

# Four Rivers Currents

November 2015

## From the Principal's Desk...

### MATH PROGRAM UPDATE: DILEMMAS AND OPPORTUNITIES

Some time in September I realized we had not prepared students or families for important new initiatives in our math program. I'd like to describe these initiatives, give a bit of background, and suggest the dilemmas, solutions, and opportunities these efforts reflect.

Everyone seems to have their own story about math: I love math; I hate math; I can't do math; I use math all the time; I never use math. Everyone has had a different experience that can raise strong feelings when a discussion of "math" arises. Over the past 20-30 years, the field of mathematics education understands a great deal more about how children learn math effectively. There is general agreement that the conventional focus of many years ago on simply finding the right answer is no longer sufficient in a world where students will have to work collaboratively and creatively with work colleagues, and will face problems that don't even exist yet. The ability to reason with numbers, data and spatial figures, about problems that have no particular set way to solve them, is a critical skill for the next century. Regardless of the fields that our students will head toward, they will need to be able to make sense of numerical information and reason quantitatively and spatially.

Towards that end, Four Rivers has been working for several years to refine our approach, to continue to improve the way we help students learn to think and reason mathematically about all kinds of problems. Veteran parents might recall the days of IMP, or the Interactive Math Program. Highly regarded by math educators, IMP asks students to start from complex problems and work their way step by step to patterns and larger conceptual understandings. Others might remember their students working on ALEKS, a software program that allows students to individually build skills, and to move forward to their next topics or backwards to problems they don't seem to have down yet. These two programs provided a good balance between building conceptual understanding and supporting the development of students' procedural skills, both key areas of learning in math.

The good news is that first, our Four Rivers math faculty work hard to continually be on the lookout for ideas, resources and materials to integrate mathematics into the EL program, with some successes and some challenges. Second, last year, Four Rivers conducted a review of our math program, resulting in a set of recommendations from a math consultant. Our math team met together in June to think through those recommendations and determine how we wanted to proceed. This year there are two significant initiatives under way. One involves piloting textbooks. For grades 7 and 8, we are using Big Ideas Math. For grades 9, 10, and 11, we are using College Preparatory Math (CMP). Both series place an emphasis on balancing the development of conceptual understanding with strengthening skills. The texts give our courses a framework to follow and organized topics with related practice problems, while still allowing teachers to set their own learning targets and projects. The second initiative is working with a math coach. Susan Creighton is a Four Rivers parent, as well as an expert in math instruction. Through coaching cycles, Susan is working with each of the four math teachers on curriculum, instruction, and assessment, and how Four Rivers does math.

All of us are working together to monitor the progress of these initiatives so we can evaluate their effectiveness. Please talk to your student's math teacher if you have questions or concerns. Also let them know if you see great things happening as well. Four Rivers has an important opportunity to give all of our students a positive story to tell about math.



*Peter Garbus, Principal*

## Grade 7 News

### GEARING UP ~ Ms. Locke

In preparation for this year's annual 7th grade bike hike, the 7th graders have been busy learning to read topographic maps. They have also been examining the workings of their bicycles up close to try to determine how the chain and gears work together. How fast can we travel by pedal power? Ask a 7th grader about this year's trip and they won't just be able to tell you about distance speed and time, they should be able to tell you all about slope, topography and gear ratios too!



### HUMANITIES ~ Ms. Hobbs

In 7th grade social studies, students are studying the same questions many archaeologists, geneticists, and historians are trying to determine: Who were the early humans? When did they migrate? Where did they go? Why did they migrate?

In 7th grade English, students are learning about the tools authors use to develop their presence on the page. The voice in their personal narratives will be on display through masks designed to represent their attitudes and lessons learned from the events they have described.



Left ~ Joe, Muiris, Henry, and Ben have fun while making masks.

Right ~ Anthony thinks about a topic for his personal narrative while waiting for his mask to dry.





## Grade 8 News

### GIANT KITES — 8th Graders plan All-School Presentation

In the 8th grade, students have embarked upon their **Barriletes Expedition** that spans across all of their core subjects. In Spanish class, students are learning the cultural significance, vocabulary, and traditions of creating Barriletes Gigantes (Giant Kites) in Santiago, Sacatepequez, Guatemala for El Dia de los muertos (Day of the Dead).

In math and science classes, students are using the engineering and design process to both construct and fly their own Barriletes Gigantes.

In English and social studies, students are practicing presentation style and creating messages of hope that represent their beliefs. These messages will be displayed on student's Barriletes in both English and Spanish as they fly high over Four Rivers to celebrate El Dia de Los Muertos with our whole school community to witness!



PHOTOS: Barriletes Gigantes in various stages of completion. Clockwise from lower left: Zoe B finishing a design; Aunna G applying colored tissue paper; Isaiah and Joe finishing their background color.; and two completed kites by XiHu and Alexis (blue kite) and Ella (maroon and orange center-eye kite).



## DIV 2 NEWS

### MATH ~ Ms. Pratt

**Algebra 1** — Ninth grade students are exploring linear functions by investigating how equations, tables, graphs and situations can all represent the same line. Students investigated growth by examining patterns and tables and used the growth to define the slope of a graphed line. They have explored the difference between lines with positive, negative and zero slope and have discussed why vertical lines have no slope and are not functions. Students then determined what information is required to specify a unique line by looking at given information and determining if one or many lines could be drawn. Students shared the information they found necessary for uniqueness and compiled a class list.

**Geometry** — Tenth grade students are exploring triangle relations. In our first math lab, teams of four students built various triangles out of string and used a weight to discover where the height “fell” in respect to the base. They then used this experience to help find three different heights of the same triangle and to prove that no matter which height-base pair was chosen, the area remains the same. Students then investigated the restrictions on non-right-triangle side lengths. They used straws of various lengths to determine if 3 lengths could be combined to create a triangle. They used this experience to discover the range of side lengths that can create a triangle given only two sides.



### ENGLISH ~ Ms. Ritchie

In ninth grade English, students are wrapping up their food and farming expedition by writing their "Food Manifestos," in which they take a stance on a food issue. Leading up to this, they visited local farms, interviewed farmers, and read a variety of articles on food-related topics. Students will be sharing their manifestos and discussing their expedition at the culminating event--a local foods dinner--at Four Rivers on November 10. Ninth grade families will receive an official invitation soon!



This fall, tenth graders have been reading and discussing the transcendentalist essays of Henry David Thoreau and Ralph Waldo Emerson. On October 1, the tenth grade students visited Walden Pond in Concord, MA to give them a better idea of the beautiful place that so inspired Thoreau (*photo above*). While there, they performed scenes from the play, "The Night Thoreau Spent in Jail." Leading up to Halloween, students have been reading the spooky, twisted tales of Edgar Allen Poe. They will have the chance to write their own scary story before diving into the "Do Something!" expedition, which begins in November.



## DIV 3 NEWS

### SENIORS

The Energy Expedition is in full swing. Using information and statistics gained in physics and math, students generated data-driven arguments for and against multiple energy sources. Graphic representations of safety records, calculations about the levelized costs, comparisons of reliability and KWh generating capacity figured prominently. Seniors looked professional and spoke convincingly during a full day of debates over which energy source is best for our future.

Now, groups are huddling during English and civics classes to put finishing touches on their proposals for the Energy Expedition final product: a documentary about a pressing energy issue. Groups will pitch their proposed topic and story line at a "board meeting". Then, seniors will vote to determine the subject of the final documentary, and the winning group will assume special directorial responsibilities.

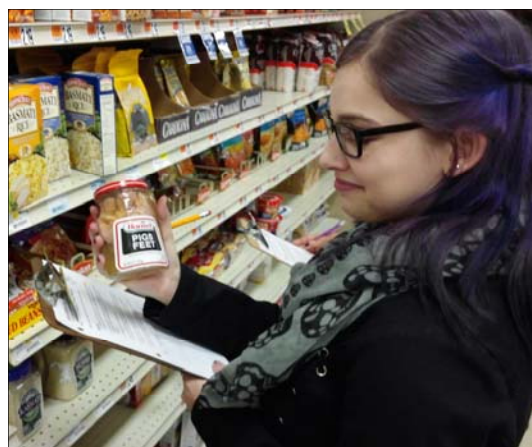


### JUNIORS

In comparative literature, the first round of literature circles has just come to an end, and students are planning their first analytical essay of Division 3. Thesis statements in process include: "Alice Walker uses symbolism to relate Celie's struggles to racism, sexual oppression and violence, and hopelessness"; "Caucasian beauty standards are the ultimate downfall of Pecola Breedlove. In her futile quest for the bluest eyes, she inevitably loses herself"; and "In *The Lone Ranger and Tonto Fist Fight in Heaven*, Sherman Alexie uses humor in such a way as to bring light to darker situations."

In chemistry, juniors have been learning about atomic trends and the traits of ionic compounds. Recently they have been investigating the ionic compounds found in their food. A trip to the local grocery store yielded some interesting data. For example, sodium bicarbonate ( $\text{NaHCO}_3$ ) is found in roach killer and candy bars.

In world history, students have been thinking like historians to analyze current global events through blog posts, and to make inferences about historic events using primary documents. What causes a revolution? Students have looked to our Declaration of Independence, Enlightenment philosophers, ideas of freedom and equality, economic crises, and political and social systems, to answer this question about the French revolution.



Finally, algebra 2 students have been studying functions. This week, exponential functions and their applications (like breeding bunnies and bouncing balls) are the focus of group investigations. Students are using their book, notes, and each other as resources to grapple with new material.

## WANTED: BAGGED LEAVES

The school gardens could really use leaf mulch to build soil, keep down weeds, and tuck plants in for the winter. If possible, please bring your bagged leaves and yard waste to Four Rivers instead of the land-fill. You can place the bags near the garden shed along the trough beside the blue barn. Thank you!

In other garden news, students are enjoying their first grapes, pears and apples off vines and trees we planted between 2009 to 2012. Yum!

## HeartChase Appreciations—Oct 30th



HeartChase  
Award Ceremony

Four Rivers was the first high school to hold this event for the American Heart Association. We raised \$1500 at last count. A festive race day! Thank you all for your generosity!  
~ Coachie

### NURSE'S NOTES — Breakfast Comes to Four Rivers

We all have a better day when we eat breakfast. Four Rivers is now offering breakfast free to all, and served from 7:30-7:55 each morning in the Common Room. We offer a variety of milks, as well as fresh fruit and juices, an option of cold cereal, or items such as bagels or English muffins and other hot breakfast items. State law requires that students take three items as part of a complete breakfast but we also offer a sharing table where students can leave items to share with other students. Many students tell me they don't have time for breakfast. Here is just another reason to get kids moving early. ~ *Jeanne Milton, RN*

## SAYING SO-LONG TO SOCCER SEASON

### MIDDLE SCHOOL SOCCER ~ Coaches Charlie Olchowski and Javier Naranjo

The Middle School Boys' Soccer team finished with a 10-5-2 record reflecting a season with a nine game streak without a loss before playing some exceptionally strong teams in their schedule. There was vast improvement by the 26 person squad, on an individual basis and as a team. That was evident in the season finale against Eaglebrook A, a 5-1 win with a display of excellent passing, fluid transitions up field, and team work on both ends of the field. Kam Canepari was solid in the net all season and the middle of the field was controlled well by deep back Henry Zwart, middle Gaelen Mast, and forward Evan Leaf.

### VARSITY BOYS SOCCER ~ Coach Terry Plotkin

The varsity boys soccer team finished their season with a 10-4-1 record. After winning a tough RVAL quarterfinal game over Hartsbrook 1 - 0 in the rain, the boys traveled to Putney for the semi-final where they lost to a strong Putney School team. The team was ably led by our captains Kenny Olchowski, Kai DeLorenzo, and Aidan Belanger. Coach Terry Plotkin was pleased with the team saying, "This was a young team that improved a great deal during the season, and they learned to play at a high level. A lot of the kids barely knew each other when the season started but finished as friends. They always showed good sportsmanship, and had great enthusiasm from start to finish. All in all, a very good year."

## COLLEGE ADVISING

### CHANGES TO THE SAT – INFORMATION FOR JUNIOR FAMILIES

I wanted to share with you some information regarding upcoming changes to the SAT. As you may have heard, the new SAT will be administered for the first time in March of 2016, and your child will likely take this test next May or June. The PSAT that they took earlier this fall was based around the new test structure. You can read more about the new SAT format here:

<https://collegereadiness.collegeboard.org/>

The timing of the change creates an opportunity for this year's junior class. Juniors, if they wish, could take the old SAT in January 2016. There are a couple of reasons that you might want to consider this, and to talk about it with your son/daughter:

- The general consensus seems to be that the new test is significantly harder; if this is true, it suggests that you would get better scores on the old test.
- There are plenty of test prep resources available - test prep books, study guides, sample tests etc., for the current test. This isn't yet the case for the new test.

My sense is that this will only be of consequence to those kids who are applying to the most competitive schools, and if they think it's likely that they will attain a better score on the old version of the test. There's no real down side to taking the old test, as colleges typically "superscore" (or take the best overall scores that a student submits), and they will still take the new test in the spring. Obviously this will be another thing that they have to devote time to, it costs money, and it will take additional time out of the weekend.

I'm not necessarily recommending this, but just wanted you to be aware of the situation. Let me know if you have questions.

### SENIOR FAMILIES – College Applications and Financial Aid

Seniors are beginning to apply to colleges and families are reminded of the importance of financial aid applications and deadlines. There are two main forms that families need to be aware of:

1. **The FAFSA** (Federal Application for Federal Student Aid) is required by all colleges if families wish to be considered for financial aid. The FAFSA form becomes available on January 1 and covers the previous year's tax information. Ideally the FAFSA will be completed after you have filed your taxes. If this isn't possible, you can complete the FAFSA using estimated figures and amend later.
2. **The CSS Profile** is a form administered by the College Board and used by a large number of private colleges. Information regarding the profile is available here: <https://student.collegeboard.org/css-financial-aid-profile>.

It is also important for families to be checking the admissions/financial aid web pages for colleges that their child is applying to. For many schools, the two forms mentioned above are all that is required, but some schools have separated applications, and deadlines, related to specific scholarship opportunities.

Four Rivers will be hosting a financial aid evening on Wednesday, December 8th, from 6:00 to 8:00 pm.

If you have questions regarding the college application process, contact:

**Andy Stenson – [astenson@frcps.org](mailto:astenson@frcps.org)**



## Inspirational End to Exciting Cross Country Season!

The Cross Country team just finished an excellent season on Wednesday, October 28. They raced 3.1 miles in the pouring rain for the RVAL championship meet, and the boys' team took home the first place trophy! Top 10 finishers that day included Mac Sloan-Anderson, Oscar Gibson, and Casey Davey. On the girls side, Lily Harris-Hendry placed in the top 10, and the girls finished 5th as a team. Many, many runners secured personal best times at this final meet, an inspirational closing to a fun, successful season! Huge kudos to Sophia Phillips for her first race of the season, and a special shout out to our graduating senior, Aidan Braverman. Thanks to everyone for all of your support of our runners!



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Four River Charter Public School is dedicated to educating young people for lives of learning and service. The school offers a rigorous academic program aligned with the Massachusetts curriculum frameworks and an emphasis on character development for moral and social responsibility. Three central themes – nature, technology and community – pervade the teaching and learning at the school. Four Rivers works closely with parents and seeks both to serve and learn from the many resources of Franklin County.



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