



2014 CCE Summer Internships

CATEGORY ARCHIVES: 4-H NATIONAL YOUTH SCIENCE DAY EXPERIMENT CURRICULUM DEVELOPMENT

Week 6- Invitation to teach YWAC and 2nd Week of Teaching

Posted on **July 24, 2014** by **Ciara Alexis Rodriguez**

While my last blog focused on how my activities for the week went, it should also be known that I did have down time to work on this week's activities. I emailed one of my directors asking if we could do an egg drop parachute experiment, since it would tie in nicely with the paper helicopter activity that I wanted to do the previous week. She approved of the idea and suggested that I also incorporate another activity that I did in the workshop, called "Adopt-a-Pixel". The children would have to go outside, select a landmark on the camp or "point", write down the coordinates by using a GPS, and take photos of the land in all directions, including up and down. Also along with this activity campers would also learn how to pace a pixel (from space a pixel is a 100ft by 100ft square). I was a little hesitant about this activity because, compared to the other activities I drafted, I was not sure if summer camp children would feel invested in learning how to do this.



In my first group I had over 20 campers which was a huge number to me. I asked the children what they believed we were doing, and they said they signed up for my activity because they thought they were going to draw a pixel on the computer. On the sign-up sheet of paper "Adopt-a-Pixel" had no meaning to the children, so they seemed a bit misled when I told them what we were actually doing. To introduce the activity I showed them a huge poster of an image of New York state, and asked if they knew where Ontario County was on the map. Some campers knew right away where it was while others did not. After that I gave out two GPS units per group and taught them how to use it to find waypoints. Only about three campers had any GPS experience so this proved to be a little difficult in the short amount of time I had. With the first group I tried

adding in a Geocaching aspect to the activity by having the children hide a marker at the landmark or “point” that they chose. The children had to write down the coordinates for the point anyways, so I felt this could seamlessly be



added. However, this activity proved to be too ambitious because some groups were not able to get their coordinates written down right, and I forgot to tell them to record the waypoint onto the GPS before returning inside. I tried my best to try and solve the issue by having only one person from each group come up, so I could help them to put in the coordinates. Counselors who also knew how to Geocache greatly aided me during this part. Once points were added to the GPS units I had the campers switch devices and find the other group’s marker. Luckily all of the groups markers were found.

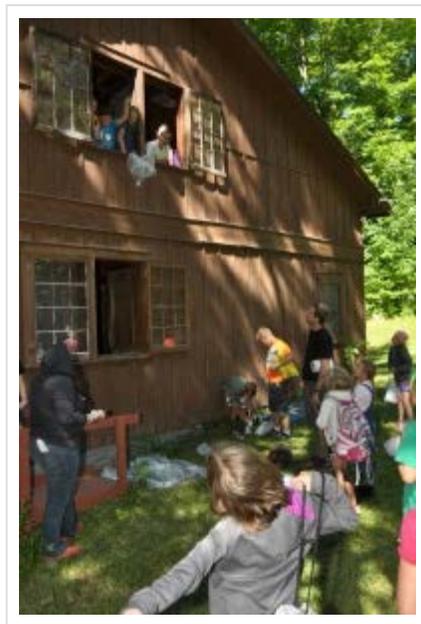
For the second group, instead of the Geocaching activity, Neutron (one of my other directors) and I taught the children how to pace. We first had the children pace a 100ft by first measuring the distance with a measuring tape. The average pace that the children got for walking 100ft was around 20-25 paces. Using that number I challenged the children to create a

square that would be the same size as a pixel from space (aka 100ft by 100ft). The children were in groups of about four, and each group got to pace a side of the square. To see if the children were accurately able to do it, Neutron and I measured the distance of the diagonals to see if they matched. One diagonal was 131 ft while the second diagonal was about 152 feet. The children were off by around 20 feet so they did not make a perfect square. The activity was able to be carried out, but I did have problems with children not paying attention to the directions or deciding not to participate.

Wednesday and Thursday of this week I had the pleasure of also helping out with activities with the YWAC (Young Women Adventure Camp) group. This was a special group girls could belong to at the camp so they could learn about women empowerment, and be exposed to different fields such as STEM. For the activities I did the paper airplane, hoopster, as well as the helicopter activity I previously was not able to. I especially liked doing the helicopter activity because I was able to talk about concepts such as gravity and weight pulling on a helicopter causing it to spin to the ground. There were a few girls very interested in engineering and science so they asked me questions about these concepts and about the scientific method. I gave the girls the challenge of creating a helicopter that would spin the most and fall the fastest. I gave them basic instructions and left them to do alterations. I would occasionally ask questions such as “What do you think would happen if we added a paperclip to the bottom of the helicopter”, or “Do you think adding larger rotors would do anything?” I asked these questions to entice the girls to think scientifically and to not be afraid of trial-and-error. While not every girl made new helicopters each time there, were many ambitious campers that tried multiple methods before they were satisfied with their end result. I was especially happy to see girls tell me their results and speculations for why certain modifications on their helicopters were better for solving the challenge I originally gave them.

After my lesson with the YWAC girls on Thursday it was time to lead the egg drop parachute class. I found out that

my first group had 34 campers in it while my second group only had six students in it. This was a huge difference and, luckily, I had three other counselors in my first activity to help with all of the children. Similar to the airplane activity, I also had two mentally handicapped students with me that I helped to successfully construct the parachute. On purpose I left my instructions on how to build the parachutes very vague. I wanted the children to use their own ingenuity to create a parachute that would safely deliver the egg to the ground. We had access to a ladder and a second story window so children could test out the parachutes before the eggs were put in. In the first group almost everyone was part of teams of at least three, since there were so many children and I only had two dozen eggs. I set up stations where children had to wait for items such as hole punchers and string. Once they finished constructing, many children went outside to test their parachute on the ladder. They also added materials such as grass, rocks, and twigs to add weight to it so they would simulate how the parachute would function when the egg was put in. I allowed each group to have only one egg to test out so I told them testing the parachute first was a smart idea. The children had a blast throwing their parachutes through the window and seeing how it fell. An audience outside cheered every time an egg fell and gasped when an egg would survive.



Since there were so many people in the first activity most people only had one chance to throw their parachute outside the window. In the second group, because there were only six people, everyone was able to throw the parachutes multiple times as well as construct multiple parachutes. In the second group there were four older boys around 13-14 years old and two younger girls about 10-12 years old. They were a fantastic group because they were able to tell me how parachutes worked and what ideas they



thought would definitely be able to deliver the egg safely. This was just another moment that made me realize smaller and more intimate groups were able to have more fun and learn more from the activity.

This week I had a great time teaching all of the children with me. Plans for next week include two activities I found out about during the workshop. This includes the stomp rockets and an activity using the software program Pictometry.

(All photos courtesy of James Hooper aka Neutron)

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Week 5- First week of teaching!

Posted on **July 24, 2014** by [Ciara Alexis Rodriguez](#)

This was the moment that I was waiting all summer for! I was finally going to be able to teach children the lesson plans that I had prepared for the recreational activities. My schedule for the week would be to observe the Geocaching and Rocketry classes in the morning, since they are the most relevant to the subject of Geospatial Science and I can get a feel for how classes are run. Then on Tuesday and Thursday I will be teaching my two activities for two hours each with a new group of students for each hour. I will only know who is in my activity a few minutes before it starts so the number of students could range drastically to my knowledge. Also because I do not recruit children to sign up for the activity the children have to sign up on their own in their respective cabin on a sheet of paper. This puts a little bit of pressure on me because not only do I have to have an engaging activity planned out I also have to give the camp staff a name for the activity so children will willingly want to sign up. This can be a bit tricky if my activity is up against other interesting sounding activities. Lucky for me this week both of my activities had great turn outs.

For Tuesday the activity that I chose to do was the paper airplane experiment. In my first group I had about 16 campers, two of which had mental disabilities so they needed a bit more attention. In order to help me out with the activity two other camp staff stayed with me as well. By the time I was done with attendance already ten minutes had passed because we were missing some campers. For this reason I decided to only do the hoopsters and paper airplanes. I cut out the paper helicopters in fear of running out of time. The children listened to the



directions well and made very successful hoopsters. I decided to hold a contest for which hoopster could fly the fastest and the children seemed very excited about it. After the hoopster activity I offered the children a choice of making one of three different airplanes. I explained to them that “The dart” was the easiest to construct, “The Canard” was medium difficulty, and “The Delta” was the most difficult out of the three. Most of the campers wanted to build “The Canard” but I had a few campers also select “The Dart” and “The Delta”. I separated the children into their respective groups and verbally said the directions for how to build the planes. For the campers that selected the dart I allowed them to follow the how-to guide but it was very simple.



Once everyone was done I gave the children around ten minutes to decorate their planes with markers and stickers. The children became very creative with their designs and even thought of clever names such as “Sharkstorm” (the plane had thunderbolts as well as jagged points like a shark tooth). It was especially great to see students think about aerodynamics and add flaps to increase lift. Most of the students did not know about this term except for an older camper, because in the first group I did not have much time to discuss concepts. I was able to hold the contest at the end of the activity except I increased the difficulty by making the children try to aim their planes through a hoop first as well as try to accurately fly towards the target on the ground. The reason I did this was to add another obstacle to excite the children a little more. The contest ended up being a lot of fun to participate in and prizes were essentially given to everyone who participated. My second group only included a

group of young girls and they, as well, really enjoyed the activity.

On Thursday I lead the activity for constructing giant gliders. For the first group that day I had around 16 children while the second group had about 12 children. The groups had a mix of genders but they kept mostly to their own respective gender when it became time to choose groups. In total I had six gliders but I didn't want to use all of them in case some broke. I used four planes for the first group and had the children separate into groups of four. Almost immediately I noticed that there were dominant personalities in certain groups that wanted to take over much of the building. While a few campers were very stimulated by the building of the plane some children looked very bored since they could not do much. This became very prevalent in my second group when arguments sprang up among a few boys that were not sharing an equal workload. I tried telling groups to switch off duties especially when it came time to attach the video cameras to the plane and this seemed to work out.



I allowed the children to attach the video cameras any way that they liked because again I wanted the children to give me the answers on how to record the best footage of the land. In the first group I tried explaining how to operate the cameras to everyone at the same time but there were so many questions and confused stares that I decided it would be easier to explain the procedure when a child came up to fly the glider. For both of my groups I noticed that the gliders would often fall apart in the sky. I speculate that the gusts of wind and what angle the group



decided to attach the rudder might have something to do with it. I believe that I have this activity for the class then I will ask the children to tape down parts of the plane to make it a bit more sturdy. Once everyone in each group was able to throw the plane at least two times I had the children come back inside and we placed the memory cards of each camera into a laptop to watch the videos. The laptop was attached to a projection screen so everyone could watch the videos. It was very funny to see the orientation of some of the videos because some children recorded everything upside down. Overall this

activity again was a lot of fun for the children but I feel this activity would be better if the groups were smaller. That way everyone in the group could equally work on the glider and throw it.

Teaching these two activities for the first time was very nerve wracking, but I learned a lot. I know that in a class setting I want the groups to be smaller, and because I will not be as nervous, I can articulate bits of information better next time. I cannot wait for next week to bring about a new group of students as well as activities.

(All Photos courtesy of James Hooper aka Neutron)



Posted in **4-H National Youth Science Day Experiment Curriculum Development**

GALLERY

Week 4- Staff Training

Posted on **July 22, 2014** by **Ciara Alexis Rodriguez**

This gallery contains 1 photo.

Welcome to Camp Bristol Hills! I previously mentioned in my first post that I have



never been to a sleep away camp, so I had no expectations when I stepped onto the property. I assumed that I would be sleeping ... [Continue reading →](#)

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Week 3- Drafts for first two activities

Posted on **July 22, 2014** by [Ciara Alexis Rodriguez](#)

With the concept of “aerospace engineering” in my mind I thought of possible activities that would be both educational and exciting for children to participate in. One of the concepts I wanted to teach was forces of flight. I wanted an activity that could drive home the message that forces such as lift and drag were crucial in order to successfully get an object to fly in the air. I soon thought about having an experiment with paper airplanes because they are simple to make and they are easily modified.

Online I found great website by the Smithsonian Museum that had instructions on how to build three different type of paper airplanes. They were called “The Dart”, “The Canard”, and “The Delta”. Each plane was drastically different from each other and they specialized in different flight patterns. The dart was a swift, sleek looking plane suitable for fast flights. The canard is a very stable plane great for accuracy while the delta can make wide sweeping turns. My plan is to show the children images of each of the planes so they can decide which one they want to make without telling them what flight patterns the planes were suitable for. The idea is for the children to learn the answer through a trial and error experiment. I want the children to make one of the planes with construction paper that I will provide and see if their plane will reach a hula-hoop a certain distance away. This will be an accuracy contest for the children with the person who makes it closest to the hula-hoop winning. I will also provide materials such as paper clips to add weight to the planes. I will first ask the children to make a hypothesis to see what they believe will happen if weight is added. Another challenge will be to have the children find the right area to add the weight, which should be the middle of the plane to better stabilize it. I approached my director with this project idea and she thought it would make a very engaging project.

To supplement this activity I also thought it would be fun to teach children how to make paper helicopters and hoopsters. I saw a Youtube video of a classroom making these objects and it seemed another simple activity. I thought that hoopsters would be the opening project to introduce flight because wise the hoopster does not look like it would fly well. I wanted to include the paper airplane activity to introduce how objects fell and what factors would increase an objects descent to the ground or possibly slow it down. I want the project to be inquiry based so I do not want to tell the children all the answers. I think it will be interesting to see what hypotheses and conclusions the children reach on their own.

For another project I wanted to use the same giant gliders that I used during the In-Service. I was told that the camp had hills that children could launch the gliders from so I predict we could get interesting footage from the attached video cameras. This project won't be as experiment based as the airplane activity because I want children to work in groups to capture interesting footage of the surrounding land to get them thinking about aerial surveillance.

Now that I have two activities thought out once I can go to Camp Bristol Hills for staff training week and be prepared for the first week of teaching. In order to plan out the other four activities I will be taking the time during the next week to continue research.

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Week 2- Research for Camp

Posted on **July 22, 2014** by **Ciara Alexis Rodriguez**

After a successful workshop it was time to start looking into 4-H Science Inquiries to see how a curriculum was set up. To familiarize myself with math and science standards I had to research what the requirements were for students in various age groups in New York State. Since the group of children I will be working with could range in ages I have to prepare instructions that everyone should understand, unless we decide to hold a more advanced class. Also because in the camp we are encouraging students to learn about spatial science, I was given a article titled "Picture This- Increasing Math and Science Learning by Improving Spatial Thinking." I was unaware that exposing students to spatial thinking exercises helped increase success in STEM fields and can help students to complete difficult degrees such as engineering.

Besides researching educational standards I was also tasked with trying to come up with a possible, recreational activity that can be taught at the camp. I found out this week that my schedule for camp would consist of helping out with two classes in the morning every day , and twice a week I would be leading two hour long activities that would serve to increase interest in the 4-H Science Day Experiment "Rockets to the Rescue". The theme for this year is "aerospace engineering" so the activities I create will focus on aspects of flight, remote sensing, and of course of segment on rockets.

The first activity I really began to draft up, however, was an origami house project that would be intertwined with the software program Pictometry. One of my directors brought up this project idea to teach children about the areas of a roof, such as ridge and rake, that would be needed to figure out the area. Using the software tools the area of a side of a roof can easily be figured out, and children can brainstorm about possible ways to add solar panels to roofs in the camp environment. In my free time outside of work I found myself practicing how to make the origami structures until I firmly had it memorized. I still did not feel completely comfortable with the software yet to teach it to the children so I decided to leave the activity until week 2 or 3 of camp.

I am teaching recreational activities at Camp Bristol Hills for the first three weeks at camp so I need a total of six activities for that time. The idea is that after the three weeks of activities I would choose perhaps five of the strongest activities, and create a week long class that a group of students will participate in. One activity is on its way to be drafted so five more activities to go.

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Week 1- 4-H Geospatial Science In-Service

Posted on **July 22, 2014** by [Ciara Alexis Rodriguez](#)



Photo courtesy of James Hooper

For the first week as intern to the IRIS (Institute for Resource Information Sciences) department it was my responsibility to prepare for, and eventually participate in the annual 4-H Geospatial In-service held at Cornell University. The program was created as a three day workshop where 4-H educators or volunteers from other counties in New York could come together to learn new Geospatial Science software, and methods to interact with children.

The day before the workshop took place it was my duty to help one of my directors set up the space in Emerson Hall. The seminar room was big enough to hold the eleven participants in the workshop as well as the instructors and administrators. I made sure that they were enough laptops, iPads, and androids for each pair of participants and that they were in working condition. This day was also my first exposure to Google Earth and software such as ArcGIS Online because I had to update the older editions to ensure efficiency during the workshop. I also had to

familiarize myself with how to work a keychain video camera that I would eventually be teaching to the other participants.

After a day of setting up the room and looking over the agenda it was finally time for the workshop! Participants began to fill the room by 8:30 am, bright-eyed and eager to get started with the daily activities. Once introductions were over we dove right into concepts such as “What is GPS”, “How do you find a Geocache?”, “What are waypoints?”, and etc. Using a GPS and trying to locate a geocache (similar to an item you find on a treasure hunt) was one of my favorite activities.

Day two was dedicated for learning about remote sensing , air photos, and software such as Pictometry and ArcGIS Online. We also learned how to look at the topography (physical features) of a map and we were exposed to a glider design challenge. The participants were split into three groups and tasked with assembling a glider that had a keychain video camera attached to it. After I briefly showed the participants how the camera functioned, my group decided to chisel a hole into the body of the glider in order to hold the camera in place without the need for duct tape. The camera lens faced straight down and we thought this would be an efficient method for capturing the landscape during flight. We were able to collect very interesting footage but ultimately our group felt that we should have orientated the camera on the glider a different way to maximize the field of vision. The day ended with a trip on the Floating Classroom that took us on a scenic route around Cayuga Lake.



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Photos courtesy of James Hooper

The last day of camp focused on Landsat, Adopt-a-pixel, and even the new 4-H Science Day experiment “Rockets to the Rescue”. Despite poor weather conditions we were able to learn how to pace 100 feet without the use of a measuring tape, even though we were a little off in the end. We followed the scientific method when we tried experimenting with the design of the rockets in order to maximize accuracy. With the rocket launcher that another group built the participants had a great time trying to aim their creations to hit inside the target, in this case a hula-hoop. The workshop concluded with a discussion of how to implement the knowledge that was learned to reach the target audience of 4-H students.

As a child I did not have the opportunity to participate in any 4-H camps and before the internship started I did not have a strong background in Geospatial Science. Needless to say I was very excited to be a part of the workshop and I gained a lot of knowledge that would aid me once it comes time to prepare curricula for the 4-H campers at Camp Bristol Hills.

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