

State selection Committee Evaluation: Ivy Academy

Target 1: Participation in the Green School Program. (Cross-cutting Target)

The Green Schools Selection Committee agreed that Ivy Academy presented an extremely strong Green School Application. Currently they are participating in the PLT Green Schools program and have a student action team in place; however, documentation of certification might have made this part of the application support stronger.

Pillar II Comments:

Although Ivy Academy demonstrated their greatest commitment in this area, the school is just starting to use the Portfolio Manager and 2012 data was considered the baseline year. Documentation of Energy Star Certification in the future will serve to strengthen this portion of the application in the future. The school purchases renewable energy in the form of green-E certified wind energy to currently account for 50% of their electricity consumption each year. It should be noted that Ivy students only attend school four days a week and not five.

Structures on the Ivy Academy campus are prefabricated, modular buildings and are not LEED certified. More documentation concerning the age of the structures and their energy saving features could have strengthened the application in this area, even if they are not LEED certificated.

Ivy's collaborative efforts with community partners are highly commendable and the committee agrees this contributes to Ivy being a strong application. The committee will recommend the Office of Surface Mining and the North Chickamauga Creek Conservancy, and Allied Waste Recycling should be consulted on a continuing basis to move the vision of the school forward. The media as well as the community were heavily involved in the Alternative Transportation Day. It was suggested that in the future, local transportation authorities could be consulted to obtain suggested routes for students and faculty on the event day. Pictures for Target #6 provided clear documentation of the event and the school's anti-idling policy.

Pillar II Comments:

Ivy Academy submitted a very strong application for all targets. The photo documentation of labels and activities made the application easy to score.

An impressive strength of Ivy's application is the fact that students spend 50% of their day outdoors and their school has a strong UV Safety Policy in place. In addition to photo documentation, specific activities and outdoor time blocks were listed. Community partnerships with the University of Tennessee and North Chickamauga Conservancy are on-going and hopefully will continue to strengthen Ivy's Outdoor Program.

Ivy has applied to the Sun Wise program and certification for this program will strengthen future applications.

The IVY application states they follow their LEA Asthma Plan. A suggestion was made to submit a copy of this plan to strengthen future applications.

Ivy has a strong system in place for offering food that is grown on campus or is grown within 200 miles of school. This school did not mention involvement in the USDA School Challenge or an equivalent program.

Pillar III Comments:

The teachers of Ivy Academy have demonstrated a commitment to professional development by having the entire faculty participating. The school's mission statement and the unit and student/teacher learning organizer provide evidence of the importance and emphasis placed on the environment on a daily basis.

Evidence of environmental literacy appeared difficult to measure among graduates. The committee felt that more documentation was needed in this area; however, they recognize the constraints that are involved in collecting this information.

Under Target #20, an impressive number of community resources were cited. Ivy has a goal to implement a peer ambassador program and the committee believes this is a worthy endeavor. Working with and mentoring another school in this area would be helpful in making a future application stronger.

The Selection Committee's scores for all twenty targets were compiled and averaged and resulted in a total score of **92.3** for Ivy Academy, which is our highest rated application.



2012-2013 School Nominee Presentation Form

PART I - ELIGIBILITY CERTIFICATION

School and District's Certifications

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

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



PART II – SUMMARY OF ACHIEVEMENTS

Instructions to School Principal

Provide a concise and coherent "snapshot" that describes how your school is representative of your jurisdiction's highest achieving green school efforts in approximately 800 words. Summarize your strengths and accomplishments. Focus on what makes your school worthy of the title U.S. Department of Education Green Ribbon School.

PART III – DOCUMENTATION OF STATE EVALUATION OF NOMINEE

Instructions to Nominating Authority

The Nominating Authority must document schools' high achievement in each of the three ED-GRS Pillars and nine Elements. For each school nominated, please attach documentation in each Pillar and Element. This may be the Authority's application based on the Framework and sample application or a committee's written evaluation of a school in each Pillar and Element.

Nominating Authority's Certifications

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

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

Name of Nominating
Agency

Tennessee Department of Education

Name of Nominating
Authority

Ms. Linda Jordan

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

U.S. DEPARTMENT OF EDUCATION
GreenRibbonSchools

ED-GRS (2012-2013)

Page 1 of 4

U.S. Department of Education Green Ribbon Schools 2013

For Public Schools only: Charter Title I Magnet Choice

Name of Principal **Mrs. Angie Markum**

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

Official School Name **Ivy Academy**

(As it should appear in the official records)

School Mailing

Address **8443 Dayton Pike**

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

Soddy-Daisy

TN

37379

City

State

Zip

County **Hamilton**

State School Code Number*

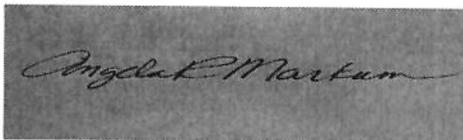
8002

Telephone (**423**)**305-7494**

Fax (**423**) **305-7496**

Web site url: www.ivyacademychattanooga.com E-mail: amarkum@ivyacademychattanooga.com

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



Date **Feb 1, 2013**

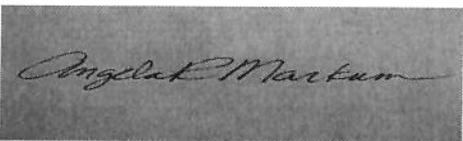
(Principal's Signature)

Name of Superintendent* **Mrs. Angie Markum Charter School Operator**

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

District Name* **Hamilton County, TN** Tel. (**423**)**209-8400**

I have reviewed the information in this application and certify that to the best of my knowledge all information is accurate. This is one of the highest performing green schools in my jurisdiction.



Date **Feb 1, 2013**

(Superintendent's Signature)

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



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


(Nominating Authority's Signature)

Date 8-28-13

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

OMB Control Number: 1860-0509
Expiration Date: February 28, 2015

Public Burden Statement

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



TN School Contact Information

School Name: Ivy Academy

Street Address: 8443 Dayton Pike

City: Soddy-Daisy State: TN Zip 37379

Website: www.ivyacademychattanooga.com

Facebookpage: www.facebook.com/IvyAcademyChattanooga

Principal's Name: Angie Markum, Executive Director

Principal's Email Address: amarkum@ivyacademychattanooga.com Phone N: **(423)305-7494**

Lead Applicant Name (if different): same

Lead Applicant Email: _____ Phone Number: _____

<p>Level:</p> <p><input type="checkbox"/> Elementary (PK - 5 or 6)</p> <p><input type="checkbox"/> K - 8</p> <p><input type="checkbox"/> Middle (6 - 8 or 9)</p> <p><input checked="" type="checkbox"/> High (9 or 10 - 12)</p>	<p>School Type</p> <p><input type="checkbox"/> Public</p> <p><input type="checkbox"/> Private/Independent</p> <p><input checked="" type="checkbox"/> Charter</p>	<p>How would you describe your school?</p> <p><input checked="" type="checkbox"/> Urban</p> <p><input checked="" type="checkbox"/> Suburban</p> <p><input checked="" type="checkbox"/> Rural</p>	<p>District Name <u> Hamilton </u></p> <p><input checked="" type="checkbox"/> Among the Largest 50 Districts?</p> <hr/> <p>Total Enrollment: <u> 147 </u></p>
<p>Does your school serve 40% or more students from disadvantaged households?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>% receiving FRPL <u> 65% </u></p> <p>% limited English proficient <u> 0% </u></p> <p>Other measures <u> bus service county wide to urban, rural, suburban </u></p>	<p>Attendance rate: <u> 91% </u></p> <p>Graduation rate: this is our first year for graduates <u> </u></p>	

Please add any additional information that might be pertinent for reviewers to know (such as being a magnet school, a K-12 school, a STEM school, etc.): **Ivy Academy is the first environmental charter school in Tennessee, beginning in 2009, which was the first year for charter schools in our county. We serve a very, very diverse population. Our buses run the perimeter of the county and we have urban students on free lunch, and mountain students from doctor's homes. We have approximately 35% AA students and 62% Caucasian students, 3% other, which is very unusual in our county. Most schools are heavily weighted one way or the other. The first few years of Ivy have been spent finding**

our way amidst charter legislation and county opposition, but we are so pleased with how our students are developing and how community perception of the school is improving. The community did not understand charter schools, or an environmental school at first. The common thought was that if you wanted to have school outside, it must be for students with behavior issues. It's taken a while to turn the tide, but we have made great strides as you will be able to see from our documentation and photos. Keep in mind that since we have only completed 3 school years, we don't have as much physical structure data as other schools might, and we haven't had our first graduating class for data yet either. We are much stronger on the later targets than we are the first few. Enjoy viewing, and know that many more photos and commentary are available on our facebook page.

For each Target, answer Questions and provide Data requested by typing into the table. Provide Documentation to justify the rating in a separate WORD document (limited to 1 page of text and 1 page of images for each Target).

Target/Objectives	Documenting Data
<p>Target #1: Participation in a Green School Program</p> <p>The school is part of a Green School program such as PLT GreenSchools, TVA Green Schools, TN TP3 Green Schools, or USGBC Green Apple Schools.</p> <p>Documentation: Describe your participation. (Limited to 1 page of text and 1 page of images.)</p>	<p>Questions: What Green School program has your school participated in?</p> <p>We have participated in PLT Green School Program.</p> <p>See documentation, 1 page text, 1 page photos</p>

Pillar I: Reduce environmental impact and costs.

Target/Objectives	Documenting Data
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Target/Objectives	Documenting Data
<p>Target #2: Energy Conservation and Alternative Energy</p> <ul style="list-style-type: none"> • School has earned EPA's ENERGY STAR certification. • Total energy use intensity has been reduced from an initial baseline (measured in kBTU/square foot/year). • GHG emissions from building energy use have been reduced or offset. • Energy is derived from renewable sources. <p>Documentation: Describe student involvement in conducting an Energy Audit, developing an Action Plan, and implementing the plan. (Limited to 1 page of text and 1 page of images.)</p>	<p>ENERGY STAR certification? Yes/No. All our electronics are Energy Star.</p> <p>Calculations (if available): On Documentation sheets</p> <p>Percent reduction from initial baseline tracked in ENERGY STAR Portfolio Manager = First year of data.</p> <p>See Documentation pages for info and photos.</p> <p>Percentage of energy consumption derived from on-site renewable energy generation = _?_%</p> <p>Percentage from purchased renewable energy = _100_%</p>
<p>Target #3: Energy-efficient Buildings</p> <ul style="list-style-type: none"> • Building area that has been constructed or undergone major renovations in the past three years meets Leadership in Energy and Environmental Design (LEED), Collaborative for High Performance Schools (CHPS), Green Globes or comparable standards. • Building achieves LEED Existing Buildings: Operation & Maintenance, CHPS Operations, Green Globes or comparable standards. • School has implemented the Facility Energy Assessment Matrix within EPA's Guidelines for Energy Management or comparable standard. • Energy efficient product purchasing and procurement policy is in place. 	<p>Questions and Data:</p> <p>Percentage of all applicable building area meeting this goal = No LEED buildings, we meet outside most of the time.</p> <p>School building assessed in Portfolio Manager? Yes, data mentioned in documentation for Target #2.</p> <p>Documentation sheets list many provisions for energy efficiency. See sheets for info and photos.</p> <p>.</p>

Target/Objectives	Documenting Data
<p>Target #4: Water Efficiency and Conservation</p> <ul style="list-style-type: none"> • Water-efficient product purchasing and procurement policy is in place. • Total water use intensity has been reduced from an initial baseline (measured in gal/Square foot/year). • Regular audits of facilities and irrigation systems are conducted to ensure they are free of significant water leaks and to identify opportunities for savings. • Irrigation system and schedule are appropriate for climate, soil conditions, plant materials, grading and season. • All outdoor landscapes consist of water-efficient or regionally-appropriate plant choices. • Wherever possible, alternative water sources are used before potable water is used for irrigation. • Green infrastructure uses vegetation and soil to manage rainwater “where it falls”. 	<p>Data:</p> <p>Percent reduction from initial baseline tracked in ENERGY STAR Portfolio Manager = First year for portfolio manager</p> <p>Approximate amount of non-potable water collected and used for irrigation = consistently, 4 rain barrels</p> <p>Documentation:</p> <p>See documentation pages for info and photos.</p>

Target/Objectives	Documenting Data
<p>Target #5: Minimize Solid and Hazardous Waste</p> <ul style="list-style-type: none"> • All solid waste has been eliminated (reduce, recycle, & reuse policy/practices). • Office paper is composed of recycled content in accordance with EPA's Comprehensive Procurement Guide, the Forest Stewardship Council, Sustainable Forestry Initiative, American Tree Farm System or comparable certification standard. • Paper content is chlorine-free. • All computer purchases are Electronic Product Environmental Assessment Tool (EPEAT) or other comparable standard certified. • Hazardous waste has been reduced or eliminated. Remaining hazardous waste is safely and properly managed in accordance to Federal and State regulations. 	<p>Data:</p> <p>Hazardous Waste Policy in place? (Yes/No)</p> <p>Pounds of solid waste generated per student/year = 34, and improving, see documentation pages</p> <p>Percentage of waste (by weight) that is diverted from the landfill or incinerator by recycling or composting as well as waste reduced and reused = we estimate over 2000</p> <p>Amount (\$) saved by diversion of solid wastes from the landfill, by recycling, etc. = estimate over \$800</p> <p>Documentation:</p> <p>See documentation pages for info and photos.</p>
<p>Target #6: Minimize Transportation Impacts</p> <ul style="list-style-type: none"> • Students walk, bike, bus, or carpool (2+ students per car) to/from school. (No single-student cars) • Anti-idling policy is in place; signs are posted stating that all vehicles, including school buses, are prohibited from idling on school premises. • Vehicle loading & unloading areas are at least 25 feet away from all buildings air intakes (including doors and windows). • School transportation use is efficient and environmentally benign. • Safe Routes to School, Safe Pedestrian Routes and other programs have been implemented and communicated. 	<p>Data:</p> <p>Percent of student body that walks, bike, bus, or carpool to/from school = 81%</p> <p>Anti-idling policy in place? (Yes/No) YES</p> <p>Documentation:</p> <p>See documentation pages for info and photos.</p>

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

Target	Documenting Data
<p>#7: Integrated Pest Management</p> <p>School minimizes pesticide exposure using the following practices:</p> <ul style="list-style-type: none"> • School provides notification of their pest control policies, methods of application, and requirements for posting and pre-notification to parents and school employees; • School maintains annual summaries of pesticide applications, copies of pesticide labels, copies of notices and MSDSs in an accessible location; and • Children are prohibited from entering the pesticide area for at least 8 hours following the application or longer, if feasible, or if required by the pesticide label. <p>School promotes pesticide-free pest control by enlisting the involvement of staff and students in:</p> <ul style="list-style-type: none"> • Interrupting pest life cycles. • Promoting the presence of beneficial insects. 	<p>Documentation:</p> <p>See documentation pages for info and photos.</p>
<p style="text-align: center;">Target #8: Chemical Exposure Management</p> <p>School has a Chemical Management Program in Place.</p> <p>All cleaning products and services in use are certified "green," or can otherwise demonstrate that they meet the environmental standards of established ecolabel programs.</p> <p>Drinking water meets federal, state and local water quality standards, and is tested for lead levels.</p>	<p>Documentation:</p> <p>See documentation pages for info and photos about:</p> <ul style="list-style-type: none"> • Chemical Management Program • Cleaning Products Management Program • Drinking Water Testing

Target	Documenting Data
<p>Target #9: Excellent Indoor Air Quality</p> <p>School has developed and implemented a comprehensive indoor air quality management program consistent with Indoor Air Quality Tools for Schools.</p> <ul style="list-style-type: none"> • All structures visually inspected and free of mold, moisture & water leakage. Moisture resistant materials/protective systems installed (e.g., flooring, tub/shower, backing, and piping). • Smoking prohibited on campus • School has an asthma management program in place consistent with the National Asthma Education and Prevention Program’s (NAEPP) Asthma Friendly Schools Guidelines. • Radon: All ground-contact classrooms tested for radon within the past 24 months and all Levels >4 pCi/L mitigated in conformance with ASTM E2121. • Carbon Monoxide: School has inventory of all combustion appliances & annually inspects these appliances; CO alarms installed & meet the requirements of the National Fire Protection Association (NFPA) code 720; OR school does not have combustion appliances. 	<p>Data:</p> <p>Frequency of inspections and results of most recent inspection: Most recent revealed a roof leak causing some wood deterioration that is now being tended to.</p> <p>Radon test schedule and results from most recent test: No test on record.</p> <p>Indoor relative humidity maintained below 60%? (Yes/No) (cold climates during freezing temperatures should target 20-30%). Yes</p> <p>Documentation:</p> <p>See documentation pages for info and photos.</p>
<p>Target #10: UV Safety</p> <ul style="list-style-type: none"> • School participates in the EPA SunWise Program. • School has a UV Safety Plan in place. 	<p>Documentation:</p> <p>See documentation pages for info and photos.</p>

Target	Documenting Data
<p>Target #11: Fitness and Outdoor Time</p> <ul style="list-style-type: none"> • Students engage in at least 150 minutes of school-supervised physical education and/or outdoor time per week. • School grounds promote student activity outdoors. 	<p>Data:</p> <p>We have hiking, physical activity period every day.</p> <p>See documentation pages for info and photos.</p>
<p>Target #12: Food and Nutrition</p> <ul style="list-style-type: none"> • School has earned a USDA HealthierUS School Challenge Award for school food. • Food purchased is certified as environmentally preferable (e.g. Organic, FairTrade, Food Alliance, Rainforest Alliance). • All food is grown and processed within 200 miles of the school, which may include on school grounds. 	<p>Data:</p> <p>Percent of total food purchase that is environmentally preferable = 100%</p> <p>Percentage of total food processed within 200 miles of school = unknown, but we grow our own and supplement school lunches.</p> <p>Documentation:</p> <p>See documentation pages for info and photos.</p>
<p>Target #13: Germ Management</p> <ul style="list-style-type: none"> • Students learn how to “break the chain” of transmission of food-borne illnesses and contagious diseases by using materials like the “Cover Your Cough”, “It’s a Snap”, and “Food-Safe Schools”. • Drinking water is protected from and tested for bacterial contamination. 	<p>Documentation:</p> <p>See documentation pages for info and photos.</p>

Pillar 3: Interdisciplinary learning about the key relationships between dynamic environmental, energy and human systems

Target	Documenting Data
<p style="text-align: center;">Target #14: Professional Development in EE</p> <p>Professional development opportunities in environmental and sustainability education are provided to <u>all</u> teachers.</p>	<p>Documentation: See documentation pages for info and photos.</p> <p>All Ivy teachers participate in EE PD several times per year. See documentation pages for info and photos.</p>
<p style="text-align: center;">Target #15: Environment and Sustainability in the Curriculum</p> <ul style="list-style-type: none"> • Students learn about the environment and sustainability at every grade level within the school, incorporating both content and practice. • Environment and sustainability are integrated throughout the curriculum. 	<p>Documentation:</p> <p>Part of our professional responsibilities weekly is to turn in a lesson plan template that specifically lists how we are integrating EE into our lesson and relating it to our standards.</p> <p>See documentation pages for info and photos.</p>
<p style="text-align: center;">Target #16: Creation and Use of Outdoor Classrooms</p> <ul style="list-style-type: none"> • Schools develop outdoor classrooms on their grounds and use them to teach an array of subjects in context, engage the broader community and develop civic skills. • School grounds are devoted to ecologically or socially beneficial uses. • Students have a meaningful outdoor experience(s) at every grade level. 	<p>Documentation:</p> <p>We strive to meet in outdoor classrooms a minimum of 50% of the school day.</p> <p>See documentation pages for info and photos.</p>

Target	Documenting Data
<p style="text-align: center;">Target #17: Environmental Education and STEM</p> <ul style="list-style-type: none"> • Environmental education emphasizes scientific and engineering practices, such as asking questions, developing and using models, planning and carrying out investigations, analyzing and interpreting data, using mathematics and computational thinking, constructing explanations, and engaging in argument from evidence. • Students graduate with a robust general science education that includes a deep understanding of life, physical, and earth sciences. • The curriculum connects classroom content to college and career readiness, particularly post-secondary options that focus on environmental and sustainability field studies and/or careers. 	<p>Documentation:</p> <p>Since we integrate EE into all courses, STEM is easily applicable.</p> <p>See documentation pages for info and photos.</p>
<p>Target #18: Environmental Literacy Among LEA Graduates</p> <ul style="list-style-type: none"> • Graduates score proficient or better on state or school environmental science or environmental education assessments. • Students enrolled in AP or comparable environmental science education assessments. • School district has established or moved toward establishing an environmental or sustainability literacy graduation requirement. 	<p>Data:</p> <p>This is our first year for a graduating class.</p> <p>Documentation:</p> <p>The “Ivy Letter” program is a way for students to be incentivized about EE and to demonstrate environmental literacy.</p> <p>See documentation pages for info and photos.</p>

Target	Documenting Data
<p style="text-align: center;">Target #19: Service Learning</p> <p>Students are required to conduct age-appropriate community engagement projects that are</p> <ul style="list-style-type: none"> • Self-selected • Related to an environmental or sustainability topic, and • At every grade level. 	<p>Documentation:</p> <p>Every Ivy Student must earn a minimum of one service learning credit.</p> <p>See documentation pages for info and photos.</p>
<p style="text-align: center;">Target #20: Community Partnerships</p> <ul style="list-style-type: none"> • School partners with: <p>local higher education institutions, businesses, informal science institutions, and other schools.</p> <ul style="list-style-type: none"> • School has assisted the progress of another school, particularly a school with lesser capacity for meeting targets. 	<p>Documentation:</p> <p>Ivy is partnering with the community, but more importantly, this is the first year that the community has looked to Ivy to partner with us. Both State Parks and Global Green lighting sought out Ivy as a resource for community partnerships to improve the environment.</p> <p>See documentation pages for info and photos.</p>



Target #1: Participation in a Green School Program

- Ivy Academy is enrolled in the PLT green schools program. As a part of this program we have completed surveys, workshops and investigations to promote sustainability and green practices at our school.
- 100% of Ivy staff has participated in at least one Project Learning Tree professional development workshop. This has allowed us to easily integrate sustainability education and environmental awareness into our courses. Our school curriculum integrates sustainability and outdoor education. Our classes are conducted at least 1/3 of the time outdoors. This practice leads to a firsthand understanding of the importance of protecting the environment.
- We have created an action team of school staff, teachers, students, parents and community members to help work at making our school as eco-friendly as possible. After we had our initial dialogue, we then set up our core team of engaged and caring students who would be working weekly on school impact surveys, environmental education and student led eco-reform.
- We utilized our service learning curriculum and courses to host our energy, waste, water and site surveys. Part of our service learning curriculum at Ivy is to conduct our yearly school survey and then for students to take water and waste surveys into their homes to do an audit of their at home usage. This is an important part of our green school program, because this allows the student to take what they have learned and applied at school to their homes. We hope that this helps creates a way of life in our students that promotes a healthy way of life for them and the environment.



Target #2: Energy Conservation and Alternative Energy

- Ivy Academy uses the EPA's Energy Portfolio Manager to track energy and environmental performance. Data for Calendar year 2012 was the first year in which Ivy Academy used Portfolio Manager; therefore 2012 is considered our baseline year. Total annual baseline energy consumption in 2012 was 259,628 kwh. Our total baseline GHG emissions are 132 metric tons of CO₂e per year. We hope to aggressively meet our energy goals relative to this 2012 baseline. Because we are a rapidly growing school, we normalize our energy use and CO₂ emissions per student. Our normalized annual consumption values are 1,766.17 kwh per student and .898 metric tons CO₂e.
- Currently; we purchase renewable energy in the form of green-E certified wind energy to account for 50% of our electricity consumption each year. Our action plan calls for a 16.66% annual increase in green energy purchased each year or renewable energy generated onsite. This goal will allow Ivy to offset 100% of the energy consumed within our buildings within 3 years.
- Ivy only attends school four days per week rather than five days per week. This green measure goes a long way for many of the defined targets, but especially for energy conservation. Although we go about an hour and a half longer on the four days per week, the estimated electric savings is around 15% and the estimated fuel savings in only transporting students four days a week is 20%.



Target #4: Water Efficiency and Conservation

Water Statistics: Much like our energy management system, 2012 was the first year in which Portfolio manager was used to track water use on site. Thus 2012 is our baseline. In 2012 the total amount of water consumed on the campus was 287,670 gallons. While we do not have annual totals to compare against our baseline (since 2012 is our baseline), we do know that our water consumption has decreased. In Dec 2011 our monthly water consumption was 23,640 gallons. In Dec 2012, that number decreased to 18,280. This is a 23% reduction. Most of this reduction is from the installation on rain barrels on campus and water usage awareness. Ivy has also taken a pro-environmental approach to our landscaping. Non-native species have been removed from the campus. Landscaping is minimal and the majority of the landscaping has been related to our campus garden. Buffer zones between the campus and the local creek that runs next the campus are upheld. The forested campus itself serves as a natural run buffer to protect the North Chickamauga Creek from local residential and commercial areas.

To reduce storm water runoff we have implemented the following measures

- Rain barrels at our down spouts to catch roof water
- A permeable surface rather than pavement or concrete for parking
- Limited sidewalks located at the entrance of buildings to reduce debris brought in to the classroom.
- Mulching between buildings and student gathering areas
- Gardens and tree plantings away from high traffic areas

To increase water conservation we have implemented the following measures

- Rain barrels for watering gardens and trees
- Raised beds in garden area
- Planting of low maintenance and drought resistant plants
- The production and use of composting around plants/trees
- The use of “tree bags” or “gator bags” on new plantings

One example of integrating water quality into the curriculum is that we have implemented the following program:

- With the help of the Office of Surface Mining and the North Chickamauga Creek Conservancy, the students have built a small water retention dam at a underground coal mine outflow and filled the retention pond with bags of limestone. The coal mine is in the watershed of North Chickamauga Creek and it is suspected that the coal mine has affected the pH of the creek. The students monitor the pH at least once a year and keep record for data comparison.



Target #5: Minimize Solid and Hazardous Waste

Waste statistics: Currently, it is estimated that the school generates 5040 lbs of solid waste per year, or 34.29 lbs per student per year, which is why we insisted on stepping up composting this year. However, we realize that this estimate may not be fully accurate since it is supplied by our waste hauler and is based on the average weight of emptying a 6 cubic yard container. We have requested that our waste hauler provide actual waste weights of both the solid waste and recycled materials that they collect from us going forward. The waste provider has agreed to provide actual weights beginning with this billing cycle and will supply weights for both landfill waste and recycled materials. Once we have these more accurate numbers, we can compare the diversion weights and financial savings. Currently the school recycles all paper, glass, metal, e-waste and extensively composts.

- Ivy Academy is dedicated to reducing, reusing, and recycling as much as possible. The school has blue labeled recycled bins in each classroom where students and teachers can place paper, cans, and plastic drink bottles. A student-led club collects all of the recycling each day and places it in 4 green 95 gallon containers. Ivy's recycling efforts equal to about 150 lbs of material each week. These containers are picked up every other week by Allied Waste Recycling.
- Ivy Academy uses recycled office paper for the printers and copiers.
- Ivy's paper towels are chlorine free, and both paper towels and toilet paper made with post-consumer paper. The manufacture of these products requires no timber harvesting.
- Ivy composts paper towels and all food materials in a compost pile next to the school garden. This compost is tilled every day by students in the gardening club.
- Ivy's Students have also initiated a fruit and vegetable share box where people can place fruit and vegetables that they did not want or need in a plastic container where others can grab food as needed. This keeps fruit and vegetables out of the trash and helps students eat more healthfully.
- All of Ivy's computer and technology are (EPEAT) and Energy Star certified.
- Ivy Academy does not use any products that would be considered hazardous waste in classrooms.
- Ivy teachers have the incentive to collect and recycle printer cartridges through the STAPLES Rewards system so we participate in a community printer cartridge collection to not only reduce waste on our campus but to reduce waste in our community. Each Ivy teacher can earn up to \$20 per month to use for classroom supplies via the STAPLES Rewards system.



Target #6: Minimize Transportation Impacts

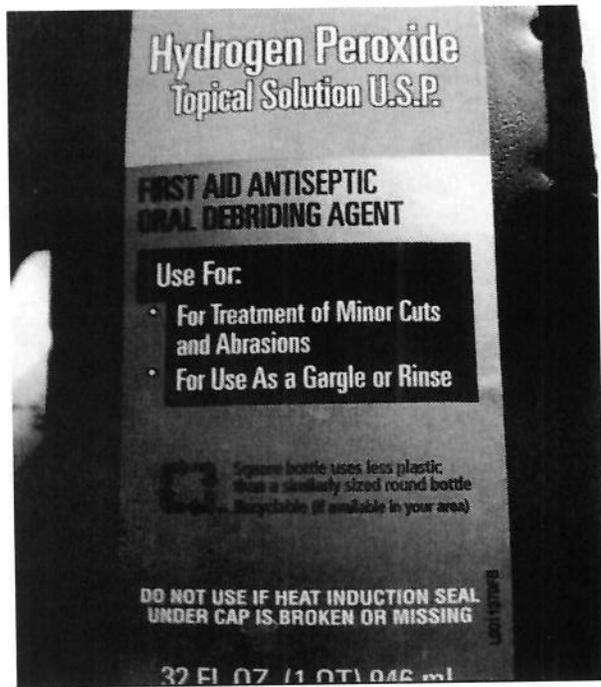
- As we are a charter school that services students county-wide, the vast majority of Ivy students ride school buses. For the 2012-13 school year, **we reduced the number of buses from three to two** by rearranging our bus stops.
- We have an extended school day 4 days per week so that **we only run the buses 4 days a week** instead of five days a week, conserving fuel.
- Our bus loading/unloading areas are approximately 40 feet from air unit intakes. Car loading and unloading area is approximately 200 feet from the closest building's air intake. **Idling policy is displayed to drivers** by the sign pictured on the image page for Target #6.
- We have established a parking pass system for student drivers for which we charge. The charge is designed to address the limited number of parking spaces and to encourage students to carpool. Additionally, one teacher rides the school bus, several carpool, and, weather permitting, several ride bikes to school. **Approximately 81% of our student body walks, bikes, buses, or carpools to/from school.**
- In order to **raise awareness amongst students and the community**, we instituted an Alternative Transportation Day. On this day, students and teachers walked, biked, ran (some over 13 miles) and carpooled. Our director kayaked the creek that runs near the school. We even had a student ride a horse! TVA brought electric cars on this day. Community members were invited to Ivy Academy's inaugural Alternative Transportation Day, and this event and was covered by local media.



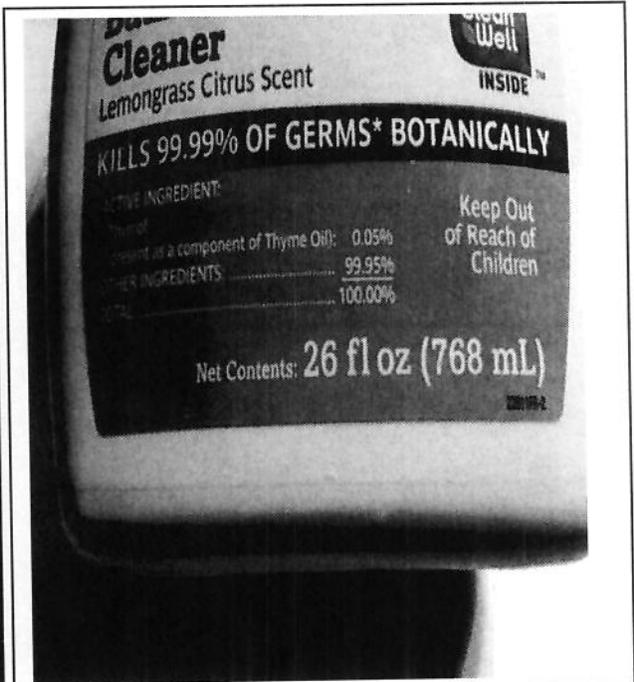
Target #8: Chemical Exposure Management

Ivy Academy limits chemical exposure by:

- Using green cleaning products.
- Using hydrogen peroxide for sanitation rather than bleach.
- Limiting chemical usage for pest control in the buildings and using none in the gardens.
- Prohibiting aerosol air fresheners, and using drops of essential oils in strategic areas.
- Ivy Academy buildings were all plumbed within the past four years using high grade flex wirsbo tubing so there is no risk of water contamination from pipes.
- Ivy Academy utilizes Soddy Daisy Falling Water Utility District water which is routinely tested and has it's intake at Soddy Lake, which is fed by mountain streams.



Simple as can be, but a highly effective sanitizer and cleaner. It breaks down to water and an extra oxygen molecule very quickly.



The power of essential oils. Thyme oil and clove are two natural antimicrobials that we routinely utilize.



Target #10: UV Safety

- Students at Ivy Academy spend a large portion of their class time in the outdoors. At the beginning of the school year sunscreen and hats are listed as part of their school supply list. Teachers follow up by ensuring that students are using their sunscreen before outdoor activities.
- When classes are held outdoors during time of high UV levels, classes are held in shaded areas.
- Students have many opportunities to participate in field trips which are often to areas of high UV risk such as the coast of Georgia. When preparing a packing list, sunscreen, long sleeve shirts, and hats are required. While on trips teachers and other chaperones ensure that students are using these items.
- Students assembled first aid kits to be distributed at the homeless shelter. Kits contained sunscreen.
- Ivy Academy has completed the application to become an EPA Sunwise Program Participant. The Environmental Science class will monitor and track UV levels using levels obtained from the internet. Senior Health classes will educate lowerclassmen about the dangers of UV exposure.
- Trees have been planted on the school campus in strategic places. Some will provide shade for students as they change classes. Deciduous trees were planted to provide shade in summer on the buildings but allow southern sun in the winter. Our first senior class just planted their evergreen tree. It was strategically located as to not block winter southern sun from hitting the building, but block summer sun.





Target #11: Fitness and Outdoor Time

- Ivy Academy Students spend 50% of their day outdoors, hiking along the trails and to outdoor classrooms. Students hike from a half mile to a couple of miles daily. Many have achieved desired weight loss with this active daily routine being the only change to their lifestyle. Outdoor Time : 2 - 4 Hours Daily
- Students and staff have access to nearly 10 miles of trails that run along the North Chickamauga Creek. Students will use these trails to hike on a daily basis.
- School wide hikes are completed every quarter, lasting the entire school day. Students will pack their own lunch and hike 8-10 miles in one day. These are educationally driven hikes, as teachers will provide instruction while hiking. Outdoor Time: Hikes lasting 5-7 Hours
- Activity Blocks were added to the end of the school day to encourage other physical activities, such as Cross Country, Ultimate Frisbee, Football, Basketball, Gardening and Recycling. Outdoor Activity Time: 45 Minutes Daily
- Ivy Academy has partnered with the University of Tennessee at Chattanooga for access to the Chattanooga Takedown Wrestling Club. Ivy students wanting to wrestle can attend the Chattanooga Takedown Club 2 days a week.
- Ivy staff will schedule bird watches and hikes during the weekends for those students wanting additional outdoor time. Outdoor Time: 3-5 Hours
- Ivy Academy is partnered with the North Chickamauga Conservancy, giving us access to the North Chickamauga Creek, trails and park ranger assistance. Used Daily
- Service learning and wellness classes are required for graduation.
- Lesson plans in all academic areas are required to incorporate outdoor physical activities.





Target #12: Food and Nutrition

Ivy Academy provides breakfast and lunch for its students in **two ways**:

Preferred Meal Systems, Inc.

Ivy Academy specifically chose this meal carrier because of their commitment to sustainability. In addition to an emphasis on organic produce and whole grains, Preferred Meal Systems also

- Uses 30% post consumer recycled newsletters and printed tray liners
- Replaced all Styrofoam products with biodegradable fiberboard products
- Replaced all traditional plastic ware with biodegradable spork packets, eliminating non-biodegradable waste.
- Offers locally grown vegetables and fruits by working with school districts participating in Farm-to-School programs. Ivy participates by using Dixie Produce, a local produce delivery company.
- Offers fresh baked bread and rolls that are delivered by local bakeries
- Works with customers to team up with local recycling programs to dispose of waste

On-Campus Garden



Students maintain an on-campus garden composed of six 4x6 raised beds that are rotated according to seasonal planting times. Students participate in a daily gardening class where they learn the complete garden process. They take part in soil preparation, seed germination, planting, weeding, watering, organic pest control, and sustainable harvesting. Harvested crops are used supplementary with school meals.



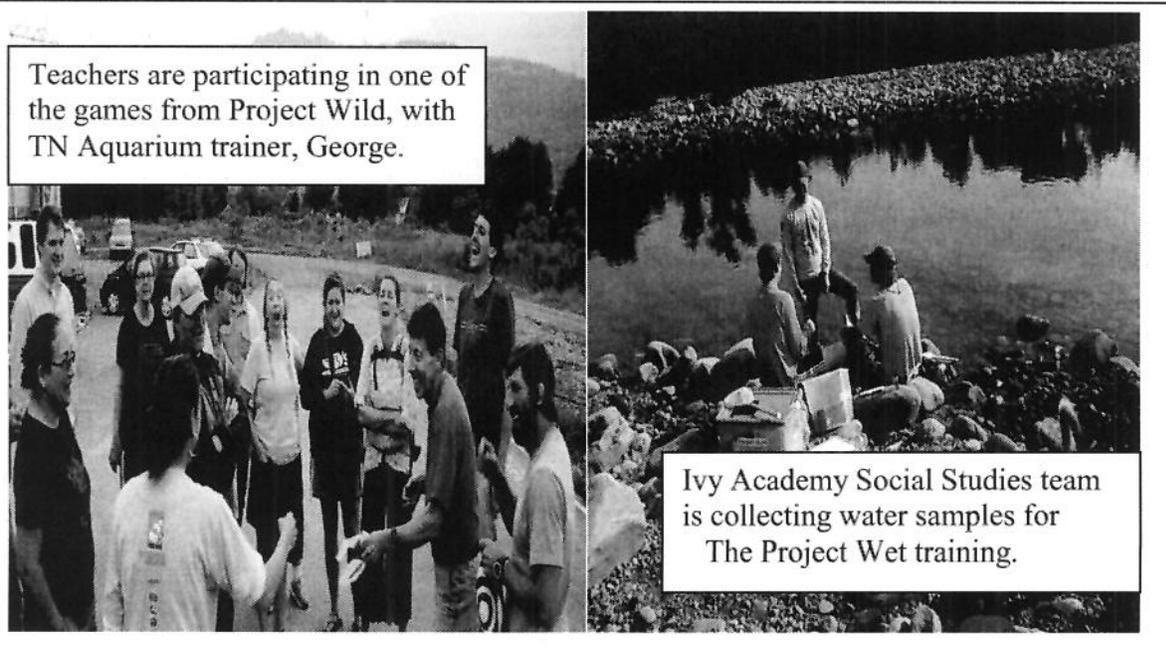
Target #14: Professional Development In EE

Each year **100% of Ivy Academy staff participates in Environmental Education Professional Development.** Ivy is mid-way through our fourth year and already we have hosted on our campus the following Environmental Education Professional Developments:

- Project Learning Tree
- Project Wet
- Project Wild
- Leave No Trace

We devote a minimum of two professional development sessions per year exclusively toward environmental education. We utilize experts from local agencies such as the Tennessee Aquarium and the Chattanooga Arboretum and Nature Center as resources for environmental education, as well as state and national resources.

Jim Watson, Ivy Academy science teacher, receives grants yearly to take teachers to Sapelo Island, Georgia where they do studies on marine life, including the beautiful sea turtle. Last year, while Jim's group was there, wildlife officers set up a sting operation and caught poachers taking sea turtle eggs from a nest on the beach. It was exciting to see justice prevail.





Target #18: Environmental Literacy Among LEA Graduates

At Ivy Academy, each student takes one year of Environmental Science. We have also developed requirements to earn an **Ivy Letter**. Just as student in a traditional school might earn a letter through accomplishments in an area like sports, Ivy students earn their Ivy Letter by demonstrating the following throughout their four years of high school. The state of Tennessee does not have any environmental standards required for graduation. Since this is Ivy Academy's first year to have a graduating class, we do not have any statistics for environmental literacy among graduates.

Ivy Letter Requirements for all Ivy Graduates

Freshman Year:

- Students take Environmental Science and demonstrate understanding of key environmental vocabulary.
- Students must participate in minimum of one environmental clean-up project outside school hours.
- Students attend field study to mountain eco system in the Great Smoky Mountains.

Sophomore Year:

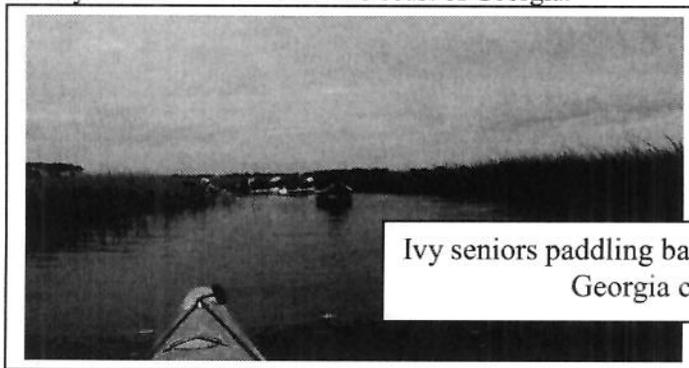
- Students learn the top 5 problem invasive species in southeast Tennessee
- Students must participate in a minimum of one environmentally related service project.
- Students attend field study to Okefenokee Swamp and the Great Smokies Science Center.

Junior Year:

- Students demonstrate that they have learned five native keystone species in the following areas, trees, plants, mammals, amphibians, fish.
- Students must plan and facilitate an environmental clean-up.
- Students visit sea turtle hospital, the Georgia Marine Institute and the Gray Fossil Site in TN.

Senior Year

- Students make an electronic field guide of their top twenty favorite native species.
- Students must plan and facilitate a service project which may or may not be environmentally related.
- Students kayak a barrier island off the coast of Georgia.

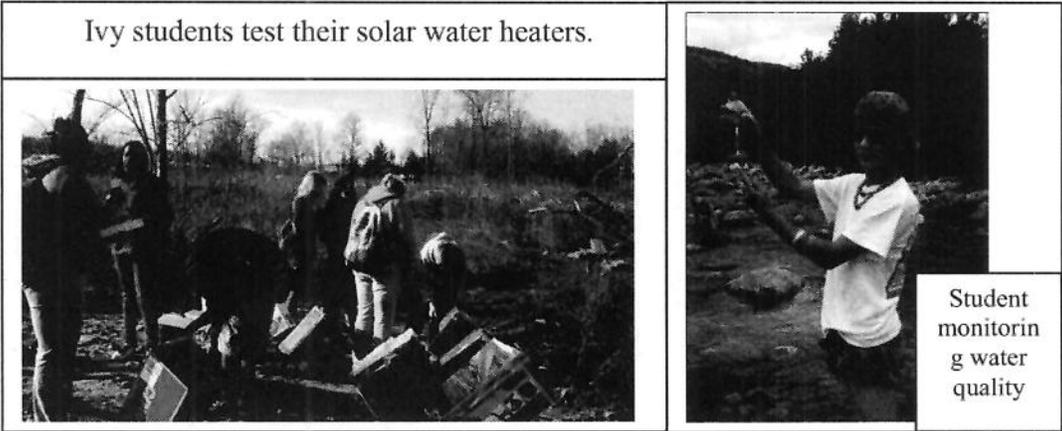


Ivy seniors paddling barrier islands off the Georgia coast.



**Target #17: Environmental Education
And STEM**

- Students at Ivy Academy are partnering with the Smithsonian Institute to help create the world's first global tree observatory, monitoring how forest trees are responding to their climates. Ivy Academy is one of 490 schools from 38 different countries now participating in Smithsonian research that will provide information used to predict further effects on local and global ecologies.
- Ivy Academy's environmental science classes design and build a one gallon solar water heater. The students host a solar day where they set up their water heater outside and their grade is based on how high the water temperature reaches.
- Ivy Academy students partner with the Tennessee Valley Authority to track and monitor water quality in our adjacent creek. This helps students understand the importance of watershed awareness and promote their understanding within the community. The partnership with the Tennessee Valley Authority prepares students for careers in sustainability fields.
- Students participated in the TEAMS engineering math competition at the University of Tennessee in Knoxville. This competition focused on engineering healthier lives where students researched and debated several different scenarios concerning biomedical engineering, mechanical engineering, chemical engineering and electrical engineering. These scenarios were based on real-life situations which prepared the students for college and/or career readiness.





Target #19: Service Learning

- Ivy Academy requires all students to participate in at least one year of service learning courses. Our hope is that we breed a spirit of citizenship and stewardship among our students and graduates.
- Our courses focus specifically on environmental service projects for a portion of the year. One ongoing project that all students in the school participate in is a trail cleanup of the local trails. We have a specific focus on the heavily impacted portions of the pocket wilderness trail system. These are trails that we utilize during the school year and students develop a great sense of responsibility for their maintenance and upkeep. Many of the sections were at one time used for an unauthorized dumping area and the impact on animal habitat was severe. With student efforts much of the refuse dumped in the forest has been hauled away and recycled or properly disposed of.
- Our service learning courses are the venue through which we conduct our school investigations. Students learn how to identify energy issues and needs within our school and can then use this knowledge in their homes and communities. Having our students drive our investigations helps them to have a vested interest in moving our school forward towards greater sustainability.
- Students get opportunities to lead the way in environmental awareness through their own interest and passions. One course component is an individual student research project. Students are able to choose an issue that impacts their community or they feel strongly about and then present their research to the class. Many of these projects have an environmental focus that has a positive impact for their communities outside of school.
- All service learning classes teach students the practice of **Leave No Trace** land usage. This is especially important for our institution since we utilize the outdoors daily. One goal for our school is to have our students be ambassadors for the environment among their peers that attend other schools.
- Ivy Academy hosted the regional Service Learning certification professional development in 2010. We plan to host again in spring/summer 2013, and have been in contact with the Service Learning training office to set that date.
- Our goal is to maintain 100% of our faculty certified in service learning.



Target #20: Community Partnerships

- Ivy is an official TVA partner in education. The Partners in education is a very important program for Ivy Academy. We have been able to gain a greater understanding of our impact on the local watersheds and ecosystem. Students have studied the North Chickamauga creek to monitor animal activity, water quality and level variances. Students have compared our data with the data that TVA has collected for the past 50 years on the creek. Students have been able to look at the data in our stem program and better understand emerging patterns formed in the past several years.
- Last spring we were awarded a partnership with the Smithsonian institute to gather data on local tree growth. Our scientific research and Stem program have been learning how scientist's around the world record data on tree growth, utilize it and how it informs them to make predictions about global trends.
- We also have a partnership with the Tennessee State Parks and Friends of the Cumberland Trail to promote awareness of the woolly adelgid. Our students have worked with forest rangers to monitor the spread of the woolly adelgid among our local forest. We have created and designed a website where people can donate to the parks pay pal account. The funds will be used to purchase beetles to fight the adelgid and soil drench to protect the trees. State parks donate 20% back to Ivy Academy for our environmental and sustainability programs which positively impact the Cumberland Trail.
- We have been working with Global Green Lighting, a local business that focuses on green lighting alternatives. They have donated LED low energy outdoor lights to our campus. They have recently won the bid to replace all the street lights in our city. Global Green Lighting will not throw the old lights away to become a burden on the landfill. They contacted Ivy Academy students about help with the recycling of the used lighting whereby we are not only partnering with our community, but our community is partnering with us.
- We received a grant from our local junior league organization that allowed us to build our school garden. Our students have learned how to grow their own vegetables and have gotten to enhance their school lunches with healthy salads from the garden.