Global Sustainability

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Celeste Ansley and Kristen Mierzejewski

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#### Abstract

The planet has limited resources, and for this reason it is essential that humans start living more sustainably. Unless we make major changes in our behavior, as well as in perceptions of the natural world and its infinite resources, the environment could be irreversibly damaged. We believe that an important and relatively easy way to foster change is to target young people, particularly those of school age. The young can correct any environmentally detrimental behavior before they develop into bad habits. Furthermore, these students can then spread information about environmentalism to their family, friends, and surrounding community.

It was with these ideas in mind that we decided to start an environmental club at Burley Middle School. The club was designed to meet weekly to discuss environmental issues and ways students can make an impact. While we initially led the club, we want the club to continue in our absence, and so three co-presidents were elected by the students to run the club next semester. So far the club has been very successful, with a total of six meetings and an average attendance of around 25 students. The co-presidents have successfully led the club, under our supervision, and we now feel that they should be equipped to continue meeting next year. While we have a teacher sponsor, his role is minimal, as we want the students to be taking initiative and teaching and learning from one another. We feel that a certain level of autonomy will help the students to understand their responsibility not only to the environment, but also to one another. Our main goals for this project were to have an average attendance of at least 20 students and to create a club that is educational and engaging that will sustain itself without our leadership. We also wanted students to begin thinking and planning projects that they can enact within their school and community to address sustainability. We feel that we have adequately achieved all of these goals.


## Problem Definition:

It is our opinion that younger generations are unaware of the environmental issues facing our planet and more specifically, our communities. In fact, there is an increasing amount of literature on the negative effects of the disconnect between young people and nature, often referred to as nature-deficit disorder. In his book, Last Child in the Woods, author Richard Louv "directly links the lack of nature in the lives of today's wired generation to some of the most disturbing childhood trends, such as the rises in obesity, attention disorders, and depression."1 Not only do younger people not have as much interaction with the outdoors but they also generally lack the knowledge of how they can specifically enact environmental change in their community. For example, one of our contacts for this project, the Environmental Manager at Albemarle Resource Center, Lindsay Snoddy, said that all of the schools in Albemarle County have recycling bins, but that from what she and other teachers have observed, they are not fully utilized. This is a problem that needs to be addressed, because if students are not doing the simplest sustainable activities, then they are much less likely to become involved in bigger more important environmental problems, if they are even aware of them. Our current state of living simply is not sustainable, and it is the future generations that will be affected the most. Environmental change, we therefore believe, should start bottom.

By teaching young students about environmental problems and showing them practical applications of sustainability, more people can become involved in environmental sustainability. This is why we decided to start an environmental club at Burley Middle School. We believe that through a school club, for reasons addressed later in the approach section of this paper, we can

[^0]educate students who already have somewhat of an interest in environmental issues and we can empower them and provide them with the resources to realistically enact some sort of change within their school community. We want to discuss environmental issues that they face in their everyday life, and how they can impact them. We also want the students to plan at least one student-run initiative within the club that they can enact in their school or community. Through this project, the students can learn how to take what they learn in the classroom and put it into practice. This project will also help to motivate students to come back to the club on a regular basis and it should make the club's presence known throughout the school community. The goal of the environmental club is to bring students together who care about environmental issues and provide them with the tools to enact change in their community.

Two of our main contacts for this project are: Lindsey Snoddy, who works for the Albemarle County School System and Mike Barber, teacher and recycling coordinator at Burley Middle School. We decided to try and find a contact at a middle school, grades 6-8, because we felt that middle school students are old enough to understand the issues, but not too old that they are set in their ways and are apathetic. When we contacted Ms. Snoddy about wanting to create an environmental club at a local middle school she put us in contact with Mike Barber. After emailing Mr. Barber, we decided that Burley Middle School would be a great school for our project, largely because Mr. Barber proved to be an enthusiastic and knowledgeable sponsor who expressed the school's excitement for our project.

Before we started the club at Burley Middle School we wanted to make sure that we were taking into account all the people who would be affected, directly or indirectly, by this club. We wanted to be sure that we would have the a positive effect and avoid any unintended negative
consequences. We knew early on that because we would be working with children, one of the main stakeholders would be the students. These students have the potential to spread their knowledge and activism to their community and family which would also make these new groups stakeholders as well. The school community also has the potential to be impacted by any projects the students hope to embark on, especially in the students decided to tackle school policy. Not only are the stakeholders important, but so are the gatekeepers, the people who hold power. The principal and teachers will be the main gatekeepers because they set the tone and determine what is acceptable at the school. For example, if they deem that learning about environmental issues is important, then the environmental club would be able to more freely promote their ideas and projects. But if the principal is resistant to changes in the school then it could be difficult for the students to implement any projects they wanted to pursue. We do not want to ignore other people who could be potentially impacted by this project. So far, the cleaning staff at the middle school is the main group that could be unintentionally impacted if the students want to hang things up around the school or do engage in an activity in the school that could potentially affect how the cleaning staff performs their duties. The students must be mindful when pursuing a project in the school not to create any difficulties for the school staff. After evaluating all those who could potentially effect, and be affected by, the environmental club, we decided to go ahead with the next phase of our project.

## Approach:

The issue we noticed was students are not aware of environmental issues in their community. We proposed several initial approaches that we thought could address this problem. All these approaches involve differing levels of commitment and interaction between us and the
students. In order to pick the best approach we decided on seven key criteria that were essential to the type of project we wanted to implement. Our main goal for this project was to focus on educating the students on environmental issues, which all of our approaches covered. We wanted to have a lasting impact on these students and provide them with something that they could influence and have some form of control over. Environmental issues need to be discussed and addressed over time if they are going to be effectively solved, and so this greatly influenced our criteria for the best approach since we wanted to pursue a project that would allow the students to enact some form of change in their environment.

|  | Possible Approaches |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
| Criteria | Club | Class <br> Presentation | Curriculum for <br> Teachers to <br> Implement | Workshop |
| Fun for students | 1 | 0 | 0 | 1 |
| Discussion <br> Oriented | 1 | 0 | 0 | 1 |
| Mainly led by <br> students | 1 | 0 | 0 | 0 |
| Self Sustaining | 1 | 0 | 0 | 0 |
| Minimum added <br> work for <br> sponsors | 1 | 1 | 1 | 1 |
| Educational on <br> environmental <br> issues | 1 | 1 | 1 | 0 |
| Flexible on <br> topics so that <br> they reflect <br> student's <br> interests | 1 | 0 | 0 |  |


| Minimum time <br> involvement for <br> project <br> implementers | 0 | 1 | 1 | 1 |
| :--- | :--- | :--- | :--- | :--- |
| Total | $\mathbf{7}$ | $\mathbf{3}$ | $\mathbf{4}$ | $\mathbf{5}$ |

Club: This approach covers all criteria except the minimum time involvement. The club would be by far the most time consuming for the project implementers.

Class Presentation: This approach is minimum work for sponsors and project implementers and educational on environmental issues. However, it would not be run by students nor would it therefore be self-sustaining. Furthermore, it would not encourage discussion among students and would be inflexible on topics covered. We also felt that this would not be interesting or fun for the students.

Curriculum: This approach is minimum work for project implementers; however, the workload would fall on the project sponsors. Similarly to the presentation, it would not be discussion oriented and would not be led by students. However, the teacher could use flexibility when teaching topics to relate them to students. While this approach would be sustainable, we decided it would also not be engaging and interesting for the students.

Workshop: Finally, we considered a workshop because it would involve minimum time commitment for project implementers and sponsors. We also felt it would be fun and encourage discussion. However, topics would not be flexible, and as it would not be run be students it would also not be sustainable.

Once we decided that a club would be the best approach, we needed to figure out which age group this approach would suit best. We followed similar guidelines for the criteria as we did when developing the criteria for the best approach. We wanted to develop a project that would have the greatest chance at enacting some form of environmental change over a sustained period of time.

|  | Possible Age Groups |  |  |
| :--- | :--- | :--- | :--- |
| Criteria | Elementary School | Middle School | High School |
| Mature enough to run <br> a club with little <br> supervision | 0 | 1 | 1 |
| Students have enough <br> free time to fully <br> dedicate to the club | 1 | 1 | 0 |
| Able to enact change <br> within their school, <br> home, community | 0 | 1 | 1 |
| Able to understand <br> various environmental <br> issues facing our <br> planet with some <br> degree of depth | 0 | 1 | 1 |
| Information in club <br> can easily tie into <br> what students are <br> learning in class | 0 | 1 | 0 |
| Total: | 1 | 5 | 3 |

It became apparent from the above model that middle school students would be best suited for a club. We wanted the club to be self-sustainable, and this would not be possible in elementary school. A high school club would also be feasible, but we felt that middle school was
the best option for a number of reasons. Firstly, middle school students have less time commitments than high school students, and don't have the stress of college applications, GPA, and large amounts of homework. We felt that middle school students would have more free time to be dedicated to the club. While high school students would be easier with regards to the club self-sustainability, we felt that if the middle school students were motivated and active in the club, then they could potentially go on to start another environmental club in high school, impacting an even larger number of students. According to C.A. Bowers, the U.S. is currently in a cycle in which, "the marginalized status of environmental education in public schools and in universities contributes to the marginalized status if not outright denial in the consciousness of the public-even among the most highly educated segment of the public." ${ }^{2}$ If we want to see a change in how Americans view environmental issues, then we need to address how the environment is viewed in the school system. Middle school students are eager to learn how they can make an impact at such a young age and they can carry their enthusiasm to their home, and community, and eventually future high school. Therefore, by starting a club that discusses environmental issues in a middle school, we can affect and reach the most people about the importance of environmental issues.

[^1]
## Schedule:

October $\mathbf{1 5}^{\text {th }}$ : Met with mentor, Mr. Barber, and explained the project, our plans, and set up guidelines with him. Also planned a date to visit the school and post flyers advertising the club.

October 20 ${ }^{\text {th }}$ : Determined a solid date for meetings. Placed flyers around the school and made a video announcement to be broadcast in the school.

October $\mathbf{2 5}^{\text {th }}$ : Had our first meeting. Attendance was higher. Took role at first meeting and discussed plans and structure of club with students including expectations about behavior and commitment. Showed a video on paper usages and waste.

November ${ }^{12 t}$ : Were supposed to have second meeting and hold student elections to determine co-presidents. However, Mr. Barber informed us that it was a teacher planning day and therefore no school would be held.

November $\mathbf{8}^{\text {th }}$ : Had second meeting. Held student elections to determine co-presidents. Explained the basic roles as co-presidents of the club. Discussed potential ideas for student run project and told students to bring ideas for the projects to next meeting. Discussed water usage and ways to use less water. Had students to discuss thoughts, opinions, and experiences. Asked the co-presidents to start planning a topic to talk about in two weeks time. Exchanged emails with the co-presidents and spoke with Mr. Barber about use of PowerPoint presentations in the classroom for future use.

Week of November $\mathbf{8}^{\text {th }}$ : Successfully reached goal of having approximately 25 students regularly involved in the club and active participation by at least $20 \%$ of students. Checked the names of students and made sure that about $50 \%$ are returning each week.

November $15^{\text {th }}$ : Had third meeting. Further discussed ideas for a potential projects and told students to prepare to vote on a project at next meeting. Talked about electricity usage, its effects on the planet, and what they can do to lower their impact. Encouraged student involvement and discussion. Showed students websites where they can calculate their ecological footprint which was a good interactive activity. Also had them to calculate savings their family could receive from switching to energy efficient light bulbs. Held a discussion about easy ways they can lower their electricity bills.

Week of November $\mathbf{1 5}^{\text {th }}$ : Talked with co-presidents before the meeting about ideas they want to talk about for the week of November $22^{\text {nd }}$. Asked them for a topic to talk about and potential resources to present. Ensured they could meet together during school, probably during study hall, and got them to exchange emails. Made sure they understood their responsibilities.

November 22 ${ }^{\text {nd }}$ : Had fourth meeting. For the first half of the meeting, the co-presidents were supposed to run the meeting. However, they were "unable to meet up" and did not prepare a cohesive presentation. One of the co-presidents showed a brief video on electricity usage in the home. Spoke with the co-presidents and explained that initiative is necessary if they want the club to be successful. Talked with Mr. Barber and arranged a time for them to all meet and come up with plans for the next meeting. For the second half of the meeting, had students suggest ideas for potential student projects. Students discussed potential issues with the projects and why they thought they will or will not work. Students got in small groups and each group voted on a project they wanted to see implemented. After surveying each group, three potential projects were chosen: developing posters to place around the school and educate their classmates about
environmental issues, start a quiz bowl with a weekly environmental question and prize for one of the winners, and leading their own discussions in classrooms.

Week of November 22 ${ }^{\text {nd }}$ : Had approximately 30 students attending the meetings and came up with realistic plans for a school/community project. Checked student names and made sure that at least $50 \%$ of students had been to at least 2 other meetings.

November 29 ${ }^{\text {th }}$ : Had fifth meeting. For the first half of the meeting, co-presidents ran the meeting and discussed sustainable energy alternatives. Presentation was good, but not very cohesive or imaginative. Spoke with students about having more interactive plans and gave them tips and ideas. Arranged plans for them to meet that week to plan the next meeting. For the second half of the meeting, discussed procedures and plans for community/school projects. Chose one project, posters throughout the school, to be enacted in the short term and two projects with longer-term goals. Students discussed ideas for implementing the projects and discussed potential issues such as cost, permission of school, and involvement of students. Told the students to come up with ideas for the posters that we would make the following week. Spoke with Mr. Barber about materials for posters and planned to bring an example poster.

December $3^{\text {rd }}$ : Had co-presidents discuss plans for school/community project and present them at the next meeting. Also asked the co-presidents to prepare to run the next meeting. They can spend the meeting talking about the project, or discussing other issues if they wish. Told students to bring ideas for environmental posters. Set up a date to have a re-election of presidents, sometime in February or March, so that other students can have a chance at leadership in the club. Explained to Mr. Barber plans for the future and his future role in the club.

December 6 ${ }^{\text {th }}$ : Had sixth meeting. Brought an example poster for the students to see. Copresidents had not prepared anything for the class, so we spoke with them about their role and commitment for the club. Worked on posters and handed out a survey to the students. Said farewell and gave co-presidents a copy of suggestions for future meetings' topics and resources for them to use. Interviewed Mr. Barber briefly about his opinion on the club.

We kept pretty closely to the original timeline we had proposed despite a few difficulties. We felt that the half-hour time slot posed a real difficulty to getting everything accomplished. We also felt that with a few more meetings we could have had the club much more on its feet. We were slightly disappointed with the lack of initiative the students showed, particularly the copresidents who had initially shown so much enthusiasm, however, we hope that this will not hinder the club.

## Budget and Funding:

One of the many advantages of starting a club within a middle school is that relatively little funding is required. So far we have not spent any money on the club and any money that the club would need, for local field trips, could be easily raised by fundraisers by the students. Depending on what the students want to use this money for, the supervisor of the club could apply for a grant. The students could potentially need money for any school or community projects they wish to pursue through the club. However, these would be minimal and could be fundraised by the students. Mr. Barber has also informed us that he receives a budget for his science class that he would be willing to share with the environmental club but we really do not
want the club to have to be dependent on Mr. Barber's class budget, and only use it as a minimal or last resource.

## Documentation and Assessment:

One of the main things that we learned was that students are much more motivated and involved than we had originally expected. Even though we were somewhat disappointed with lack of initiative by the co-presidents, the students who returned to the club on a regular basis were extremely eager to take actions to help the environment. The middle-school students, of all ages, were interested in getting involved in the club and were eager to learn about how they could make a difference. While some students had trouble focusing and we frequently had to ask the students to quiet down, most of the students who attended the meetings were there because they were genuinely interested in getting involved. Many of the students had a lot to say on certain environmental issues, and they all had many ideas for how to make a difference.

Much of the information we talked about in the meetings was new to the students, and we felt that we were helping make a difference in their understanding of the world. They loved the interactive activities, such as calculating their ecological footprint. Discussions, while it got them more involved, needed to be quite firmly led in order to keep order. We were worried that after we left the students would not pay attention and the club would be difficult to lead. However we found that when the co-presidents did their presentations the students listened and were silent. The presence of Mr. Barber definitely helps to keep the students in order, so we talked to him about remaining in the classroom during the club next semester.

We found that students enjoyed expressing personal opinions and responded well to encouragement from us and other students. The co-presidents seemed especially eager to express their views and to get started on environmental issues. We were also pleasantly surprised when the co-presidents led their first meeting and had the entire club's full attention.

The students all had many ideas for projects to implement within the school, some more feasible than others. We found that low-cost and low-effort projects would be best suited for middle school students, although many students had even bigger ideas, such as planting a community garden or picking up trash in the area. The project that we started on in class was environmental posters. We wanted students to be able to share their environmental knowledge with the school. While many students wanted to do something more ambitious, we felt this was a good first project for them to work on. The students made several fun and interesting posters displaying environmental facts and tips they found relevant. We are unsure how future projects will work out without our input and guidance, but we feel that small-scale projects that focus on the school are the best option for the students.

We also had the students come up with and discuss some potential projects for the future. One such project is the idea of having an environmental question read on the announcements at the beginning of each week. Students in the school can guess at the answer and at the end of the week, answers will be drawn from a hat and the winner will receive some sort of prize. We felt that this would be a good way to get students involved and interested in environmental issues. It would also promote club awareness and encourage new members. The students also expressed interest in doing school wide surveys on environmental knowledge and opinion, and we encouraged them to pursue these ideas in the coming semester.

In general we learned that the students were much more eager and willing to get involved than we had originally expected. Also, many more students came to the meetings than we had been expecting. There was a core group of about fifteen students who came to every meeting and participated in all the discussions, although many other students were also eager to get involved in the club. The student elections went well, and we felt that three co-presidents was the best solution for leadership. One president would not be enough, considering they are only in middle school and the club would be a large responsibility. Since all three grades $\left(6^{\text {th }}, 7^{\text {th }}\right.$, and $\left.8^{\text {th }}\right)$ were represented in the club we felt that a co-president from each grade would best insure the interests of all members of the club. Hopefully the students will be able to work together and run the club efficiently and effectively.

It is difficult to measure the success of the club, especially since it is still in the early stages. If the club is still in place next year, running smoothly with at least 20 members, then we would feel that our goal was reached. One of the main goals for our club was for it to be selfsustaining and for the students to run it themselves. As of yet we do not know whether this will be successful. As far as accomplishing the shorter-term goals, such as student attendance, we have been very successful. On average we have around 25 students per meeting, with around 30 on some occasions.

We will continue to stay in contact with Mr. Barber to make sure that he is not experiencing any difficulties with the club and to see how the club is progressing. Hopefully, the co-presidents will be able to run the club with minimal commitment from him. We also plan on staying in contact with the club via the co-presidents and our goal is that eventually they will be able to keep the students in the club engaged in environmental issues. Depending on our class
schedule for the spring semester, we would love to visit the club every so often just to make sure that they are on track and that the co-presidents are able to effectively run the meetings. Our ultimate goal is for the club to become a staple within Burley Middle School. Also, we potentially hope to provide a model for other middle schools in the area. We will consider the club very successful if we are able to create a working example of a middle-school environmental club.

## Barriers:

A barrier that we could foresee is if the club consists of mostly unmotivated students or students who have difficulty with discipline. However, this could easily be corrected by the club's sponsor, Mr. Barber, who could speak with the students regarding their behavior or eventually remove them from the club. We found there was a certain amount of apathy, especially with the older children. Some students were simply in the club to get out of study hall, and it showed. We feel that this could severely hinder the club if there are too few motivated students. The unmotivated students also were usually the disruptive ones, and frequently had to be asked to quiet down.

Another barrier is regarding the co-presidents of the club. So far, the co-presidents have not shown as much leadership as we would have liked and so we are concerned that they may not come prepared for future meetings and may eventually lose the attention of their peers. This would force Mr. Barber to take a much more active role than planned and we do not want to place more responsibility on him than we already have, especially since one of our main goals was that this be a student run club. This is one of the reasons that we decided that the club should
elect co-presidents on a semester basis. We realize that elections for co-presidents would be difficult for the students to run themselves, so we have asked Mr. Barber if he could lead future elections. We felt that having elections twice a year would be the best option. The club is a big responsibility, and switching presidents halfway through the year would help spread the responsibility. Furthermore, many of the students in the club want to get involved and have many different ideas. By having different co-presidents, new approaches and ideas can be incorporated into the club, making it more interesting and more effective.

A barrier that we encountered was our time limit. We only had half an hour each week to hold the club, and this proved to be not enough time. After school meetings might have been a better choice, even though this would have greatly limited the number of students who would be able to attend. We frequently ran out of time and felt that we were rushed. This could potentially be a barrier for the club in the future because when the co-presidents run the club it could be less organized and more difficult to cover information during the time slot.

## Student Evaluations:

At the sixth and last meeting of the club that we ran, we handed out a survey to students to get their opinions on the club.

Anonymous Survey - tell us what you think!
Grade: $\qquad$

1. How many meetings did you attend?
$\begin{array}{llllll}1 & 2 & 3 & 4 & 5 & 6\end{array}$
For questions 2-5, rate your opinion of the statements with ratings of strongly agreestrongly disagree.
2. I found the club fun and interesting.

Strongly Agree Agree NeutralDisagree Strongly Disagree
3. The club inspired me to become more active in learning and becoming active in my community and environment.

Strongly Agree Agree NeutralDisagree Strongly Disagree
4. I learned new and interesting things from this club.

Strongly Agree Agree NeutralDisagree Strongly Disagree
5. I plan to attend future meetings of this club.

Strongly Agree Agree NeutralDisagree Strongly Disagree
6. What are some things you liked about this club?
7. What are some things you didn't like about this club?
8. Any other comments?

## Evaluations Results:

We assigned a numeric value to each answer (strongly agree - strongly disagree) so as to best quantify our results. Strongly agree had the value 1 , agree 2 , neutral 3 , disagree 4 , and strongly disagree 5 . A total of 31 students completed the survey, with 28 sixth graders, 1 seventh grader, and 2 eighth graders. The average total of meetings that students attended was 4.6 and almost $75 \%$ of the students had attended at least four meetings. Almost $40 \%$ had attended all six meetings, which we feel is an accomplishment considering many students had other work they needed to do during this time slot. With regards to the results, the average score for whether the club was fun and interesting was 2.4 , meaning it was between neutral and agree. Many students agreed or strongly agreed, however some students didn't appear to take the survey seriously, and their results skewed the average. The third question scored an average of 2.5. The fourth question scored an average of 2.2 and the final question had an average of 1.7. The results for the last question, whether students plan to attend future meetings of the club, are particularly encouraging. This indicates that the club has a chance of continuing on in the next semester without our help since there is clearly a high level of interest. For this last question no one scored above a 3, which is also encouraging.

The last three open-ended questions didn't provide as much feedback as we might have hoped for. Many students put nothing for all three questions. One comment that was expressed among several surveys was that one of the things that students didn't like about the club was the lack of time and not enough fun interactive activities. We felt that with more time we would have been able to do more interactive activities and involve the students more. Some things that students said they liked about the club were the facts they learned and the amount of freedom they had. We felt that a certain amount of autonomy was essential to the club, so it is good that
the students enjoyed it. Overall, the surveys were a good way to gauge the opinions of the students and gave us a few suggestions for how we might change the project in the future.

## Interview with Mr. Barber:

After the club ended we interviewed Mr. Barber regarding how he felt the club was going and some suggestions he might have for us. He said that he felt that getting students more involved and interested would be important to the club. We asked him whether the club had met his expectations and he said that he felt the club was going great and that it had surpassed his expectations. With regards to continuing next year, Mr. Barber felt that the club had a great chance of succeeding past this semester even though it might require more time than Blast Time (the period of time when the club was meeting) offered. But Mr. Barber told us that even though the club might require more of his commitment than expected for right now, he was happy to be involved and that over time, he thinks that the students will get more used to taking on responsibility of the club. He also felt that the students were benefitting from the club and that it provided a great venue for the students to use practical applications of what they learn in his science class. His overall opinion of the club was very positive and said that he was hearing great feedback from the students about the club.

## Dissemination:

We plan to send an overview of the club and a basic outline of our approach to Lindsey Snoddy. Ms. Snoddy can then determine whether our plan would be a viable approach for other middle schools in the area. She could then pass on our report to other schools or teachers who would be interested in pursuing a similar project. This project would require some initial commitment from a volunteer or faculty member, however their input and time commitment
would minimize over time, and as our plan outlines, we hope for the club to be mainly in the hands of the students. We have received extremely positive feedback from both the students and Mr. Barber and so we hope that this can serve as a realistic model that can be implemented in schools across the Albemarle district.

## Photos and Data:





Student attendance by grade:

|  | 6th grade | 7th grade | 8th grade |  |
| ---: | ---: | ---: | ---: | :--- |
|  | 11 | 4 | 6 |  |
| $10 / 25 / 10$ | 22 | 2 | 0 |  |
| $11 / 8 / 10$ | 21 | 2 | 2 |  |
| $11 / 15 / 10$ | 22 | 2 | 3 |  |
| $11 / 22 / 10$ | 30 | 2 | 3 |  |
| $11 / 29 / 10$ | 30 | 1 | 2 |  |

Overall Attendance:

Total Students

| $10 / 25 / 10$ | 21 |
| ---: | ---: |
| $11 / 8 / 10$ | 24 |
| $11 / 15 / 10$ | 25 |
| $11 / 22 / 10$ | 27 |
| $11 / 29 / 10$ | 35 |
| $12 / 6 / 10$ | 33 |




[^0]:    ${ }^{1}$ http://richardlouv.com/last-child-woods

[^1]:    ${ }^{2}$ C.A. Bowers, Transforming Environmental Education: Making the Renewal of the Cultural and Environmental Commons the Focus of Educational Reform (Ecojustice Press, 2006) p. 4

