Pillars and Elements of Sustainability. Our Greenprint uses the GSSN Core Practices as indicators of how we are doing – and what we still need to do.

Core Practice Five

Strong Partnerships and Networks

Green schools develop partnerships for the long term to help change the school, change and to keep the school change the community. Gannett Community Charter School has many partnerships with organizations and people around the community. We have partnered with Expeditionary Learning, Green Schools National Network, SCC, Lake Wab, and the Rochester Museum and Science Center. Another thing we do well at Gannett Community Charter School is we host events and we let the citizens of Rochester attend. An example is the Operation Kid Fit St. Avenue from the school community and Rochester community is invited to run it. Our Campus Carnival is an example of community events because everyone was invited to come and learn about the benefits of recycling food waste.

This school could improve on their partnerships with others, especially schools. Partnering with schools could bring in new ways to expand our curriculum. For example, the middle school is a lead green school we work with. We could learn how other schools are teaching their students, what methods are working, and which ones are not. We should develop a partnership with World of Inquiry because as an Expeditionary Learning school, we could create a strong sustainable alliance. There are many other schools we might be able to create a strong partnership with, not only in New York, but also in other states across the country.

We could learn from many others. For example, the University of Colorado at Boulder has many long-term partners. They also promote healthy lifestyles and green practices. For example, they have zero-waste festival games to help raise awareness for recycling and composting. A way they encourage being sustainable is they invest in lights that make people healthier and help the air quality. The teachers teach about sustainability in their classes. The University of Colorado isn't the only ones teaching about sustainability. A youth camp in Boulder is taught about how to make their trees greener. All of these places are examples that we should follow.

This core practice means working with groups of culturally diverse people to encourage sustainability. We do not do well with this since we are new to sustainability and the few sustainability related partnerships we have are not strong. We need to reach out to diverse groups to be more authentically Rochester is working to make different parts of the city more sustainable. Learning Way in Rochester's first "green street" located in the UPT district. This part of our city is not wealthy but it showcases rain gardens and porous concrete streets and porous concrete sidewalks to reduce storm water runoff into the sewer pipes.

Our school campus is going to be walking, porous concrete in their parking lot and add rain gardens near the East Ave entrance. There are many local community gardens that are for diverse neighborhoods. Our organization we met with was

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Each Core Practice, and its descriptors, is explained through student gist statements (in italics) and examples of what GCCS has accomplished so far and what schools in other communities have done to become sustainable role models.

Core Practice Three Summary



Taking Stock

- Water bottles are being used in the school. This is a good thing because it helps reduce plastic waste.
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Next Steps

- Conduct a full energy audit of the school.
- Explore retrofitting older fluorescent lights with more efficient fluorescent or LED bulbs.
- Identify places where recycled goods can be used (paper, pens, other supplies) and set a goal for purchasing recycled/ sustainable goods.
- Look into solar or wind energy as a way of reducing the school's carbon footprint.

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Case Study:

Sunnyside Environmental School

Portland, OR



Fostering responsibility, excitement for learning and respect for all living things.

The Sunnyside Environmental School in Portland, Oregon, is a K-8 U.S. Department of Education Green Ribbon School. Every child has its own garden, connected to the unit of study and also supplies food for their cafeteria. Their students are given time to cultivate their plants, and make connections to nature.

In Sunnyside's Middle School, each grade studies different themes, and connects them to Oregon's habitats. Each grade has its own geography and human development along Portland's rivers, forests, and mountains and then connects it to global community with the same theme. At Sunnyside, students get ample recess time.

They have a large playground including a play house and a statue and not created by students.

Parent volunteers come in to teach the students how to cook in the kitchen, care for the garden and collaborate on a variety of other household projects. Middle school students have to complete 12 hours of community service each year. This provides them a chance to connect to the community and make a difference in their neighborhood, their city or their world.

They have a hunger banquet where they learn about the about scarcity, food security and develop empathy for world communities where food and water are not equitably distributed. Students can also participate in Habitat for

Oregon's farms, forests, and fisheries as well as its involvement in a network of the school grounds.

"Everything is more connected than you think it is."
- Sunnyside 7th grade student.

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Each Core Practice has an exemplar school or organization that is highlighted in a Case Study. These narratives explain what sets the school apart from its peers and how GCCS might adopt some of their practices.

The Taking Stock section explains how GCCS is doing currently with the descriptors. An arrow pointing up indicates a strength, sideways means it's an area for development, and an arrow down means we need to work on this descriptor.

Next Steps provides four specific recommendations to be considered as GCCS pursues a sustainable future and the Green Ribbon Award.

Core Practice One

Curriculum that Advances Environmental Literacy and Sustainability



All students in all grades learn about how to help the earth in ways that are listed in state and national requirements. This is one of the areas of sustainability where GCCS is really struggling. However, we have still managed to perform a few efforts in this section of sustainable education. For example, we have aligned our expeditions to fit in the NYS science learning standards. We have also started teaching students to help their community and environment using community service standards. Lastly, the students have at least one sustainable expedition per loop (in the Today & Tomorrow time period).

There are many areas where GCCS could improve, but one that stands out is that for kids to truly understand sustainability, they need to learn about it daily. Another way that GCCS could improve is by using the sustainability standards created by the Cloud Institute. Cloud Institute is an organization that strives to inform schools on how to make a sustainable curriculum. We would integrate nine content standards. They are; Cultural Preservation and Transformation, Responsible Local and Global Citizenship, The Dynamics of Systems and Change, Sustainable Economics, Healthy Commons, Natural Laws and Economical Principles, Inventing and Affecting the Future, Multiple Perspectives, and strong sense of place. Also, we could integrate next generation science standards.

There are some exemplar schools that GCCS could learn from. One of those schools is Spencer Butte Middle School from Eugene, Oregon. At this school, if you take an environmental class in sixth grade, you could apply for a sustainable job in seventh, eighth, and/or ninth grade. Another exemplar school is the Boston Latin School. They learn about sustainability in many ways, most of which are defined by Massachusetts's standards.

Teachers guide students through hands-on projects that focus on the future, to be greener! They integrate sustainability into all subjects and all grade levels. This includes subjects like, expedition, math, reading, and writing. For example, using sustainable language and active learning with kids will get people talking about sustainability and can eventually get their parents and friends to adopt sustainable habits, too.

Our sixth grade teachers do this well by using sustainability to teach subjects like math. For example we had a long-term math problem that was based on the pounds of trash that all the classes in our school threw out on Earth Day. We calculated the percentage of the trash that could have been recycled or composted then made a graph to share with the classes. Our school has expedition topics, such as learning about the Genesee River and animals that live near the river, that can help us make connections to the larger world.

Although we do many sustainable practices well in this school, there are still a few things we can better. For example, the kindergarten through fifth grade classes occasionally they have expeditions based on the natural world but not always and they do not always use sustainability to teach other core subjects. There may be teachable moments where teachers can help students see their role in the world.

Denver Green School (DGS) has many sustainable practices built into their “hands-on, brains-on” curriculum. This means that they get outside and get dirty solving problems. Not only do the kids do this, the school also includes the teachers, staff, families, and the community in their activities. This school focuses on reducing their carbon footprint and recording their impact on social and environmental sustainability. We as a school can learn many things from DGS that can put us on the path to becoming a Green Ribbon School.

Getting outside into the natural world and built environment helps us better understand our community. Something GCCS does well in this area is fieldwork. We take field studies like the river trip, where 4th and 5th graders learn about the geology and geography of the Genesee River. Another field study students experience is the settler’s trip in 2nd and 3rd grade, when we learned how settlers lived and worked with the limited resources they had and how they relied on the natural world. Our sixth grade retreat is another great way students learn how to collaborate and reflect on their role in nature.

Even though GCCS provides outdoor experiences for students there is room for improvement. Our school can improve in this area by working more often with experts and making closer connections with them. One way we can implement sustainability in our school is to integrate sustainability language into our daily learning and teaching. Another way we can develop a curriculum that advances environmental literacy and sustainability is by



Denver Green School’s Outdoor Classroom and community garden offer students and families an opportunity to learn and work together outside. The community garden is a collaborative effort with Sprout City Farms and provides vegetables and herbs for DGS’ lunch program.

During the 2013 Recycle Bowl competition, 6.4 million pounds of recyclable material was collected, by 1,507 schools nationwide, equivalent to saving about 15 million gallons of water and 22.5 million kWh of electricity.

*- Keep America Beautiful,
“Recycle Bowl 2013: By the Numbers”*

building an outdoor classroom and garden, which can help us learn more about the interconnected systems in the natural world.

Baylor Academy in Chattanooga, Tennessee is an exemplar school in this area because it has a program called the Walk About Program, where kids get outdoors to connect with the natural world and with peers and to learn more about themselves. They also offer travel programs to global communities where they learn about other cultures and habitats and participate in a service project in that community.

Schools connect kids to environmental and sustainability concepts through common themes. We have a jumpstart on this core practice since we learn about the environment through different projects. For example, we entered Keep America Beautiful's Recycle Bowl and we got the school involved by taking their recyclables and collecting data until the end of the competition. We graphed the progress every day so we had evidence of how much each class recycled. Each two-year loop has an expedition about the environment.

We also have examples of projects and studies done by different schools around the U.S. as a result of our Four Cities Trip. We visit role model schools and

businesses and we can always ask questions and get advice and tips.

There are some things that we can still improve on. We should start some projects that connect us to the world, and have more partnerships with other community businesses and schools. We can learn strategies from the National Wildlife Federation Schoolyard Habitat program. They work to develop outdoor classrooms and gardens for schools so kids can learn to attract and support local wildlife. We could also look to "adopt" a local habitat and work to keep it clean.

A top model school is the Sunnyside Environmental School in Portland, Oregon. One way that they use the environment as a common theme is their middle school trips to learn about marine biology of the Pacific Ocean. Grades 6-8 learn about this theme, but in greater detail each year with more intensive fieldwork each year. They start close to home but by 8th grade, are taking excursions to Catalina Island in California! We can learn how we can help the environment and actually help it by collaborating across grade levels. We can add common themes to our environmental work so all grades have a role.

One of the first steps to becoming a green school is making sure that Science, Technology, Engineering, and Mathematics (STEM) is integrated while learning about sustainability. Students should be prepared for future careers that work towards a

GCCS by the Numbers

63%

of GCCS families surveyed would support the integration of sustainability into the curriculum.

- GCCS Family Sustainability Survey, May 2014

greener economy. The curriculum should expose students to skills and habits that support a sustainable workforce.

GCCS is doing some of this well. Evidence that GCCS is supporting STEM education in our curriculum is how we integrate science and math together. In the past, sixth graders have experienced Lego Robotics to look at transportation efficiency. This school helps you think like an engineer. All grades have long-term studies called expeditions. We meet architects, scientists, and museum officials to assist us in our research. GCCS students also connect math and

**Those who
love and
free nature
are never
alone.**

- Rachel Carson



science with real-world situations in terms of sustainability, for example working with naturalists at the zoo to learn about habitat protection or with engineers to learn about energy efficiency. There is also STEAM education – the “A” stands for arts. GCCS does a great job integrating the arts into expeditions and some of our products use the arts. Our sustainability efforts can also add the arts as a way to share what we learned.

GCCS may do some things well, but there are also areas we can improve. Not all grades integrate science and math into real-world sustainability situations. While all classes have access to the computer lab, there is no sustained effort to teach kids the skills to look at how technology can

support a greener world. Sixth graders have long-term math projects, but not all grades participate in similar activities.

Luckily, there are exemplars that we can learn from. Lipscomb Academy is a school in Tennessee. Students from Lipscomb have outdoor math experiences. Students practice math on a math patio, which is used like an outdoor math classroom.

As part of their science curriculum, students participate in butterfly experiences. Third graders at GCCS participate in a butterfly expedition, but at Lipscomb, students actually created a school butterfly garden to help feed local and migrating pollinators. They integrate math and science into this project.

Case Study:

Lipscomb Academy

Nashville, TN



“As these environmental practices become automatic to them, they become better citizens, using thoughtful practice with appreciation for their responsibility in the natural world. When you change a child, you change the world.” _ Ginger Reasonover, Science Coordinator

An amazing example of a school that shines in Core Practice One is Lipscomb Academy from Nashville, Tennessee. All students who attend Lipscomb are educated on sustainability on a daily basis. For example, in fourth and fifth grades, the students learn about where their recycled waste goes and what happens to it. They start to sort through the whole schools recycling to see how they are doing in that area of sustainability.

Students are also able to use a math patio, which is an outdoor area where students are able to sit and reflect or work on their math skills. On the math patio, there is a grid installed into the cement for the students to practice graphing or multiplication.

They also have classroom gardens and integrate their gardens into their curriculum as well as their lunch program. They have been nationally recognized as leaders in the green school movement by Department of Energy, Disney’s Planet Challenge program and they are a US Department of Education Green Ribbon School.

Students are active in the school’s sustainability efforts. Lipscomb has a student Green Team that meets during school and after school. They work together in different jobs to take care of the gardens and spaces that they learn from. They are a school worth learning from.

*“Students see
environmental
education in action.”*

- Ginger Reasonover,
Lipscomb Academy

Core Practice One Summary



Taking Stock



Environmental literacy & education for sustainability, as defined by local, state, & national standards, is integrated in all grades.



All teachers use inquiry, problem, and project-based pedagogy to facilitate learning about global systems and relationships.



Outdoor experiences and fieldwork support learning about complex systems, connecting humans with other humans and all aspects of the natural world.



Content areas are integrated by using environmental and sustainability topics as the common theme.



STEM education supports a sustainable workforce for a green economy.

Next Steps

- ✓ Integrate sustainability into the curriculum so each year there is one expedition that connects to sustainability topics.
- ✓ Create a Genesee Green Crew to help the whole school become more sustainable.
- ✓ Create a sustainability statement for GCCS and celebrate the progress we are making.
- ✓ Make STEM/ STEAM connections more apparent in the sustainability curriculum.

Core Practice Two

Stewardship and Service Learning



Core Practice Two requires real world service-learning projects, explores solutions to local, regional, and global problems and issues and teaches 21 century skills. *This means that you do community service and projects that make a difference in the world and you use technology, critical thinking, or collaboration to complete them.*

GCCS may not an exemplar in sustainability (yet!) but we do have some curriculum based around service learning and critical thinking. In sixth grade we have a year-long focused exploration of a problem in the community and then you research possible solutions and present your recommendations. Students have to complete ten hours of community service; this includes doing tasks that are outside of your comfort zone that help someone else.

This winter we were named a P21 Exemplar School by the Partnership for 21st Century Skills. Our school is an exemplar in critical and outside the box thinking. We are able to get kids interested in topics using collaboration and real world projects with just enough help from the teachers. One example would be our fifth-grade recycling project. We looked at a local clothing store chain store (Old Navy) and we found out they throw away thousands of plastic bags each week. We raised the store's awareness about sustainability and possible ways they could reduce their landfill waste.

One idea is to create a Green Team for the school. This crew could meet during Morning Choice and after school and it would guide ecofriendly and sustainable choices for our school. We could apply for grants that provide money for sustainable projects. Other schools we visited had highly motivated students on their green teams.

An exemplar school in this area is the Boston Latin School. They have taken many steps to becoming a green school. They have a green club that creates events and teaches the community about sustainability. One of these events was the *Summit* where they have workshops to teach about sustainable practices. We can learn a lot from Boston Latin and should try to implement their ideas at our wonderful school.

At GCCS we follow the Expeditionary Learning (EL) Design Principles and these include Responsibility for Learning and the Natural World. *Parts of this are leave no trace and owning the work and this applies to stewardship and service learning, which means kids at school take responsibility for what they do at school.* At GCCS, we may pick up after ourselves, but we don't really pitch in to take care of our school campus. We could do more of this by monitoring our waste and working closer with the RMSC to see how we can help them.

Another thing that related to this is an "own it" attitude for student led expeditions. An expedition is when

you study on one subject for three months. A student led expedition is when the teachers select a certain number of options for the students and then the student's vote on which topics they will investigate and what final products to make. This gives students more voice.

A school that does a lot of student-led learning is the Denver Green School in Denver, Colorado. They have a garden for each class, (K-6) and each class has to take care of it. Since we don't have a lot of room here at GCCS for gardens, we could have rooftop gardens or maybe use the greenhouse for planting projects. DGS also had a student-led project about creating the perfect snack and the seventh grade class had to develop a nutritious recipe, design eco-friendly package, and market the product. GCCS students can have a greater role in planning their products.

Our school's curriculum is all about going to the places where history happened in and around Rochester. This also includes places in the Natural World, like old growth forests, lakes and creeks, and parks and gardens throughout our community. We should think about how we can do more to connect with these natural habitats.

GCCS does not have a garden, but we have kept gardens in the past when they were connected to our expedition. It is possible for GGCS to have a garden but it could take some time away from the school day – unless we integrate the garden into our curriculum. Another problem with having a garden is that the growing season is during the summer when students are out of school. We would need to use a green team and parent volunteers to help maintain the garden. Gardens would connect to our expeditions about the Flour to Flower City.



At Boston Latin School, a green wall has been installed in the cafeteria to demonstrate how a green wall works. Some of the benefits of a green wall are that the plants help remove CO2 and pollutants from the air, provide oxygen and can even make people feel better and more productive.

An estimated 15.5 million youth between the ages of 12-18 participate in volunteer activities and contribute approximately 1.3 billion hours of service each year!

- Corporation for National & Community Service, "Youth Helping America" study, 2005.

Other ways we use place-based projects are the fourth and fifth-grade trip to see different parts of the Genesee River. Our younger students visit the recreated gardens and orchards of our earliest settlers at The Stone Tolan House and Genesee Country Village and sixth graders spend four days in the Adirondack Mountains practicing their leadership and survival skills.

A school that models this core practice well is the Sunnyside Environmental School in Portland, Oregon. At Sunnyside, every class maintains a vegetable/flower garden. Students received help from parent volunteers to take care of the gardens and harvest and cook the vegetables.

Another aspect of this core practice found at Sunnyside is fieldwork. Students participate in field studies that include a Rural-Urban exchange, where students swap homes and live in the city or on a farm for one week and better understand the connections between the two communities.

A number of our school expeditions have focused on eco-systems or habitat restoration, but not with consistency. For example, a 5th grade expedition researched and analyzed water quality of tributaries, which eventually flow into Lake Ontario. Lake Ontario

has a problem with pollution and toxic algae. The 5th grade tested water quality at various sites for the presence of invertebrates, which indicates good water quality. They found that runoff from neighboring farms and businesses had a negative impact on water quality.

We do not have many opportunities to participate in land restoration projects, like helping native plant species or brown field remediation. These might be things we could look into. We could help protect parks, fields, communities, bodies of water and forests that are in need of a change and we could become a voice for them. For example, we could clean up river and stream banks and advocate for reducing lawn chemicals that run-off into our creeks and rivers.

Another recommendation we could do is focus as a school on one, year-long project that helps or preserves something in the natural world. We could adopt part of a river, or a pond, and at the end of the year, we could share the progress we have made on the project, the steps we took, and what still may need to be accomplished.

An exemplar school that we visited is The Ivy Academy in Chattanooga, TN. They have ongoing, long-term projects that focus on preserving and restoring

the environment. For example, they offer workshops on hemlock habitats under threat. They conduct citizen science projects like migratory bird counts, water quality testing and bee keeping!

GCCS by the Numbers

65%

of GCCS students surveyed would be willing to volunteer and serve on a Green Team.

- GCCS Kids Sustainability Survey, May 2014

At GCCS, we believe that field studies give students opportunities to make local connections to Rochester's history. We also have expeditions to make global connections to the environment. For example, expeditions might focus on water quality locally and habitat preservation globally. Sometimes, there are long-term math problems related to the expedition.

For example, in sixth grade, students had a PSJ (Problem Solving Journal) task to find the weight of each classroom's recycled materials. We calculated many statistics, analyzed our

**My garden
is my most
beautiful
masterpiece.**

**- Claude
Monet**



school's recycling efforts, and reported our findings and recommendations to the classrooms. We also looked at our carbon footprint as a result of our Four Cities trip and how we might offset the CO₂ we produced.

In sixth grade, we started Green Time – a time we can draw, write, reflect or just rest outdoors (all year round). It helps us be more aware of how our local environment changes over time. This is in addition to recess and might connect to our art or ELA lessons. Of course, we could improve upon this by expanding it into all grades!

Another way GCCS helps its students learn more about the global connections is when teachers become the students! Our teachers have been awarded eight Fund for Teachers fellowships that helped them better understand topics like salmon

populations and habitats in Alaska, raptor migration along the Atlantic Flyway and evolution on the Galapagos Islands. Children at GCCS learned from their teacher "experts" during these expeditions.

Denver Green School is a Green Ribbon school that has many sustainable practices that focus on connecting local and global issues. For example, they had a light audit, and with their results, permanently turned off lights that were producing surplus light that wasn't needed.

Kids also learn about energy efficiency and they had a long-term math problem tied to it that allowed them to reduce their local energy use and global carbon footprint. They also have teachers who have studied, taught or traveled to other parts of the world and integrate these experiences into their teaching.

Case Study:

Sunnyside Environmental School

Portland, OR



Fostering responsibility, excitement for learning and respect for all living things.

The Sunnyside Environmental School in Portland, Oregon, is a K-8 U.S. Department of Education Green Ribbon School. Every class has its own garden, connected to the unit of study and also supplies food for their cafeteria. Their students are given time to cultivate their plants, and make connections to nature.

In Sunnyside's Middle School, each grade studies different biomes, and connects them to Oregon's habitats. Each grade looks at the local geography and human development along Portland's rivers, forests and mountains and then connects it to a global community with the same biome. At Sunnyside, students get ample recess time.

They have a large playground including a play scape and a skateboard rail created by students.

Parent volunteers come in to teach the students how to cook in the kitchen, care for the gardens and collaborate on a variety of eco-focused projects. Middle school students have to complete 12 hours of community service each year. This provides them a chance to connect to the community and make a difference in their neighborhood, their city or their world.

They have a Hunger Banquet where they learn about the about scarcity, food security and develop empathy for world communities where food and water are not equitably distributed. Students can also participate in fieldwork to

Oregon's farms, forests, and seashores as well as be involved in stewardship of the school grounds.

"Everything is more connected than you think it is."

- Sunnyside 7th grade student.

Core Practice Two Summary



Taking Stock



Real world service learning projects explore solutions to local, regional, global problems and issues and teach 21st century skills.



Stewardship projects allow the student to take responsibility for their own school grounds.



Place-based projects and practices that include, but are not limited to, school farms, forests, and gardens.



All students are given the opportunity to participate in land restoration projects, such as native eco-system or brown fields remediation.



Teacher and leaders provide opportunities for students to make local and global connections.

Next Steps

- ✓ Create raised bed gardens for classrooms that are connected to expedition work and that grow food.
- ✓ Start a Genesee Green Crew to support sustainability efforts at GCCS and on the RMSC campus.
- ✓ Work with community experts to identify local habitat that we can “adopt” and take care of.
- ✓ Connect a portion of sixth grade service hours to environmental or sustainability causes.

Core Practice Three

Sustainable Facilities Design and Management

An important part of being sustainable is having a sustainable building, certified by state regional or national standards, such as LEED (Leadership in Energy & Environmental Design). GCCS has a lot of natural light, especially in the new addition. This means that we use less energy to light the classrooms, which results in a lot less power usage. In the new part of the building we have an insulated roof, double-pane insulated glass, and efficient heating and cooling system.

There are a lot of things we can work on, in the old part of the school, like working toward more energy efficient lighting and heating. We should try achieving Net Zero (not using any energy from a energy provider) because that would give GCCS extreme sustainability bragging rights. However, we should start simple.

Something that we could do in the foreseeable future is to, in some way, generate our own energy. It doesn't have to be a lot, but we could install a few solar panels or a micro-wind turbine system. Something else to look at would be calking windows and doors to conserve heat during the winter. We should also have a formal energy audit in the school.

An example of a school meeting the highest level of sustainable certification is Casey Middle School in Boulder, Colorado. It received its LEED Platinum certification and is one of the most energy efficient buildings in the state. Casey Middle School was also named a Green Star school in Colorado. Some

features that make this school so energy efficient include a geothermal heating and cooling system, daylighting that reduces the need for artificial light, photovoltaic panels that provide 3% of the school's electricity and a green roof and rainwater runoff systems.

An easier way to think about this core practice is keeping track of eco-friendly cleaning supplies, not wasting energy or water, improving the air in our school, and using energy efficient lighting. GCCS is getting better at reducing consumption of resources but we still have some way to go. Using reusable snack cups and reusable water bottles that the kids bring in are two ways to cut down on the need for paper cups or plastic baggies. We turn off lights when they are not needed, teachers use document cameras instead of making lots of copies, and the teacher bathrooms have timed sinks that turn off so we don't waste water. We are beginning to explore more serious composting and recycling efforts as well. We need to teach more about recycling so kids understand what they are doing and why when they sort their waste.

In order to find out how much greenhouse gas emissions GCCS produces, we will need to do a complete energy and waste audit of the school. Although we do lots at GCCS to be sustainable we can install TLED lights to every room. TLED are sustainable LED lights that fit into a fluorescent light sockets and use even less electricity than CFLs and traditional fluorescent tubes.



We should also explore a more eco-friendly heating and cooling system like a geothermal heat pump. We can refit our lavatories with automatic sinks and toilets in all of the bathrooms and install bioswales which are rain garden that make sure that the rain water does not go into the street and into the sewers, taking toxins like pesticides, fertilizers and oils with it. We also have a great start on a fun outdoor playscape but we could add more features to make it even better.

Exemplars we should highlight include Codman Academy because they reuse almost all of their furniture by getting used furniture and getting things from places that don't need them anymore like when Codman was building their new building they got wood from the site and made tables. We should also explore outdoor classrooms full of fresh air like they have at Calvin Donaldson Environmental Science Academy in Chattanooga, Tennessee. They have an outdoor classroom as well as an open design playground that allows kids to be creative problem solvers and have imaginative play.

One way for GCCS to become a green school is, to be a zero waste or reduced waste school, especially in our food service. Some ways we are meeting this expectation is that we have recycling bins in each classroom and workspace, so kids can recycle things like milk cartons, fruit cups, and yogurt containers.

We also have reusable plates, bowls, silver ware, and trays instead of Styrofoam plates and bowls and plastic spoons and forks. We started using them in 2009 and we are scheduled to get our return on investment in the next school year. In sixth grade we compost and a student takes it to her house and adds it in her compost bin. Fourth grade also wanted to compost so we added a bucket in fourth grade and we recently added one for third grade, too. In sixth grade we organized a



Zero-waste lunchrooms are more common than you might think. Schools in Cambridge, MA and Eugene, OR, have composting programs in place, either are on-site or pick up. Students go through the routine of sorting all waste and in the process reduce landfill space and lower garbage hauling fees.

On average, green schools use 33 percent less energy and 32 percent less water than their conventional counterparts, and save \$100,000 per year on direct operating costs.

- U.S. Green Building Council

school-wide garbage audit.

Based on this audit, one area GCCS can improve with reducing waste is composting all food waste. GCCS lacks the space needed to compost so we should explore a partnership with Community Composting. GCCS can also improve its recycling. During the trash audit we found lots of recyclable materials in the landfill cans. We should try to eliminate all of our lunch waste by not only composting, but also using less packaging. We can improve our recycling by teaching kids what they can recycle and tell them where it goes if what may happen if we don't recycle.

Some places and organizations we should highlight are Ivy Academy, which composts and packs its lunches in biodegradable plastic and the entire Cambridge School District in Cambridge, Massachusetts, as well as the Portland City School District on Portland, Oregon, which collects food waste separately from landfill waste in an effort to reduce disposal fees and conserve landfill space.

One of the things GCCS does well is all of our cleaning products in classrooms are non-toxic. This is a law for all schools in New York State. Did you know we use toilet paper that is sourced from 20 percent recycled paper materials? We use copy paper that is certified by the Sustainable Forestry Initiative. This means the paper we use comes

from trees grown on a tree farm or forest, not from protected old forests. We participate in Crayola's ColorCycle marker recycling program and some teachers order school supplies with recycled content.

We should buy low-odor Expo markers and coloring markers made with recycled plastic. We can also buy school supplies that are eco-friendly even though it might cost more money and be harder to find or buy. Staples and Office Max both offer green school supplies. Even though we get our paper from sustainable sources, we should try to buy paper that's made from recycled sources. Instead of regular copy paper we can get 30% or 50% recycled paper. Even better would be using NO paper and trying to go digital as much as we can.

Schools we can learn from include Sunnyside Environmental School, because they use all natural cleaning supplies that they make themselves! We should also learn how the triple bottom line (making sure materials are economically, environmentally and socially sustainable) can be used or even start a Re-Use Room like they use at Portland State University. People can share surplus supplies or re-use things before they need to be recycled.

An aspect of Core Practice Three focuses on how adults in our building need to collaborate on the use of our facilities, materials, and housekeeping practices to help teach the students about sustainability.

Some evidence that GCCS does this well is our place-based learning. We go out into the field,

GCCS by the Numbers

83%

of GCCS students think we should compost the school's food waste.

- GCCS Family Sustainability Survey,
May 2014

and learn about topics that have to do with our community. But we also take a look at our own school to see how we can make it better. An example is that this year's sixth grade class is learning about sustainability! Another example would be when students collaborated to design a new bike rack for the school and pushed for recycling bins in our school.

GCCS can improve in this area by teaching about the sustainable features that our building has and how we can save energy and

**What's the
use of a fine
house if you
haven't got a
tolerable
planet to put
it on?**

**- Henry David
Thoreau**



resources by not wasting electricity and water. We could work with Mr. Graves from the RMSC and our custodian, Ms. Alicia, to learn how we can continue to manage our resources better. We can also check in with Mrs. Milke about purchasing supplies that are more environmentally friendly.

Childpeace Montessori had a fabulous collaborative curriculum with the facilities manager, the teachers, and the administrative staff. The students really knew who everyone was, and the facilities manager taught the kids about all of their sustainable efforts. They had a whole room dedicated to bikes and repairing them. They learned about physics from the bikes that they fixed up. Another thing that they had was a room that they could monitor all of their energy usage, from electricity to water.

The Harley School in Rochester, NY, also had a site where they could monitor the energy usage in their new green building called The Commons. Casey Middle School in Boulder, CO, also has a similar set up, only anyone in the word can see their real-time energy use through the Green Touchscreen website. It even calculates how much CO2 they prevented from releasing because of their energy efficiencies. This isn't something that our school needs to invest in right now, but eventually we should think about installing a system like this as we refit our lighting and energy systems.

GCCS has lots to learn. Even though we aren't doing as much as we can, we are doing something already. We think that if we put a little bit more effort into sustainability, we can make a big difference in our environmental impact.

Case Study:

Codman Academy

Boston, MA



Codman Academy is a small school with a big focus on sustainability.

One school that we visited on our Four Cities trip that was an exemplar in Core Practice Three was Codman Academy in Boston, Massachusetts. Codman is a Pre-K-12, Expeditionary Learning School that had several sustainable building features. They have an aquaponics lab, water bottle refill stations, LED lighting, plants to help filter the air, and are a LEED Gold certified building. Their use of digital bulletin boards share announcements and they make a real effort to limit the amount of paper that goes home with students.

Codman Academy also reused space and reused materials from the older part of the school. Codman Academy is sharing space

as part of Codman Square, a project to develop a neighborhood and provide an expanded medical and community space. They established an outdoor teaching garden that is integrated into their science curriculum and will help provide fresh fruits and vegetables for the community.

They also have integrated nutrition and wellness into their new space and are working with the community to teach them best practices in healthy living and sustainability. Their partnership with Codman Square Health Center also provides opportunities for students to have internships that serve the local neighborhood.

Codman has its own version of a Green Team called C-CAN, which

stands for Codman Climate Action Network. They meet after school and help to write grants, raise money and bring attention to Codman's sustainability practices.

"There is no away."

- Brett Jacobs,
BRING Recycling Center

Core Practice Three Summary



Taking Stock

- ↔ Green facilities design and construction retrofit for existing buildings as defined by state, regional or national certification programs.
- ↔ Management practices, operations, and maintenance that reduce energy consumption and greenhouse gas emissions, improve indoor air quality and lighting, decrease waste stream and improve water conservation.
- ↔ Zero-waste or reduced-waste cafeterias.
- ↔ Use of non-toxic and eco-friendly supplies and materials.
- ↓ Facility managers and teacher work together to use buildings, management practices, materials and supplies purchasing to teach about sustainability.

Next Steps

- ✓ Conduct a full energy audit of the school.
- ✓ Explore refitting older fluorescent lights with more efficient fluorescent or TLED bulbs.
- ✓ Identify places where recycled goods can be used (paper, pens, other supplies) and set a goal for purchasing recycled/ sustainable goods.
- ✓ Look into solar or wind energy as a way of reducing the school's carbon footprint.

Core Practice Four

Health and Well Being

Green schools have programs that provide healthy and whole foods (foods that are unprocessed or minimally processed and free from artificial additives) that are grown naturally and locally. At GCCS, we get our food from A.B.V.I./ Goodwill. They get their food from five vendors, four of which are locally owned and purchase locally grown foods when available. They may still get their food from national (or international) sources and it may or may not be organic.

One thing we can do is ask them to add more organic produce and identify the country of origin for some of our foods. The rules of our school lunch program have helped to insure that we have healthy meals with whole grains, low sugar and lower sodium foods. Each of our meals features two servings of fruits or vegetables.

Areas GCCS could improve in are getting healthy eating programs where we can grow our own food and possibly prepare it. It could give kids a more focused curriculum in future experiences with food and the natural world. We should develop a school garden so we could grow our own food and this would help because we would know exactly what is in it although we may not be able to grow enough food for all classes. We wouldn't use any unnatural products that harm the plants and world (all natural products like compost for fertilizers would be used).

Some model schools we could follow are Sunnyside Environmental

School (Portland, OR), Edison Elementary (Eugene, OR), Lipscomb Academy (Chattanooga, TN), and The Harley School (Rochester, NY). All of these schools have farm to table programs where they either grow food in their school gardens or partner with local farmers to source their produce. Each of these schools also composts, returning what wasn't eaten to the garden in the form of rich humus to help start the cycle of growing all over again.

As a school looking to become more sustainable, we need to look at lessons and projects that help us become healthy leaders who make fit-for-life choices.

We know GCCS does this well because of our annual KidFit 5K, our bike trains, and the whole school running program that we launched this year. Operation KidFit started as a project of the GCCS Class of 2008, which was studying childhood obesity and fitness opportunities for youth in Rochester. Kids ages 5-18 year olds can run our 5k (3.1 miles) for fun and exciting prizes. The "bike train" is an event where people meet up at a certain "station" and then they bike to school in the morning. Dozens of students have participated since we began these last year.

Since the beginning of this school year (2013-14), the 6th grade started to train for the 5k, so we ran around the block in our neighborhood. Once our teachers saw the positive changes in us after a run versus without a run, they shared that news with other teachers



and soon we had four classes running to warm up our bodies, hearts and minds before lessons began.

Some things we should keep working on are integrating fitness and nutrition into the curriculum, having locally grown food for school lunch, and have more outdoor learning. Some classes have tackled nutrition as part of expedition, but this is not part of the school wide curriculum. Outdoor learning is something we do, but if we spent more time outside learning about sustainability and wellness and the natural world, our school might sky rocket within the curriculum of sustainability!

A school that is practicing this well is Ivy Academy. They spend on average 80% of their day outdoors and their students often ride bikes to school. They also canoe, kayak, and hike as part of their PE curriculum. Each senior has to do a project related to sustainability and how to help a healthy earth and their school grounds.

An important aspect of a green school is programming that include fitness and recreation outdoors. This is something GCCS does well. We are an Outward Bound school. This means all grades experience outdoor activities that push us to do more than we thought we could. Our students hike, bike, and camp. Kindergarten and first graders first hike as part of their study of fossils at Penn Dixie Paleontological Center. The second and third grades participate in camping and hiking as part of their study of the founding of Rochester. Fourth and fifth grade classes hike and camp in Letchworth State Park as part of their Genesee River study.

The 6th grade has a retreat every year, usually in the Adirondack Mountains, where they have to hike, canoe, tackle a ropes course and camp. They



Operation KidFit 5K is now in its seventh year and the 2014 run featured 55 youth runners, the highest number yet. Sixth graders from GCCS host the race, open to all kids ages 5 – 18, with the intention of making physical activity a regular part of the day. Many GCCS alumni return to run and catch up with old friends, classmates and teachers.

Outdoor activity helps kids maintain a healthy weight, boosts their immunity and bone health and lowers stress.

- Let's Move!

have to hike three miles with backpacks that are really heavy! Other fun activities we have done at GCCS are playing ultimate Frisbee and going rock climbing – some classes even learned skateboarding!

Sixth grade also sponsors a 5K each year to promote fitness. In 2013, we were the first school in Rochester to start Bike Trains, as part of the Safe Routes to School program. We even have adults at our school who are great role models. Many of our teachers run in 5Ks, 10Ks, even marathons! Some teachers ride their bikes to work and each year the teachers go on a retreat where they sometimes have a ropes course, kayaking or even a white-water rafting trip!

GCCS should consider making our morning runs part of a more organized event. Some schools have 100 Mile Clubs for kids who walk or run one hundred miles as part of at-school fitness. We could even think of mini-retreats for younger kids to introduce them to Outward Bound adventure. Schools we visited that embrace outdoor adventure include Sunnyside Environmental School and Ivy Academy.

Green schools have clean air and natural lighting that doesn't result in absent students. Some evidence about GCCS' s healthy air and natural lighting we found were that we have a center skylight in our building that brightens our hallways. We also have recess on a daily basis, which helps kids get exercise and fresh air. In addition we use non-toxic, water-based paints on the walls of classrooms, offices and even the hallways. All classrooms have windows that open for fresh air and we have a no idle policy for school busses.

Yet GCCS still has room to improve. One way is changing the air quality in our building. We could make sure air filters are changed on a regular basis to trap dust and allergens. We should buy and grow plants such as, snake and spider houseplants that help make the air cleaner. Although cleaning products are a big part of making our school more sustainable, *New York State Green Cleaning Law* requires schools to use environmentally sensitive cleaning and maintenance products.

Besides this we could also try to add motion activated switches to all of the classroom lights. This will help because we will reduce our use of energy and we won't have to remember to turn off the lights.

GCCS could also learn how other schools contribute to sustainability in their everyday lives. One school we should borrow from is Denver Green School (DGS) in Denver, Colorado. DGS has all natural lighting in their building. Something in particular that they use are skylight tubes that link the roof to the classroom to transfer natural lighting and

GCCS by the Numbers

50%

of GCCS families report their children play outside for at least 45 minutes each day.

- GCCS Family Sustainability Survey, May 2014

heat. In the other rooms of the school they have motion-activated lights so they try to reduce the energy they use.

At GCCS we try to support great connections between individuals that will help them to become a better classmates and friends. We do this by solving social problems before they escalate to something that they should never be. In our 4th grade year we did activities that will help us trust each other like doing individual trust falls and

**Earth does
not belong
to us; we
belong to
the earth.**

**- Chief
Seattle**



tight rope walking. We also do activities that require us to finish successfully as a crew. Another way we support great connections is by following the Design Principles and character traits that guide and teach us what's important as we work and play together. One of the specific Design Principles is the Collaboration and Competition – we work together and compete against ourselves.

There are still areas we can improve on with this core practice even though we have a lot to show for it. We could start a green team and work with someone from different grades that we don't know very well and don't really talk to. This would help us to get to know what's inside a person instead of guessing what they're really like. We could serve as green ambassadors to younger classes and show them how to work together and solve problems.

One school that does this well is Spencer Butte Middle School in Eugene, Oregon. They have a green team, which gives them a chance to develop their leadership skills by working together in jobs that are related to being sustainable. The rest of the school looks up to the students who are on the green teams.

Another example for our school is Codman Academy. They have a club called C-CAN (Codman Action Climate Network), which is a sustainability-based club that allows the students to have say on what sustainable things should go into the new building for the school. They also help plan sustainable events for the school, like tap water taste tests, hazardous waste collection and recycling and an energy awareness film festival.

Case Study:

Ivy Academy

Chattanooga, TN



Ivy Academy students work in outdoor learning environments on a daily basis.

Ivy Academy is a great exemplar for our school because they have many academic and recreational sustainable practices. They advertise that their back to school list has just three items: pen, notebook and hiking shoes. One great example of their commitment to getting kids outside is their outdoor classroom. Actually, they spend most of their day outdoors, so the nearby creek, hills and woods are their classroom. They have fitness through hiking and canoeing and often have overnight fieldwork.

They also sponsor a 5K only theirs is called Running With Sasquatch, a 5K Trail Run/ Hike. They also had a bike to school day and are in the process of expanding their school. Each graduating senior has a project

that they create and one of them was a soda bottle greenhouse. Another one of their senior projects is to test the air quality on the school grounds. They test to see what level of danger the air was on. Some of these levels were healthy, hazardous, and physically dangerous but luckily the air almost never dropped to anything less than healthy.

During school hours they have a green team that participates in creating raised beds and planting flowers with their composted soil. This helps the school because the vegetables that grow in the gardens, the students can eat. The green team also has the responsibility of telling the other students what to put in the compost bins. In their lunch cafeteria their plastic lunch containers are reusable, recyclable, and compostable.

They also only have a microwave instead of an oven to reduce their electricity throughout the school year.

“Stop mowing, start growing!”

- Ansley Eichorn,
Garden Programmer,
Ivy Academy

Core Practice Four Summary



Taking Stock



Healthy eating programs that utilize locally sourced and whole foods.



Curriculum and support for physical fitness and healthy lifestyle choices.



Fitness and recreation programs that include lifetime outdoor activities such as walking, hiking, biking, skiing, and camping.



Healthy air quality practices and lighting that reduce illness and absenteeism.



Healthy and thoughtful relationships with others that support character development.

Next Steps

- ✓ Build the bike rack proposed by the Class of 2013 and continue bike trains.
- ✓ Add bicycling to the PE curriculum for grades 4-6.
- ✓ Expand morning run/ walk program to all grades (and modify routes for K-1 classes) and start a 100 Mile Club for kids who participate in our run/ walk program.
- ✓ Expand our playground to include a climbable, “adventure” playscape (low rock wall, boulders, etc.).

Core Practice Five

Strong Partnerships and Networks

Green schools develop partnerships for the long term to help the school change and to help the school change the community. Genesee Community Charter School has many partnerships with organizations and people around the community. We have partnered with Expeditionary Learning, Green Schools National Network, ROC Bike Week, and the Rochester Museum and Science Center. Another thing we do well at Genesee Community Charter School is we host events and we let the citizens of Rochester attend. An example is the Operation Kid Fit 5K. Anyone from the school community and Rochester community is invited to run it. Our Compost Carnival is an example of community events because everyone was invited to come and learn about the benefits of recycling food waste.



This school could improve on their partnerships with others, especially schools. Partnering with schools could bring us new ways to expand our curriculum. For example, The Harley School is a local green school we work with. We could learn how other schools are teaching their students, what methods are working, and which ones are not. We should develop a partnership with World of Inquiry because as an Expeditionary Learning school, we could create a strong sustainable alliance. There are many other schools we might be able to create a strong partnership with, not only in New York, but also in other states across the country.

We could learn from many others.

For example, the University of Colorado at Boulder has many long-term partners. They also promote healthy lifestyles and green practices. For example, they have zero-waste football games to help raise awareness for recycling and composting. A way they encourage being sustainable is they invest in lights that make people healthier and help the air quality. The teachers teach about sustainability in their classes. The University of Colorado isn't the only ones teaching about sustainability. A youth camp in Boston is taught about how to make their lives greener. All of these places are exemplars that we should follow.

This core practice means working with groups of culturally diverse people to encourage sustainability. We do not do well with this since we are new to sustainability and the few sustainability related partnerships we have are not strong. We need to reach out to diverse groups to be more ecofriendly. Rochester is working to make different parts of the city more sustainable. Sawdey Way is Rochester's first "green street" located in the 19th Ward. This part of our city is not wealthy but is showcases rain gardens and porous concrete streets and porous concrete sidewalks to reduce storm water runoff into the sewer pipes.

Our RMSC campus is going to be installing porous concrete in their parking lot and adding rain gardens near the East Ave. entrance. There are many local community gardens that are for diverse neighborhoods. One organization we met with was Seedfolks. Seedfolks is an organization

devoted to urban agriculture and teaching youth about the green economy. This means learning about jobs in sustainability. They want to establish a hydroponics/aquaponics venue to show people how to grow our own food.

An example of an organization that is using sustainability is Codman Academy, in Boston, MA. The Codman Square Health Center hosts the school in their building. They share common spaces and are a green building. They are partnering with the local community to create a garden, too. Earth Force in Denver, CO, BRING in Eugene, OR, and Urban Green Lab in Nashville, TN, are examples of groups working with diverse communities to re-use construction materials and offer workshops in sustainability to the public.

As a school, we could work with other groups in our city to help share what we learned and help make more schools and community centers sustainable.

An important part of becoming a more sustainable school is to participate in the development of state and national green school networks. There are several organizations in the United States that help schools develop more sustainable practices.

GCCS does participate in accessing green school networks. We are members of the Green School National Network. They are an organization that helps to support the collaboration and integration of a green and healthy school culture. They are a resource to both students and teachers alike. They do this to make sure the teachers know what their doing. This organization provided our sixth grade class with Core Practices, which we've used as a guide to writing our own Greenprint.

The 6th grade class at GCCS has also contacted



The Harley School (Rochester, NY) recently opened The Commons, a sustainable, “living” building that is home to a greenhouse, maker space, and other shared use spaces. It uses solar and geothermal energy as well as LED lighting to minimize the school’s carbon footprint. We should work closely with schools like Harley as we develop our own green mindset.

Over 200 schools have been awarded the U.S. Department of Education’s Green Ribbon School status, including several Expeditionary Learning Schools.

- U.S. Dept. of Education

The 6th grade class at GCCS has also contacted and collaborated with other green schools, both in Rochester and other cities. For example on our 4 cities trip our groups all visited and met with representatives at green schools in those cities. This includes schools in Denver, Boulder, Chattanooga, Nashville, Boston, Cambridge, Portland and Eugene. We have also reached out to green schools in the Rochester area and visited The Commons, the Harley School's "living building" that features multiple programs and projects, like the Environmental Leadership Collaborative.

Even though GCCS is connected with the Green School National Network, we need to prove why we're listed as a nationally recognized green school. We should be on the list because we are really trying to become a greener school. We're even making our own Greenprint. We recycle school-wide and we compost on a limited level, and we would like to expand to the whole school. We embrace being an Outward Bound school, and all grades spend a lot of time outside doing activities and field studies. We believe that we could even become a mentor and resource to other schools in the Rochester area.

How do the teachers and school figure out how kids learn about the environment and what they know? Here at GCCS we are an expeditionary learning school.

That means we learn differently than traditional public schools. Our twelve-week long expeditions focus on learning specific topics in depth through hands on research. This often requires us to get out in our environment. At the end of each expedition, students' learning are assessed or evaluated in a variety of ways.

One of the things GCCS does well, is many of our expeditions either connect with the environment, or require students to get out in to the natural world. For example, the 6th grade class has learned about the science of composting and its benefits. Another example is, in 5th grade there was an expedition that focused on the over use of plastic bags. This required researching and getting out and visiting a landfill. We had to share our findings with a public audience and experts in the field. Earlier in the year the P.E curriculum for 6th grade was about preparing for a 5k race. We found it was helpful to our attention and learning in class. Soon we found other grade levels joining us on the group runs.

While GCCS does some things well, there are recommendations we can make to improve how and what kids learn about the environment and its connection to our world. We should also learn more from local and national networks and maybe attend a green schools conference to learn as much as we can about what works.

An exemplar model is an organization in Denver, Colorado called Earth Force. They teach schools

about environmental issues and how to take action to resolve them. They give an opportunity to design the world people want to live in. Earth Force nurtures communities where students, parents, teachers, administrators and community members see commitment in real community problem solving as an important part of education and

GCCS by the Numbers

77%

of GCCS families surveyed would be willing to help establish and nurture community partnerships.

- GCCS Family Sustainability Survey, May 2014

community involvement.

This part of the core practice means working with organizations that create lessons, projects and tests to see if we understand what sustainability means.

In our school we do include sustainability and during every loop we have one sustainability expedition. In K-1, it's how to keep the environment safe for every living thing; in grades 2-3, it's the human effects on world biomes; and in 4th-5th grade it's human impact on the local natural world. In sixth grade it's studying issues of economics, local environment, and

"The choice we face is not between saving the environment and saving our economy. The choice we face is between prosperity and decline."

- U.S. President Barack Obama



urban development. We often share the final work with the public including posting our work online.

We have not adopted a curriculum from another organization. We do have partnerships with the RMSC and Expeditionary Learning. Another organization we are a part of is the Green Schools National Network. They consider us to be a “green” school in their network, but we are not the same shade of green as other schools in the network. We should build partnerships with some of these other green schools.

Another organization we should partner with is The Cloud Institute. They offer a Summer Design Studio for teachers to learn about Education for Sustainability (EfS) and their curriculum, standards and assessment tools. EfS is used by the Denver Green School.

In Eugene, OR, we met with Partnership for Sustainable Schools. They help local schools develop programs and assess (or test) their effectiveness in sustainable education. They help schools create green teams, gardens, and green classes. At Spencer Butte Middle School, we met with their green team and learned about their gardening program, which is connected to their fundraising efforts.

We recommend that GCCS teachers go to the Cloud Institute to learn about their EfS program and start our own network of green schools in Rochester. Hopefully, people will start coming to us to join our network and become partners with us.

Case Study:

Earth Force

Denver, CO



“We envision a nation where young people from all walks of life are actively making positive change to the environment and their schools, in their neighborhoods, and in partnership with their communities.”

This is Earth Force’s vision. Earth Force is a non-profit organization that resides in Denver, Colorado. They reach out to the citizens of the community and help them solve environmental issues. They have a specific process to help people make their communities more sustainable.

This process consists of six steps: first, identify all the problems in the community; second, select an issue to work on; third, do research on the topic; fourth, make a plan of action; fifth, put your plan into action and try to make a change; the final step is reflecting on your work and assessing

yourself.

This process is effective and useful in many situations. Earth Force partners with people to make environmental change in the community, one step at a time. Partnerships are important because it gives you the opportunity to explore new ways of learning.

They also offer professional development for teachers who want to make their schools more sustainable and connect them with other schools trying to change.

“Green is more than recycling – it’s changing your priorities and changing your mindset.”

- Josh Frankel, Partners for Sustainable Schools

Core Practice Five Summary



Taking Stock

- ↔ Long-term partnerships that support systemic change and ecological balance within the school and community.
- ↓ Strong alliances among groups of diverse cultural heritage to promote the greening of schools in all communities.
- ↔ Participation in the development of state and national green school networks.
- ↓ Participation in research and evaluation of student learning and best green school practices.
- ↔ Collaboration with research-based curriculum and assessment models.

Next Steps

- ✓ Establish long-term partnerships with local and national organizations that support sustainability.
- ✓ Send GCCS teachers to workshops to learn how to create a more sustainability-focused curriculum.
- ✓ Learn how to write grants and raise money to help support our sustainability programs.
- ✓ Work with local schools to create a local Green Schools Network.

Conclusion

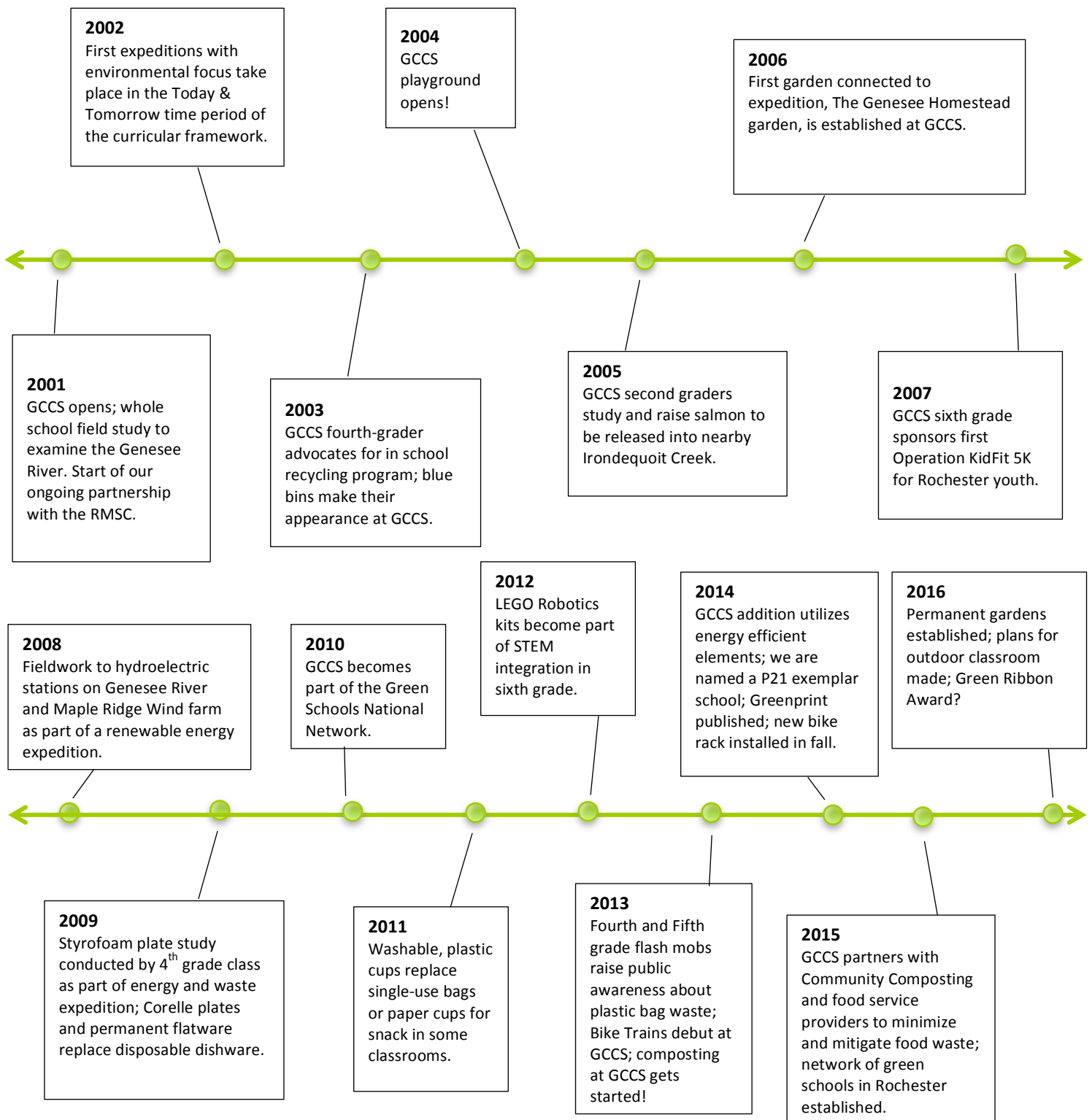
We have spent months learning about sustainability and making plans to support the changes our school needs to make. We hope this plan is used in later years to make our world better. We need to support future classes and when we say “we,” we mean **everyone** at our school – teachers, parents, kids, grandparents, and future generations to come. Everyone has a part to play in this endeavor, no matter how big or small an effort! The GCCS Class of 2015 will be responsible next year for carrying forward the message of sustainability. But it doesn’t stop there.

Next year's kindergarten class will be able to see the transformation of this school during their time at GCCS. By transformation we really mean the metamorphosis of our school in terms of sustainability and “greenness.” Theirs is the class that will have never known a school without a composting program. Theirs is the class that will have never known a school without a Green Team. Theirs is the class that will see permanent gardens, an outdoor classroom and hopefully a network of green schools throughout the county working together to promote sustainability. Theirs is the class that will see the Green Ribbon Award displayed proudly in our hallways.

We need everyone on board to make these amazing things happen and we need to support the whole community not just here at GCCS, but at other schools and in communities that are less fortunate than we are. We offer you a challenge; after reading this Greenprint, reflect on your own personal practices and commit to changing one thing for the sake of our planet. We all need your help to save the earth and we know you can only do it with the help of others.



Fifteen Years of Sustainability at GCCS



Acknowledgements

We are grateful for all of the experts we worked with over the course of our year of exploring sustainability. A great big thank you to Steven Kraft from Community Composting who guided our journey through the waste stream and got us thinking about compost on a whole new level. We would also like to thank the sustainability experts, schools and students we met with during our Four Cities trips to Denver and Boulder, CO, Boston and Cambridge, MA, Nashville and Chattanooga, TN, and Eugene and Portland, OR. We were impressed by the efforts of educators and students to create green schools. We are even more inspired to make GCCS a greener place.

Thanks also to local sustainability expert Chris Hartman and the teachers and students at The Harley School for sharing their groundbreaking work. We look forward to future exchanges of ideas with them.

Thank you, also, to our sixth grade families who served as chaperons, volunteers, fundraisers and sustainability cheerleaders during our work this year.

Finally, a special thanks to our class mascot, Bucket, who represents our school's first steps toward adopting a greener mindset. We estimate that Bucket has helped transport and redirect almost 500 pounds of food waste this year!

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It's About the Work!

The creation of the Greenprint was inspired by the work of students at two other Expeditionary Learning Schools, Springfield Renaissance School in Springfield, MA, and Capital City Charter School in Washington, D.C. Both classes were studying ways to make their schools, districts or communities more sustainable places. Together with the Core Practices of the Green Schools National Network, we decided to try our own hand at a Greenprint.

Students became experts in a specific Core Practice and its descriptors and connected their research and analysis to this work. Through numerous peer and teacher feedback sessions, students incorporated perspective and voice in their work. Students also helped in the research of quotes, images and survey facts that can be found in this Greenprint. Teachers did the desktop publishing and worked with a crew of student editors to make sure the final product preserved student voice and choice.

We welcome your feedback and hope we inspire another group of students to take on the transformative project of drafting of Greenprint for their school.

Photo Credits

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