Sustainability in the Curricula: School as a Teaching Tool

[School]'s Sustainability Statement

[School] school community values practices that are environmentally sound, economically viable and socially equitable. The school strives to educate and empower each member of its community, now and in future generations, with the knowledge and motivation to make daily decisions that support sustainability.

Enough for all forever…

Design Strategies at [School]	**Kindergarten: Coursework Description and Timeframe**	**Standards and Sustainability Concept(s)**
• Waste management: recycling and composting (Xpress – cafeteria composter) • Natural lighting • Water conservation (e.g. low-flow toilets and sensors on faucets) • Natural cycles and systems	• Each classroom has either a "Green Agent" or room checker whose job is to take care of the recycling. Each class has a lesson at the beginning of the year about how to use the recycling bins, and they continue to discuss recyclables and compostables (bins in their rooms) throughout the year. They bring their compost to the cafeteria. Reuse of materials is a classroom practice, especially when it comes to art projects and choice time. Students even bring in items from home to reuse for projects (Yearlong). • Starting in 2011, the nutrition unit in science will include more of a focus on overall health. They will take a tour around campus to look at the "healthy" aspects of campus and the Commons Building (e.g. food, plants, natural lighting, water conservation and waste management). They will also tie this study into the 5-A-Day Challenge. In order to help the students adopt some of our campus' "healthy" routines, the science class will also incorporate a mini-unit about recycling and why it is a healthy habit. This will compliment their work in homerooms (Fall). • Service Learning: Kindergarten students collect plastic bottle caps to recycle at Aveda. The plastic bottle caps are made of a hard plastic and cannot be recycled in most recycling programs. Aveda recycles the caps and produces products for their salons. In science, kindergarteners study ocean life; they look at food chains and how waste, like plastic bags and bottle caps, impacts animals and the entire cycle. They learn that keeping the oceans clean is vital	• Environment: Standards 4, 5, 6 and 7 -*General:* 10 hours (15 min a week) -***Lesson:*** **1 hour** • Environment: Standards 6 and 7 -***Nutrition:*** **2 hours** (4 lessons of 30 min) -***Recycling:*** **1 hour** • Environment and Equity: Standards 1, 2, 4, 5, 6 and 7 -***Oceans:*** **6 hours** (10 lessons of 30 min. and one fieldtrip) -*Aveda*: 5.5 hours (Prep-30 min; Visit - 1 hour; Boxes and signs

	to the health of all ocean creatures and the water our planet depends on for survival. There are two common forms of plastic pollution that endanger ocean animals: plastic six-pack holders (the kind used for beverages) and plastic bottle caps. Sea turtles in particular think that these items are edible. Kindergarteners realize that one way to protect sea turtles is to keep this plastic out of the oceans and all the natural water sources that lead to the oceans. In addition to studying ocean life in science class, students hear an eyewitness account of a sea turtle building her nest and laying her eggs. The descriptive poetry of the story and images help compel the students to "save the sea turtles" (Spring).	for collection - 30 min; Delivery and presentation to classes - 30 min; Collect and count - 2 hours; Delivery to Aveda - 1 hour)
	• Students begin to learn about currency by identifying coins. They discuss how some people have more money than others. They then participate in Penny Harvest to raise money for those less fortunate than them (Fall).	• Economy and Equity: Standards 6 and 7 -*Wheel of Caring*: 1 hour -*Counting pennies:* 45 min
	• In science, students study the habitat of prairie dogs, a local mammal. They look at the role prairie dogs play and destruction of their habitat. Students take a fieldtrip to Prairie Dog Town to see the prairie dogs in their habitat (Spring).	• Environment: Standards 1, 4, 6 and 7 -5 hours (8 lessons and fieldtrip)
	• Gardening: Students work in their garden on campus, planting seeds, and caring for the seedlings. They also discuss the concept of organic vs. non-organic foods. This connects to the food they eat in the cafeteria (Spring).	• Environment: Standards 1, 2, 4, 5, 6 and 7 **-3 hours** (6 lessons) **<u>Total Hours of Sustainability Education per Student per Year</u>** ***Direct Link to Campus Features: 13 hours*** ***General Sustainability: 22 hours***

Design Strategies at [School]	**First Grade: Coursework Description and Timeframe**	**Standards and Sustainability Concept(s)**
• Resource consumption, conservation and management • Nutrition: look at the food provided in the cafeteria • Local procurement	• In order to limit ordering extra materials, the team carefully assesses needs and shares materials (Summer). • As a grade they focus on conservation rules in the classroom by actively promoting recycling and reusing scrap paper. During snack, students take also compostables over to the cafeteria. Conservation also carries over into The Home Unit, which focuses on peoples' needs versus their wants and how homes vary around the world. They look at countries like Canada and Mexico and discuss how needs and resources vary depending upon one's location. Students build and design a home using recycled materials (Yearlong). • Recycled Notepads: This project is a way to make students more conscious of their paper consumption. By learning about the number of inches of paper that corresponds with the inches of a tree, they keep track of how many inches of a tree they save. Additionally, the team tries to keep in mind how much paper they all use (i.e. teachers and students) OR • Coloring Books for VOA (Volunteers of America): Students make coloring books to give to children staying at the [Name] Motel. They learn about the seasons in Spanish, write sentences about the seasons and illustrate them. They create packets with the coloring books and crayons. These are presented to the sixth graders who take them to the [Name] Motel (Winter/Spring). • Read to Feed: Students learn about homelessness, at a first grade level, looking at their own perceptions of the social problem. They read books and discuss why it is important to help others. This project connects with the sixth grade's service project and study of homelessness. Students graph the number of cans they earn for their reading and how many people the cans can feed. This also ties into their Home Unit (Spring). • In science, they study a beaver's habitat, build their own and look at the resources used. They discuss how the beaver is an engineer who shapes its environment. They focus on the concept of change (Fall). They then study bird	• Economy and Environment • Economy, Equity and Environment: Standards 5, 6 and 7 -***Initial Lesson:*** **1 hour** - *General:* 10 Hours (15 min a week) - ***Home Unit*****: 2 hours** • Economy and Environment: Standards 5, 6 and 7 -**5 hours** • Economy and Environment: Standards 5, 6 and 7 - 3.5 hours • Economy, Environment and Equity: Standards 1, 4, 5, 6 and 7 - 5 hours • Environment: Standards 1, 2, 3, 4, 5, 6 and 7 -***Beaver:*** **7.5 hours** (10 lessons)

	habitats and visit the zoo birdhouse. They explore the impact of pollution on the various habitats (Fall/Winter). Finally, they look at the water cycle and discuss conservation (Spring).	-***Birds:*** **3.75 hours** (12 lessons) -***Water:*** **3.75 hours** (5 lessons)
	• During Earth Week, students discuss what they can do to keep the Earth healthy (e.g. recycling, composting and conserving resources) (Spring).	• Environment: Standards 5, 6 and 7 **-2 hours**
	• First graders attend presentations by their fifth grade buddies to learn about endangered animals. This both builds community and ties into the fifth grade service project at the zoo, where they present to the public about specific endangered animals (Spring).	• Environment: Standards 6 and 7 - 30 min
	• In science, students study nutrition and they link this to The 5-A-Day Challenge. The full team encourages participation in this event. Starting in fall 2011, students will learn more about nutrition in our cafeteria. They will plan a tour to one of the local vendors (Spring). The unit will include the following: - Sodexo utilizes local vendors and produce when available (goal is to purchase 50% of items from local sources). - Bread and Pastries: We utilize a local bakery for special items and pastries, and although our bakery in a national vendor, the bread plant is local - Dairy: Milk is from a local diary. - Produce: [Name] and [Name] utilize local produce when available. - Groceries: Most are national vendors due to liability. - Fresh/Organic Items: Purchased from local vendor.	• Economy and Environment: Standards 6 and 7 -**7 hours** (8 lessons and field trip to local vendors)
		<u>Total Hours of Sustainability Education per Student per Year</u> ***Direct Link to Campus Features: 32 hours*** ***General Sustainability: 10.5 hours***

Design Strategies at [School]	**<u>Second Grade</u>: Coursework Description and Timeframe**	**Standards and Sustainability Concept(s)***
• Campus recycling and reducing paper consumption • Nutrition: food served in the cafeteria •Waste reduction in the cafeteria • Look at the masticator/Xpress	• Class culture: daily reminders and conversations about the recycling. Shifting to project based online work instead of using more paper. They use Smartboards regularly instead of paper handouts. Starting in fall 2011, they will use Wixie (online assignments and postings similar to Moodle for MS students) more often and create an electronic portfolio (Yearlong). • In science and their homeroom classrooms, students will learn about the general differences between reusing, recycling, composting and landfill. They will connect this to the practices in their classroom and on campus, and how these practices relate to their theme of being Agents of Change. They will learn about the cafeteria and how it limits waste by reusing dishes and cutlery, using the Xpress and Waste Farmers to composting everything else, including milk cartons, and reducing food waste by eliminating trays. Additionally, they will talk about how waste was managed during the construction of the cafeteria: 64% of the materials were recycled. There was a total of 976 tons of waste that was generated from demolishing the existing building. Out of those 976 tons we were able to recycle 627 tons (concrete- 581 tons and steel- 46 tons) or approximately 64% of the waste. The other 349 tons of waste could not be recycled due to contamination from asbestos in the building materials. All of these lessons will be revisited in the spring during their POP Day (Protecting Our Planet) (Fall). • The team's theme is Agents of Change: What can we do to make a difference in our world? They use the Peace Jam Curriculum, in which they study people from different cultures (e.g. Dali Lama). Since many of the agents came from impoverished backgrounds, they tie this study into their service project. In Spanish class, they learn about hospitals around the world and the care that can be given depending on resources. On a local level, the team partners with Children's Hospital on two projects for the children in their care: making blankets and recording a book on a CD (both will be given to the children) (Yearlong). • Students participate in Penny Harvest. There is a lesson around causes they would like their money to go towards. They look at problems within the community that they would like to see changed. This connects to the Lower	• Environment: Standards 4, 6 and 7 -10 hours (15 min per week) • Environment and Economy: Standards 1, 2, 6 and 7 -**5 hours** (5 classes, 1 hour each) • Economy and Equity: Standards 2, 4, 6 and 7 -20 hours • Economy and Equity: Standard 6 and 7 -1 hour

	School's "Wheel of Caring," from which each class picks a cause (Fall).	
	• In science, students learn about trees and they look at everything from paper to rainforests. They learn about what happens to rainforests (e.g. raising cattle and destroying the forests). While they do not dwell on the terrible destruction, they look at the various perspectives on this topic, including the rights of the locals. Students then complete a home survey, checking off items that either come directly from the rainforests or did at one time. They then create a graph from the data in order to look at their impact on the rainforest (Fall).	• Economy, Environment and Equity: Standards 1, 2, 3, 4, 5, 6 and 7 - **12 hours** (12 lessons of 1 hour each)
	• In science, starting in spring 2011, students will collaborate with the Seed-to-Table School Garden Program (offshoot of Slow Food) to plant a vegetable garden. The garden will serve as a learning tool to help students identify, taste and know fresh produce and how we get it. It gives insight into the seed germination process, soil structure and fertility, erosion, composting and nutrition. Depending on the amount of produce harvested in the fall, items will be served in the cafeteria and any excess will be donated to local food banks (Spring/Fall).	• Environment and Equity: Standards 1, 2, 3, 4, 5, 6 and 7 - **8 hours** (8 classes, 1 hour)
	• Starting in fall 2011, they will help out at the annual fall assembly about composting and recycling (collaboration with Waste Farmers) (Spring).	• Environment: Standards 3 and 4 **-2 hours** **<u>Total Hours of Sustainability Education per Student per Year</u>** ***Direct Link to Campus Features: 27 hours*** ***General Sustainability: 31 hours***

Design Strategies at [School]	**<u>Third Grade</u>: Coursework Description and Timeframe**	**Standards and Sustainability Concept(s)***
• Reused roof tiles on the new Commons Building • Plants on campus • Historical artwork and features on campus • Food and nutrition	• Each class has one student in charge of recycling. In addition, one teacher has "Search Team" as a daily job, and students look for trash and recyclable items on campus (Yearlong). • During choice time, several classes do art projects that are made using recycled materials (Yearlong). • During their life science study, students focus on endangered species, pond life and the food chain. While working in the Butterfly Garden, they discuss the differences between organic and non-organic foods and products. Also, they look at native species and pesticides (Fall/Winter). • Service Project: Plains Conservation Center 1) Pull noxious weeds and attend a presentation (Fall); 2) Clean up the school house, the manure bin and hall wood or make mulch (Winter); 3) Make pots out of newspaper, plant heirloom seeds, care for them 6-8 weeks at school and then plant them(Spring). • While studying [State] history (starting in 2011), students will look at the history on campus, including the roof tiles on the Commons Building, murals in the Lower School and Middle School, and "G"s given by the Hirschfield Printing Press. Optional trip downtown (e.g. meet the State Architect, and a community member who is working on restoration). They will develop a connection with parent who works for The [State] History Museum (Spring). • Students care for individual plants in their classroom as a link to *Because of Winn Dixie* (depending on class section Fall or Spring). Families are invited to an optional weekend planting event in the Spring at the Conservation Center.	• Environment: Standards 4, 5 and 6 - 10 hours (15 min. a week for all) • Environment: Standards 4 and 6 -15 min a week • Environment: Standards 1, 2, 5, 6 and 7 -*Endangered species*: 13 hours (13 lessons) -*Pond life*: 6 hours (5 lessons and a field trip) -***Butterfly garden*: 1 hour** • Environment: Standards 1, 2, 3, 4, 5, 6 and 7 - 2 hours (1 hour for each visit) - 2 hours planting • Standard 6 -**3 hours** (includes a 1 hour fieldtrip) • Environment: Standards 2, 5, 6 and 7 - Approx. **9 hours** (15 min a day for 6-8 weeks)

		<u>Total Hours of Sustainability Education per Student per Year</u> ***Direct Link to Campus Features: 13 hours*** ***General Sustainability: 33 hours***
Design Strategies at [School]	**<u>Fourth Grade</u>: Coursework Description and Timeframe**	**Standards and Sustainability Concept(s)***
• Water: efficiency, cycles, conservation and pollution • Reducing impact: renewable energy, biking and conservation practices	• As a team they value recycling, and it is one of the students' weekly jobs (Yearlong). • Special Buddies/Unified Neighborhoods: Their Service Learning project is working with their Unified Neighborhood buddies. These buddies attend four different [City] Public Schools and are in Special Education classes. Each [School] student is paired with a buddy. Fourth graders discuss that these buddies have different needs rather than "special needs." They emphasize respect, filtering what you say and learning how to act and confront others who are different from them. Students also learn about themselves as learners to help them understand the many differences people have. They get together three or four times a year alternate between going to their buddies' schools and having their buddies come to [School]. The students write back and forth on the holidays. The team sees this relationship as an exercise in self-awareness and needing to set aside egos (e.g. if the buddies don't acknowledge them it's not about the [School] students). The culminating event is in May, the Special Olympics, where buddies compete together. This is a major event, and all [School] students attend the opening ceremony (Yearlong). • The team has a banking program: Students receive bank accounts and they get paid for their weekly jobs. They can also earn/lose money based on poor or wise choices. They have checkbooks and deposit slips (Yearlong).	• Environment: Standards 5 and 6 -10 hours (15 min. a week) • Equity: Standards 4, 5, 6 and 7 -20 hours • Economy: Standards 5 and 6 -20 hours

	• They engage in a mapping unit, which connects to their bike hike (i.e. a combination of bonding, science and art). The bike hike (September) is a 15-mile excursion that highlights appreciation for this form of transportation and the skills to bike safely. In preparation, the team focuses on traffic and biking safety. During their trip, they see many aspects of [City] (e.g. homelessness and historical sites). They bring in speakers about bike maintenance (Fall).	• Environment and Equity: Standards 1, 2, 4, 5, 6 and 7 -18 hours
	• In science, they study water and go to [Name] Creek. Students learn about wastewater and how water recycles itself. They look at polluted vs. clean water. They look at the pathway of water, the watershed (e.g. that it would actually go from the [Name] River all the way to the [Name] and then to the Gulf of Mexico). They look at the different ways that water is used and that it is not unlimited, and therefore conservation is important. They also conduct a home study. Starting in fall 2011, students will look at the water efficient features in the buildings, which will provide a foundation for the more specific study in seventh grade (Fall).	• Environment: Standards 1, 2, 3, 4, 5, 6 and 7 - **12 hours** (12 classes)
	• In science, they study energy. They look at the sources of power and energy on earth. They explore coal, fossil fuels and renewable energy (e.g. wind, solar, geothermal and hydro-electric). They go out on field trips related to these energy sources (Spring).	• Environment: Standards 1, 2, 4, 5, 6 and 7 - **8 hours** (8 lessons) **<u>Total Hours of Sustainability Education per Student per Year</u>** ***Direct Link to Campus Features: 20 hours*** ***General Sustainability: 68 hours***

Design Strategies at [School]	Fifth Grade: Coursework Description and Timeframe	Standards and Sustainability Concept(s)*
• Energy efficiency in homes • Resource conservation	• The team is aware of the materials they order. They want all students to have the same materials and resources. They are working towards providing students with all materials so the families do not have to buy them. They hope to reduce the financial burden that some families experience. They also strive for more communal supplies (Summer).	• Economy, Environment and Equity
	• At the beginning of the year, the team places tremendous emphasis on setting a tone: everyone is equal and they need to take care of each other. They use expressions like "clean slate" and "clean up spilled milk" to accomplish their goal of caring and responsibility. This is a major focus for their [Location] Trip in the fall (Yearlong).	• Equity: Standard 6 - 5 hours
	• For their Service Learning project, students work with the [City] Zoo. They balance learning about the zoo, helping maintain the property and teaching others about the zoo itself. Much of the education relates to the sustainability of the environment. In the spring, students take on the role of teaching the public about the endangered species. Students develop presentations and displays that teach the public about the unique characteristics of these animals and the specific reasons they are engendered (e.g. deforestation, poaching, etc.). They practice first with their buddies before presenting to the public on Earth Day (Yearlong).	• Economy, Environment, Equity: Standards 1, 2, 3, 4, 5, 6 and 7 - 25 hours (monthly trips to the zoo)
	• As a team, their philosophy is to only buy what they need. For example, on their [Location] trip, they create their own Initiatives (i.e. team building games) so they do not need to rely on purchasing others. This saves a significant amount of money. During that trip, they also take a long hike where they learn about sustainability and the environment (Fall).	• Economy and Environment: Standards 5, 6 and 7
	• In English, while reading the *City of Ember* they discuss living underground and how that impacts the resources available to the characters (Fall/Winter).	• Environment: Standard 1, 5 and 6 - 2 hours
	• In science, starting in 2011, students will study energy efficiency, which will provide a foundation for and link to the sixth grade study of energy efficient communities. They will extend the existing unit on structural engineering	• Economy and Environment: Standards 1, 2, 3, 4, 5, 6 and 7 - **20 hours**

	(Crush Towers) to include the study of energy efficient home construction. This will include such elements as the foundation, framing, plumbing, electrical, roofing, etc. A major emphasis will be placed on practices and materials that employ efficiency, conservation, and sustainability. This may include such elements as water conservation, insulation and heat retention, roof design, the use of window placement and solar properties, etc. Students will conduct a home audit and then monitor and graph fluctuations in energy use due to changes in both the seasons and in personal habits. Original blueprints and floor plans will be analyzed in class to help inform the design of students' plans. After learning about structural design and framing techniques, students will use balsa wood to frame a scale model of a wall, including a door and two windows (Winter).	**<u>Total Hours of Sustainability Education per Student per Year</u>** ***Direct Link to Campus Features: 20 hours*** ***General Sustainability: 32 hours***
Design Strategies at [School]	**<u>Sixth Grade</u>: Coursework Description and Timeframe**	**Standards and Sustainability Concept(s)***
• Energy of food • Energy efficiency: designing sustainable communities • Systems thinking • Conservation of resources	• The team is committed to reinforcing recycling and composting. As issues arise, the team addresses needs (e.g. a composting and recycling lesson as needed). They promote reusing materials (e.g. paper) and use online assessments whenever possible (e.g. GoogleDocs and Moodle) (Yearlong). • The Service Learning project is about understanding homelessness. Once a week, students serve lunch at a local soup kitchen. After the New Year, students take fieldtrips (e.g. VOA's Motel and [Name] Youth Center) to learn more about the services available for the homeless and near homeless. Local experts are invited in to work with the students (e.g. the Project Manager of [City]'s Road Home). Students read novels and conduct research to learn more about this topic. They demonstrate their learning by writing newspapers to educate the community about homelessness (Yearlong).	• Environment: Standards 4, 5 and 6 • Economy and Equity: Standards 1, 2, 3, 4, 5, 6 and 7 - 20 hours (5 trips per student, 1 hour presentation, 4 lessons about homelessness, 6 research periods)

	• In science, students design a community that takes into consideration energy production, transportation, business and waste management. They look at the infrastructure needed to make it as efficient in using energy, materials and water (Fall). Points from the Commons Building that will be addressed: - Energy Efficiency: Insulated glass and evaporative cooling - Energy and Atmosphere: Everything on the envelope of the building contributes to this category. R-value of wall systems as well as U-vale (the inverse of R and used for windows). The purchasing of Green Power (e.g. solar, wind, etc.) credits from [Utility company] as part of the Green Power credit. - The majority of the glass in the building is oriented to the South, which allows the winter sun, at a low angle, to warm the space. The large overhangs shade the building in the summer when the sun is at a high angle. The skylight allows for natural daylight in the classrooms below.	• Economy and Environment: Standards 1, 2, 3, 4, 5, 6 and 7 -**15 hours**
	• In history, students study urban sprawl and look at North America cities and how they address urban sprawl (e.g. transportation, development, and resources management), US consumption (e.g. food, oil, computer use) and then look at it globally. This is linked to the Southwest trip, because they also study National Parks and preservation (Fall/Spring).	• Economy, Environment and Equity: Standards 1, 5 and 6 - 6 hours
	• In English, students study global problems and solutions. After reading *The Giver,* students design utopias that address some of the problems identified by classmates. They represent this information in short stories that also tie in the features of culture (Winter).	• Economy, Environment and Equity: Standards 1, 2, 3, 4 and 6 - 12 hours
	• In science, students study the energy and resources that go into producing and growing food. Students select a food and create a detailed chart outlining all of the forms of energy that go into each step of getting the food "to table." Students present their posters to classmates and offer samplings of the food items (Winter).	• Economy and Environment: Standards 1, 2, 6 and 7 -**12 hours**
	• In science, students create cars out of post-consumer materials. They race and show them in the Recycled Road Show (Spring).	• Economy and Environment: Standards 1, 2, 4, 6 and 7 -10 hours

	• The Southwest trip to [Location] primarily focuses on how the environment shapes a culture. Students also see how issues of equity and economy impact the many Native peoples in our country. Students conduct a stakeholder analysis project that requires the students to learn about land management in the [Location] Area. Students research and represent various stakeholders involved in decision-making around managing land. The content for this unit is woven into English and history classes before and after the trip. In English, they read a novel that provides a foundation for the [Location] Area and many of the concepts they will study (Spring).	• Economy, Environment and Equity: Standards 1, 2, 3, 4, 5, 6 and 7 - 28 hours (20 hours on the trip, 8 hours classroom content lessons) **<u>Total Hours of Sustainability Education per Student per Year</u>** ***Direct Link to Campus Features: 27 hours*** ***General Sustainability: 76 hours***
Design Strategies at [School]	**<u>Seventh Grade</u>: Coursework Description and Timeframe**	**Standards and Sustainability Concept(s)***
• Water efficiency • Water use: exterior and interior	• During the weeklong class trip to [Location], students engage in a brief study of ecology, forestry and conservation methods (Fall). • Students engage in discussions around themes, which emerged from their novels/readings. When reading *The Little Prince*, they focus on the concept of care giving and how The Little Prince takes care of his planet and how we can/should take care of ours (Fall). • In earth science, students study water use and management (e.g. snow, geology, fire effects). They will integrate the following campus features into that study (Fall): - 40% water use reduction with efficient fixtures (low flow rate), dual-flush toilets, metered lavatories (timer, faucets with sensors) - Water rights: Some storm water will be treated on the campus in a vault and can redirect some to on-site irrigation and then the rest goes to the city. Legally the school cannot store water on site more that 24 hours after a storm, because the water belongs to the city.	• Environment: Standards 1, 4, 6 and 7 - 2 hours • Environment: Standard 6 - 1 hour • Economy, Environment and Equity: Standards 1, 2, 3, 4, 5, 6 and 7 - **20 hours**

	• During the class trip to [Name] Science Center, students continue their water study by investigating snow and its role in the watershed. This is linked to their use of water in [City]. On the trip, they engage in a stakeholder event related to water use (Winter). • Students will create a presentation as a result of their stakeholder experience in [Name] to share with the fourth graders (who also study water) and sixth graders (who engage in a stakeholder project in the spring) (Spring). • In math, word problems often include concepts of sustainability (e.g. world issues and equity) (Yearlong).	• Economy, Environment and Equity: Standards 1, 2, 3, 4, 5, 6 and 7 **- 12 hours** • Environment: Standards 4 and 6 - 2 hours • Equity: Standards 1 and 6 - 1 hour **<u>Total Hours of Sustainability Education per Student per Year</u>** ***Direct Link to Campus Features: 32 hours*** ***General Sustainability: 6 hours***
Design Strategies at [School]	**<u>Eighth Grade</u>: Coursework Description and Timeframe**	**Standards and Sustainability Concept(s)***
• Overall Sustainability: impacts of resource extraction, production, consumption, and disposal on environments, economies, and societies throughout the world	• Students study the Civil Rights Movement (the fall trip is linked to this study) and different types of government. They consider how societies can have good governments, organize themselves, bring equity and fulfill the goals of that society (Fall). • Theme revolves around rights and responsibilities and links to agents of change (like second grade) (Yearlong). • In history, they study the Holocaust through the lens of their theme. They talk about the American Dream from an American perspective and global perspective. In history and English, students read relevant theme-related	• Economy and Equity: Standards 1, 4, 6 and 7 - 96 hours (weeklong class trip to the South, plus content lessons back at school) • Economy and Equity: Standards 4 and 6 • Economy and Equity: Standards 4 and 6 - 15 hours

	novels (e.g. *Animal Farm, Night, Letters from Bermingham, and Lord of the Flies*) (Winter). • The piñata project in math promotes the reuse of materials (Winter). • Service learning: Students provide math tutoring for fifth graders at [Name] Elementary School. They watched "Waiting for Superman" to gain a better understanding for the challenges that [Name] faces and then they ran a book drive for the school (May or may not happen next year) (Yearlong). • In the sustainability interdisciplinary unit, A Closer Look at the Things We Buy, students study the impacts of resource extraction, production, consumption and disposal on environments, economies and societies throughout the world. After a week of analyzing the "materials economy" as it relates to the production of goods (e.g. gold rings, paper plates, Barbie dolls, and blue jeans), students create an educational presentation that is suitable for teaching [School] lower and middle school students. Sample projects include movies, websites, children's books, and comics addressing the topics they find most pertinent or pressing (e.g. project about junkmail: http://garbology.yolasite.com/garbology.php). Eighth graders present their projects to their peers at the end of the study and then to the targeted audience during Earth Week (Winter).	• Environment: Standard 6 - 2 hours • Economy and Equity: Standards 4 and 6 - 7 hours • Standards 1, 2, 3, 4, 5, 6 and 7 - **19 hours** **<u>Total Hours of Sustainability Education per Student per Year</u>** ***Direct Link to Campus Features: 19 hours*** ***General Sustainability: 120***

*** Standards Referenced:** [School]'s Standards for Understanding (see below)**.** In 2011-2010, the Science Department will adopt the State Standards and this document will be revised:

Sustainability Concepts: These are linked to *Sustainability Statement*.
Hours in bold are directly linked to the Commons Building and campus features.

<u>[School]'s Standards for Understanding:</u> (Bold is for all disciplines, non-bold is specific to science classes)

1. **Students should know how to engage in an inquiry on the discipline.**
    a. Wonder…ask and answer questions
    b. Define and solve problems
    c. Organize information
    d. Demonstrate new knowledge
    e. Facilitate reproducibility

2. **Students should know and use the conventions of the discipline.**
    a. Rules
    b. Procedures

3. **Students should be able to communicate about and express themselves in terms of the discipline.**
    a. Language, symbols and mediums (They can organize and present this information.)

4. **Students should reflect on their thinking and understanding.**
    a. Self-monitor
    b. Critique
    c. Proof
    d. Revise

5. **Students should make connections.**
    a. To their own lives
    b. To previous knowledge
    c. To other disciplines
    d. To other cultures

- **Because of these connections within and between disciplines they can:**
    - See patterns
    - Experience "aha!" moments
    - See, take and value multiple perspectives
    - Make a difference in their community

6. **Students should appreciate the value and beauty of the discipline and understand its relevance to the real world.**

Additional coursework that is not linked to specific campus features, but to the general concepts of sustainability: economy, environments and equity/social justice.		
Course	**Coursework Description and Timeframe**	**Standards and Sustainability Concept(s)***
Foreign Language	• In Spanish, the fifth and sixth grades study Guatemala. They learn about poverty through an M&Ms activity (e.g. the Haves and Have-nots). They learn about customs, clothing and homes (e.g sizes and resources). They engage in a read-a-thon to raise money for schools in Guatemala. • In French, students learn about francophone Africa. Students create PowerPoints on the economy, history and housing (e.g. looking at the differences between the students living in the US and those in Africa). • In eighth grade Spanish, students study Cuba. They look at the economy and what the Cubans can buy versus the tourists. • Some teachers share their own experiences of living in other countries (e.g. Kenya) as a way to share what people have and do not have in these various countries. • Using Smartboards has cut down on the amount of paper they are using. They are looking at new ways to reduce their impact (e.g. using crayons instead of markers). • In Latin, students study Ancient Rome. They look at the historical context of how the Romans dominated over 39 countries due to military power and the slave industry. Through an eight-hour documentary, they discuss the living conditions, which helps students understand this point in history.	• Economy and Equity • Economy and Equity • Economy and Equity • Economy and Equity • Environment • Economy and Equity
PE	• The curriculum is based on fair play and sportsmanship. • Boys and girls participate in all sports even if it is more gender specific, such as football and field hockey. Boys and girls are given equal opportunity to lead in game situations and class activities.	• Equity • Equity

	• Teachers often have students pick up trash left on the field and use the opportunity as a learning moment about taking care of the community and grounds. • During the golf unit, mats are used so the natural turf is protected. • Staff works with [City] Parks and Recreation to share field space. • The department educates students about being healthy and active by using their surroundings. For example, students can complete most of the weight room exercises outside by using a hill, park bench, stairs or playground. • Students are educated about taking care of the equipment so it can be reused from year to year. • To save money and reduce waste, items like tennis cans are used for targets. Staff is creative with the equipment. They use equipment in many different units and not just for the intended use. For example, golf targets are also used for throwing targets; bowling pins are used as targets and not just for bowling; hula-hoops are used for bases, building castles, targets and team building.	• Environment • Environment • Environment • Environment • Economy • Economy and Environment
Wellness	• Social justice is the emphasis every year in all grade levels. Students look at how they treat each other on a day-to-day basis face-to-face and online, so students are not only more aware of every little thing that comes out of their mouths but also how this affects their digital footprint. They hone in on hurtful language. Students discuss oppressed groups and -isms (e.g. sexism, racism, ageism, classism), the cycle of oppression (e.g. sexual orientation), how we perpetuate the cycle and ways to break it. • To reduce waste, students receive folders that are reused each year of their career at [School]. • During nutrition units (e.g. study of fast food), students make connections to the food served in the cafeteria (starting fall 2011).	• Equity • Environment • Environment
VAPA	• Students explore concepts of culture, ethnicity, gender and social issues through	• Equity

(Visual and Performing Arts)	the arts (Yearlong). • Art materials are becoming more "green" and less toxic (e.g. switched glazes). To create "spaces" in drama, they reuse wood boxes and costumes. Consumable materials are often reusable or recyclable. • In music classes, because the students often lose their sheet music, the teachers often only photocopy the necessary sections. The instruments last a long time and are reused year to year. • Creativity is not linked to monetary resources; it is an equalizer between classes. It is essential to sustainability, because if one knows how to adjust and change then the big changes in life are not as traumatic. • Visual and performing arts aim to sustain creativity and community through working with ensembles. They inspire students so they are involved with the arts throughout their lives. This is based on the notion that sustained exposure to the arts prior to the age of ten has proven invaluable.	• Economy and Equity • Environment • Economy and Environment