GATEWAY

"Gifted And Talented Education With ALL Youth"

November, 2015

DECEMBER 8th & 10th - OPEN HOUSE

Please feel free to meet with us during the conference 1/2 days at the BIS Gateway Office from 12:00-3:00 PM.

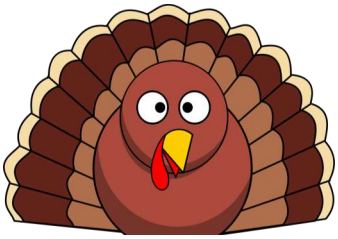
Mrs. Anderson,
Mrs. Contrino,
Mrs. Marks
Gateway Teachers
Grades 6-7

Newsletter Highlights:

- **Mission**
- **December Open House**
- **Intensive Support**
- **DI**
- **CCMM STEM**

MISSION

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



STEM

6th Grade: We have now started learning about linear equations and slope in preparation for the Barbie Bungee Jump. Students are investigating relationships between independent and dependent variables. They are developing the ability to represent this relationship in the y=mx+b form. Using this equation, they will algebraically predict future change in the y or x value. This knowledge will be applied with Barbie. The students will need to determine from their data, the best number of rubber bands to attach to Barbie giving her the most thrilling jump possible, without injury.

7th Grade: The students have had a wonderful time experimenting with Newton's Three Laws of Motion using balloons. We have experimented with the forces of buoyancy and gravity by creating neutrally buoyant balloons. Students then needed to take the balloon for a walk by changing the air pressure in front of the balloon. We further applied this knowledge by transforming two balloons into a blimp that could travel in a straight path across the classroom. The final classroom challenge asked the students to add thrust to their blimp so that it contained a jet propulsion system which permitted it to travel a great distance in a straight path. Each experiment allowed the students to further explore Newton's first and third laws of motion. We will refer back to these laws during future projects. Up next: The heat loss project.

Advanced Math Gateway

6th Grade: Our theme continues to be patterns! Students have learned and are able to apply the patterns within the first fifty perfect squares. Our perfect square quizzes are taken weekly, and I am very pleased with their progress. There have already been a few students who have scored a perfect 50. We have started applying our knowledge of the perfect squares to determine Pythagorean Triples. In a Pythagorean Triple, two perfect squares add to a third perfect square. Once again there are patterns when finding Pythagorean Triples. Students are responsible for knowing the "parent families" of the 3-4-5; 5-12-13; and the 7-24-25. These are the first three families which depict that patterns we derived in class. In addition, students should be able to create family members. For instance, a 3-4-5 has a family member of 6-8-10. As with anything, there are two triples that do not follow the pattern and must be memorized. These are the 8-15-17 family and the 20-21-29 family. This week we began applying proofs of the Pythagorean Theorem to determine types of triangles. In the coming weeks, we will utilize the triples for many activities deepening our recognition of patterns in math.

7th Grade: The students have worked long and hard with factoring trinomials. Students have been practicing factoring with lead coefficients greater than one, factoring with a greatest common factor, factoring with negative lead coefficients, and factoring with a factorable lead coefficient. They are gaining confidence each class, and I continue to send home practice sheets. I am happy to supply more during the week if necessary. We have one more topic to discuss with trinomial factoring; the difference of two squares. This will introduce the students to a linear term of zero. It will also supply them with some interesting mental math strategies. Binomial expansion with Pascal's Triangle will conclude our factoring studies in the coming weeks.

Advanced ELA

Congratulations to all the winners!

6th Grade: The 6th graders have finished reading their first novel of the year, *The Graveyard Book*, by Neil Gaiman. The students and I enjoyed vibrant discussion regarding the novel's intricate plot twists and various themes, as well as a close inspection of the masterful techniques that make Mr. Gaiman such an exceptional storyteller. Additionally, our 6th grade writers had a blast reading and discussing the 7th grade entries in our annual Creepy Writing Contest! The 7th graders were quite impressed with the 6th grade entries, as well, and they provided very thoughtful and constructive criticism to help the 6th graders improve for next year's contest. The 7th graders decided that their favorite stories were written by: Molly Lamothe, Maya Wilson-Ehrenthal, Brianna Hall, Emma Corley-Marstiller, and Ronan Contrino!

7th Grade: The 7th graders have also finished reading their first (550 page!) novel of the year, *The Book Thief*, by Markus Zusak. We will continue our discussion of the novel over the next few weeks; including a comparison of Emily Dickinson's poem, *Because I could not stop for Death*, to Zusak's Death-as-narrator approach, as well as a full compare/contrast discussion regarding the film interpretation of the novel. I highly recommend that you take time out to watch the movie with your 7th grader, because it is rather fantastic. I expect that the students are sure to find many faults with the film adaptation, which will certainly lead you into an interesting discussion with your own budding book/film critic! Sounds like fun to me! Lastly, I must say that this year's batch of 7th grade stories that were submitted for the annual Creepy Writing Contest were the best yet! The 6th graders were incredibly impressed and inspired by the work of our 7th grade writers. The authors that received the most votes were:
Victoria Melkonyan, Isabelle Anderson, Bella Joiner, and Eva Cotreau!

Project Based Learning

6th Grade: Students have been selected as the owner/coach of a now NBA team. They will select players, select a team name and mascot, design uniforms, and keep stats for their team. Their goal is to build a team that is the most successful in stats at the end of the unit. They will use technology to access, organize, and share information. Integrating information through different media will be essential to their understanding of the topic as they write about their choice to present their findings. Math skills will be used throughout to make decisions, keep running records, and determine winners.

7th Grade: Students are applying several math and science standards as they are; Packing Up for the Moon with a NASA Engineering Design Challenge. They will work in teams utilizing the Engineering Design Process (EDP) to design and develop a prototype lunar plant growth chamber. In order to complete this challenge, they will need to understand real-world concepts such as EDP, food production for sustaining humans, plant growth processes, and the cycle of photosynthesis and respiration.

FPS

6th & 7th Grade: All eight teams have completed the first "practice problem" of the year, regarding animal welfare issues. The teams were required to focus on the first three steps of the problem solving process:

1. Identify 16 challenges the team recognizes within the Future Scene.
2. Select an Underlying Problem.
3. Produce 16 solution ideas for the one Underlying Problem.

We are already hard at work with our 2nd practice problem, which focuses on the phenomenon of languages and cultures that are becoming extinct throughout the world. This time around, students will be utilizing ALL SIX steps of the problem solving process, including steps 4. Generate and Select Criteria. 5. Apply Criteria. 6. Develop an Action Plan. We will be competing in the B.I.S. library on December 11th!

Go Barnstable!

DESTINATION IMAGINATION! *Still time to form a team before* ***December 1!*** DI is a chance for students to creatively solve Challenges using 21st century skills, in a small group setting. Any parent or adult who would like to form a team, or find out more information, please contact the DI Coordinator.

Lynore Frew, frew_lynore@barnstable.k12.ma.us

or madikids.org

All Barnstable Public School children are welcome!

CAPE COD MARITIME MUSEUM

135 South Street | Hyannis, MA 02601
ph. 508-775-1723 | www.capecodmaritimemuseum.org

STEM classes for youth at Cape Cod Maritime Museum.

Science, technology, engineering, art and math classes drawn from our own coastal marine environment, inspire students to embrace new knowledge and skills in a way that is relevant to Cape Cod and our local culture.

For teachers: Our lesson plans are adaptable and are tailored to specific age groups. Lesson plans meet MA State Standards and requirements for STEM. We can host students at the museum or in the school classroom.

For families: CCMM offers year-round classes that teach STEAM subjects in a fun way by weaving in maritime and marine themed topics. Examples include: boat building and design, fishing, sailing knots, nautical navigation, shipwrecks, historic vessels, and marine sciences.

Barnstable Gateway Program

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