

# SMArticles

Science and Mathematics Academy

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## IS IT WORTH IT?

By: Junior Naveed

The Science and Mathematics Academy has an extremely rigorous curriculum, and many people believe that the program is just not worth the trouble. We, the United Students of the Academy, beg to differ. We all agree that surviving the SMA requires commitment and perseverance, but it ultimately pays off in the end. Just ask Chelsea of the Class of 2009, who stated that "the SMA was great preparation for the rigor of college and a very rewarding experience." She is currently a college sophomore majoring in public health and premedicine at Johns Hopkins University. The SMA has only improved, with more and more alumni moving on to a wildly successful college career. For example, the 44 members of the Class of 2011 had a combined scholarship offering over \$4.3 million. That is an average of almost \$97,730 per student! Even ignoring these economically sound figures, the SMA provides real-world skills in professional fields. The famous Senior Capstone project allows students to leave their role in the classroom behind and get a jumpstart on their future area of expertise with hands-on learning. "It gave me research experiences that I never would have normally had," says Kinjal. She is a graduate from the Class of 2010 and is a biology major at University of Maryland, College Park. This valuable knowledge is not all that the Science and Math Academy imparts into its alumni. It prepares you for the rigors of life itself. As put by Rishma of the Class of 2011, "the heavy workload enforced professionalism and time management. This allowed my peers to depend on me with no fears and forced me to be punctual, a priceless skill in the workplace." Rishma is just starting out at the Accelerated Doctor of Pharmacy Program at the University of Sciences in Philadelphia, which will grant her a PharmD degree in just six years. As you can see, our alumni are exceeding all expectations, and the SMA is only improving. Still think that it is not worth the trouble?

## How To Get Straight A's For 180 Days

By: Junior Nishad

Getting straight A's in the SMA is a truly monumental task. The classes are difficult and the many clubs and extracurricular activities common to SMA students cut into time for homework, studying, and above all sleeping. However, this goal is not impossible. With the right time management skills and dedication to studying, a seeming impossibility becomes remarkably close to a probability. First of all, and by far the most important: Do Not Procrastinate. Doing so will get you behind, and it is very difficult to get caught up.

Secondly, start off and end every quarter with your best academic performances. Don't start off a quarter with a grade you don't want, or you will be playing catch up for the whole 45 days. If grades must slump, let them do so in the middle where redemption is still possible. However, it is much better to avoid this at all costs, as final grades are stressful enough without having to ace them to get an A.

Thirdly, never mess up on a large assignment; these are the hardest to come back from.

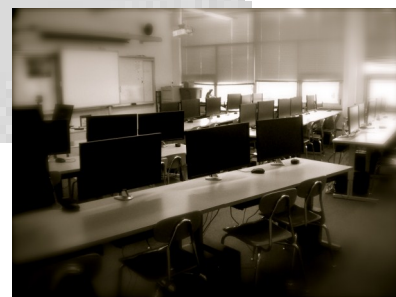
Finally, and of the utmost importance, it has to be said: study, study, study. There is no substitute for it. If you have bad studying habits, fix them, because getting straight A's without studying in the SMA, while technically possible, is not at all practical, particularly in the later grades.

Follow this guide, and hopefully your grades will drastically improve, and you will be able to achieve your goal of straight A's for 180 days.

## What is that Noise?

By: Freshman John and Peter

Have you ever heard mysterious, uncanny noises upstairs in the SMA? There are many things going on upstairs on any given day. In just one classroom, you can be simultaneously learning Mrs. Liberto's math, Mrs. Gabriel's earth science lessons, SRT, or elective classes. We cannot forget to mention Mr. Leff, with all those banging noises echoing from his room. Then, there is of course Mr. Chapman with his scientific songs such as "Hydrogen Bonds" and "Calorimetry Rules!" Mr. Evans and Mr. Davis can be heard clearly in Mr. Sloan's room, and vice versa. As for Mrs. McDonough ... she can make herself clearly audible when she wishes to. You can always hear the notorious, perpetually running air ducts and vents that make noises only explainable by a ghost. This noise always occurs right when the teacher is about to say something incredibly important that is on the next test that determines your grade. Coincidence? I think not! There is always something going on in the SMA, and strange noises abound. Listen and you might be able to track down that elusive SMA ghost. But don't count on it.



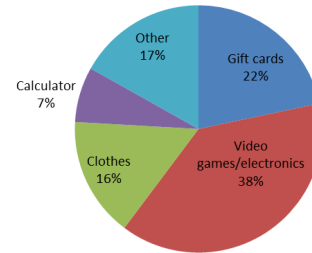
## SMashing Advice

By: Sophomores Natalie and Abbey

Managing stress and staying organized not only applies to the Science and Math Academy, but also life. To be successful use your planner, check Edline, and make sure to leave time for personal relaxation. Don't get too stressed over the little things. Keep the stress level down and prepare for upcoming homework assignments and projects. Avoid procrastination. No matter how far away the due date seems, procrastination only burdens you in the end. Also, sports and extracurricular activities take up large amounts of time in a week or even in a day. Be sure you are able to get your school work done at the same time regardless of your activities. Keep your priorities in check and stay calm. It may seem like a lot, but your hard work is worth the time and effort.

The *SMArticles* team surveyed the SMA students about their most desired gift for the holidays. The options were gift cards, video games/electronics, clothes, calculators, and others. Here are the statistics:

**SMA's Most Desired Holiday Gift**



	Mr. Leff	Mr. Evans	Mr. Chapman	Ms. Liberto	Mrs. Voskuhl	Mr. Davis	Mr. Sloan	Mrs. Gabriel	Mrs. McDonough
<b>What is your favorite course to teach?</b>	Principles of Engineering	Depends, he "likes them all"	AP Chemistry	All of them	AP Calc AB	SRT I	Design Engineering	Kinesiology	SRT III
<b>What is your favorite color?</b>	Blue	Green	Maroon	Purple	Fuscia	Forest Green	Anything but Black and Purple	Black	Teal
<b>What do you do in your spare time?</b>	Work out at the Arena Club	Go hiking	Bike and spend time on his boat	Work out, play trivia games	Run	Keep bees	Play with his dog, spend time with his fiancé	"What spare time?"	Go to the beach

## Math-A-Thon!

On October 19<sup>th</sup>, about 30 students squeezed into Mrs. Gabriel's room to compete in the University of Maryland Mathematics Competition. After taking the test, none of the students really thought they were going to qualify. However, one student's assumption was wrong. This year, the SMA's very own Junior, Taylor von Paris, qualified to enter the second and final round of the University of Maryland Mathematics Competition. This month, he will go against one other student in the county for the prize of \$100 and the title of Harford County Champion.



So what exactly is this competition? Taylor told us, "It's a test taken voluntarily by students all around the state who hope to qualify for a scholarship and win a monetary prize." The exam includes all high school math subjects up to Pre-Calculus and requires mathematical insight and ingenuity.

Some other SMA students who took the test told us how it went for them. Thomas Moore commented that "it was pretty awful" and he advises anyone taking it next year to "go online and go over the practice problems because the questions were very specific."



Rachel Carney said that the test was "more riddles than it was math, which made it very hard." Her recommendation to anyone planning on taking the test next year is to "do different logic puzzles to better prepare."

Nisarga Patel also said "the test was very difficult," and he suggests "preparing beforehand and not answering all the questions" in order to score higher.

Ms. Liberto and Mrs. Voskuhl hope to hold study sessions after school next year for those planning on taking the test. They plan on "researching problem trends" so that students will know what they should practice to have more success. Next year, they would like to find out who is interested on the first day of school so there will be more time for everyone to prepare.

Taylor's advice to all students planning on taking the test next year is to "do the practice problems on the website and just try and do your best." He feels "really special to qualify because there are so many talented students in the SMA. To be the only one to qualify is an honor." Don't forget to wish Taylor good luck on the 30<sup>th</sup> as he competes to win the County Championship in honor of Aberdeen High School and the SMA!

## I Don't Know?

**Interviewer: Freshman Mitchell**

**Interviewed: Senior Nickole**



**1. How do you pick the topic of your Capstone Project?**

There are many types of topics for your Capstone Project to choose from and for many people it can be overwhelming. One of the things I found most helpful when picking a topic for my Capstone Project was the SRT III course. In your junior year you complete four miniature Capstone Projects, each in different areas that are assigned by your teachers. This was a huge help for me because it narrowed down what areas (i.e. environmental science, biology, engineering, programming) that I was interested in working in. Once you can narrow down what field you would like to work in, SRT IV teachers, your mentors, and even your friends, are great resources to help you come up with specifics for a project. Often your mentor will have something in mind and other times you can propose ideas yourself. Talking to friends is incredibly helpful because they want to hear about your interests and they can help you find variables that may become an issue as you pursue an idea.

**2. When do you have to choose a topic for your Capstone Project? Should freshmen already be thinking about it?**

Different people begin at different times. Some of my class was able to begin their projects early last summer. It is always good to get a head start so you can find and fix problems early. There will be problems; the questions are when these issues come up and how you will problem solve to alleviate them. It is a good idea to shadow a potential mentor sometime before senior year to get a feel for who they are and what they do. I would say freshman year is a little early to start worrying about the Capstone because you haven't been exposed to as many different fields, but it is a good time to start thinking about what interests you, where your passions are, and to also be open minded to new things. If you think you are a biology person, but have never tried programming, give it a chance. You never know what you'll be good at or what you will enjoy.

**3. Did you stick with your first idea for a Capstone Project? Did you have many ideas?**

Some people are able to stay with their first idea. However, I, personally, was not. Some projects are just not possible given only one year, my transportation circumstances, and age. With that being said, I love the project I am working on and I have learned a lot of information I will be able to use throughout my life and in future careers. And who knows, once I have finished college and am more qualified maybe I'll have a chance to attempt my first capstone idea.

**4. How do you get matched up with your mentor?**

Mrs. Voskuhl matched me with my mentor at the end of last year. We were all given surveys throughout the year. Those of us who could not find our own mentors, were then matched up with professionals (mostly with doctorate degrees) who worked in the areas that we showed interests in.

**5. How much time total do you think you will have to spend on your Capstone Project?**

We are each required to spend a total of 200 hours working on our project at school or in the lab. This number is a minimum and holds regardless of sickness and extracurricular activities. Additionally, papers and presentations are supposed to be prepared outside of school so there is some time spent reading scientific journals relative to my project at home. The Capstone isn't something that gets done over night, but it is a great opportunity that not many high school students get.

**6. Do you think having a good Capstone Project helps you get into a college?**

I think it can be a major contributor to college applications. As I am applying to universities all over the nation right now, I am always sure to mention my work at USAMRICD. Colleges want to see that you are capable of working diligently for results and problem solving. Remember, that is how they get money from the government, results, not only in their classrooms, but also in their labs and the studies they conduct.

**7. Did the things you learned in SRT help you a lot with your project?**

YES. Had I attempted to do the same project I am doing now with only the knowledge I had coming out of middle school, I would have been at a total loss. It is important that you learn how to use the microscopes and software available in SRT. Even if you aren't using the exact same program or equipment for your Capstone that the SMA has, having the previous knowledge is enough so that you can apply what you know to teach yourself how to use the more advanced technology. Also, professionalism is very important. You want your mentor and other professionals you encounter to be able to trust you in the lab to do what you need to do. Once you are able to work without a teacher standing over you and attend conferences where you can openly talk to experts in the fields you are interested in, you don't want to ruin that by being immature. When your SRT teachers discuss etiquette, listen. It's one of the easiest, but most useful, things you can learn.

**8. What is the hardest part of the Capstone Project? What is the most fun?**

The most difficult thing about the Capstone Project is time management. A monkey could follow a simple set of instructions about how to conduct an experiment or build something given specific directions. Understanding how each step affects the experiment, why your results turn out a specific way, and the importance of each material in an engineering project is what requires you to actually use your brain. The most fun part of the Capstone, for me, is working around and learning from people who know about the same fields and topics I am interested in. It's pretty cool to be able to say I work across the street from a fleet of helicopters.

**9. Do you have any general suggestions about Capstones for other students, especially freshmen?**

First, breathe. Count to ten. Jump on one foot, pat your head, and rub your belly. Okay, now remember to do those three things from now when you are getting these projects started. Capstones are a very serious thing, but we forget we are supposed to *enjoy* working on them because we get caught up in a rush of deadlines and details. Don't forget why you came here. It is because you love science and math and want to improve and fine tune your skills in those things. The best advice I can give freshmen is listen to your teachers, learn the basic concepts that you're being taught in your classes, and become skilled at conducting yourself well so you can build on that foundation until it is all second nature. Also, think about the different fields that interest you so that when the time comes you are spending 200 hours on a project you actually *want* to do, not just one that you *have* to do.