"Gifted And Talented Education With ALL Youth"

GATEWAY

April, 2017

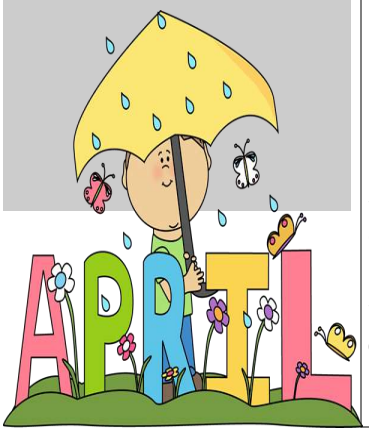
Mrs. Anderson,
Mrs. Contrino,
Gateway Teachers
Grades 6-7

Newsletter Highlights:

- Mission
- Tier 3 Intensive Supports

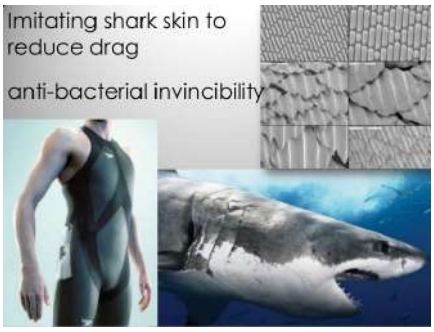
MISSION

To support **ALL** students through talent Development and to identify, challenge and encourage academically advanced and creative thinkers.



STEM

Grade 6: "I think the biggest innovations of the 21st century will be at the intersection of biology and technology. A new era is beginning." –**Steve Jobs**



And so we have embarked upon our unit in biomimicry. The students have spent time researching examples of biomimicry in the world today. Some inventions inspired by nature include: improvements to the bullet train, shark skin, gecko tape, self-filling water bottles, lotus paint, and of course, Velcro. In the coming weeks, they will investigate how form fits function in nature. Using nature as their inspiration, classes will tackle design challenges and investigations. Our unit will culminate with in their own challenge to observe our environment (the school), define a problem, and ask "How would nature solve this problem?" If you would like to learn more about biomimicry, Janine Benyus has many TED talks online that are quit inspiring!

Grade 7: As a culmination to our year studying Newton's Laws and forms of energy, the students will be challenged to apply their understanding of potential and kinetic energy. In order to make connections between the construction of a roller coaster and the transfer of energy, the students participated in a virtual roller coaster lab. During this activity, they were able to experiment with changes in mass of the coaster car, hill height, as well as loop height and width. The students will apply the knowledge gained from their work in order to construct their paper roller coasters. Students have been challenged to construct and design a coaster that is between 50 and 100 cm tall, contains at least one loop, six turns, and controls the potential and kinetic energy of the marble effectively. Their construction will be evaluated by the successful movement of a marble through the coaster. Currently, students are constructing the frame of their coasters and devising a theme. I am excited to witness their creativity and enthusiasm as they build and problem solve collaboratively.

Advanced Math Gateway

Grade 6: As our study of right triangles concludes, the students are powering their way through special right triangles. I am impressed by their ability to analyze the content and make connections between the topics we investigated this year. This past month, they have derived the patterns in 45-45-90 and 30-60-90 right triangles. Not only that, but they are well versed in their ability to simplify radicals, raise radicals to a power of two, and estimate irrational values to the nearest tenth. For instance, they know that to estimate the value of $4\sqrt{2}$, they can multiply 4 by 1.414 or determine that $4\sqrt{2}$ is the square root of $\sqrt{32}$; knowing that 32 is between the perfect squares 25 and 36, the value of $\sqrt{32}$ is about 5.7. This is certainly a great application of perfect squares and number sense.

Grade 7: The seventh grade math students continue to progress with their knowledge of parent functions and transformations. We began by deriving the vertex form of absolute value functions. The discoveries made during these investigations allowed the students to easily identify horizontal and vertical shifts with quadratic functions as well as dilations and compressions of the parabola. Once again, the vertex form of the quadratic functions was derived and students appreciated the efficiency of graphing parabolas using patterns associated with perfect square values. Classes are now comfortable with their ability to solve quadratic functions by utilizing their factoring knowledge from the Fall. We have investigated using factoring to identify the roots of a quadratic function, the axis of symmetry, and eventually the vertex. Throughout this process, deeper connections and understanding continue to be created as patterns are investigated and higher level thinking is encouraged.

6th Grade: Our 6th grade problem solvers have learned all six steps of the problem solving process! We have just completed our study of Step 6 – Create an Action Plan. Once the team had built an evaluation matrix that allowed them to create and apply specific criteria that measured their best possible solutions against one another (Steps 4 and 5), the matrix helps the team to systematically choose their BEST solution. The best solution is then turned into The Action Plan, in which the team "sells" their idea. When writing the Action Plan, students must consider their audience, and how/why their solution best solves the Underlying Problem. Students must develop a plan that details all of the pertinent points of their solution. They must also consider any detractors to their plan, and address the questions or concerns someone might bring up as they try to poke holes in their action plan!

The next topic that we will be studying is *Identity Theft*. We will be applying all 6 steps to this problem over the course of the next several weeks.

7-8th Grade: The Qualifying Problem results are in! The following students have been invited to compete at the 2017 Massachusetts State Future Problem Solving Bowl at Clark University in Worcester on Saturday, April 8:

7th Grade Team - Brianna Hall, Mashal Malik, Livi Varetimos, and Lexi Varetimos
7th Grade Individuals – Reagan Hicks, Kaya Cormier, and Paige Beaumont
8th Grade Team – Hunter Crossman, Sean Cole, and Jacob Crosson
8th Grade Individuals – Micky Rose, Ella Brahms, and Sophia Weinstock

If any of these teams or individuals find success at the State Bowl, they will be heading to the FPS International Competition at the University of Wisconsin in June! Check out the BIS webpage for updates!

GO BARNSTABLE!!!

Advanced ELA

Our Sixth and Seventh Graders have all been hard at work honing their writing skills in the areas of creative writing and poetry. All students wrote a creative writing piece, and then participated in round table peer editing sessions in order to learn the steps to effectively peer edit the work of others, and also to edit their own work based on the advice of their peers. The students took their peer editing responsibilities very seriously, and everyone learned something new. A highlight of the sessions was in the area of written dialogue. Many of these writers had not been properly taught the mechanics of indenting the text whenever a different character "speaks." Be on the lookout for amazing dialogue in your student's writing in the weeks to come!

We have been working on the 5 step Writing Process, which consists of
1. Brainstorming ideas for topic development
2. Drafting and organizing their ideas, first draft
3. Revising to clarify their work, making changes, additions and/or deletions, second draft
4. Peer-editing and self-editing to check for small oversights in mechanics or with spelling, punctuation, and capitalization
5. Publishing a final draft

In addition to the creative writing piece, our Sixth and Seventh Graders all wrote a poem to submit to the *2017 Veterans for Peace Voices of Peace* poetry contest. Using the 5 step writing process, the students submitted poems of amazing quality and deep emotion. The contest promoters have told me that there were a total of 869 submissions representing 25 schools across the Cape. Therefore, it is with great pleasure that I announce our own Barnstable Intermediate School Gateway winners:

Isabel Leonard, Will Jones, and Sophie Petiet!

Congratulations to our Gateway Poets for Peace! They are invited to read their poems at a public gathering at the South Congregational Church in Centerville on Saturday April 29th at 10 am. All are invited to attend this event!

Barnstable Gateway Program

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